CITY OF ESCONDIDO

FINAL MITIGATED NEGATIVE DECLARATION

SPRUCE STREET DRAINAGE IMPROVEMENTS

City File No. ENV15-0010

SCH #2015121103

Prepared for:

Planning Division
201 North Broadway
Escondido, CA 92025-2798
(760) 839-4671

Prepared by:

401 West A Street
Suite 1200
San Diego, CA 92101
(619) 610-7600

February 2016

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

CITY OF ESCONDIDO
PLANNING DIVISION
201 NORTH BROADWAY
ESCONDIDO, CA 92025-2798
(760) 839-4671

DRAFT MITIGATED NEGATIVE DECLARATION

(City Case No.: ENV15-0010)
ENVIRONMENTAL CHECKLIST
SUPPLEMENTAL COMMENTS

INTRODUCTION

This draft mitigated negative declaration (MND) assesses the environmental effects of the proposed Spruce Street Drainage Improvements Project located in the city of Escondido between 3rd Avenue and the flood control channel of Escondido Creek.

An initial study environmental checklist (Appendix A) was prepared for this project and is included as a separate attachment to the supplemental comments within this report. The information contained in the initial study environmental checklist and its supplemental comments will be used by the City of Escondido to determine potential impacts associated with the proposed maintenance and restoration activities.

The detailed supplemental comments included in this document identify and evaluate physical impacts on the environment associated with developing or implementing the proposed project based on a preliminary review of a variety of environmental factors identified in the attached environmental checklist. In analyzing the project, it has been determined that impacts related to biological resources and cultural resources may occur. Based on information and documentation incorporated into the analysis, it has been concluded that this initial study warrants issuing an MND in draft form. The initial study identifies certain aspects of the project that may result in potentially significant impacts on the environment, but those impacts would be reduced to an acceptable less-than-significant level by incorporating appropriate mitigation measures. As provided by the California Environmental Quality Act (CEQA), the City of Escondido will act as lead agency because of its role in reviewing and potentially approving or issuing permits for the project.

As mandated by State CEQA Guidelines Section 15105, affected public agencies and the interested public may submit comments on the draft MND in writing before the end of the 30-day public review period starting on December 29, 2015 and ending on January 27, 2016. Written comments on this environmental document shall be submitted to the following address by 5:00 p.m. on January 27, 2016**.** Following the close of the public comment review period, the City of Escondido will consider this draft MND and all received comments in determining the approval of this project.

City of Escondido
Environmental Programs Division
201 North Broadway
Escondido, CA 92025-2798

Contact: Helen Davies
Telephone: (760) 839-6315
Fax: (760) 432-9512
E-mail: hdavies@escondido.org

A hard copy of this document and any associated plans and/or documentation are available for review during normal operation hours for the duration of the public review period at the City of Escondido Planning Division at 201 North Broadway, and also posted on the City of Escondido website at www.escondido.org/planning.aspx.

Comments received on the Draft IS/MND:

No written comments/letters to the City were received during the 30-day public review period on the Draft IS/MND.

Revision to the Draft IS/MND:

City staff has made some revisions to the Draft IS/MND text to clarify specific project timing issues and mitigation measures. These changes to the text are indicated by strikeout (deleted text) and underlined (inserted text) markings in the Final IS/MND document. The revisions to the IS/MND do not rise to the level of requiring recirculation of the document because the document has not been substantially revised in accordance with Section 15073.5(c) of the CEQA guidelines

SECTION 1.0: PROJECT DESCRIPTION

1.1 BACKGROUND

The City of Escondido (City) owns and operates a Municipal Separate Storm Sewer System (MS4) infrastructure that includes various stormwater facilities associated with flood control and drainage in Escondido, San Diego County, California, including the Spruce Street drainage system (proposed project area). Pursuant to California Environmental Quality Act (CEQA) Section 15301, Class 1 ("Existing Facilities"), operation, repairs, maintenance, or minor alterations of existing facilities are typically exempt from CEQA. However, activities associated with the proposed Spruce Street Drainage Improvements Project (proposed project) need to occur near sensitive natural resources. Drainage improvement activities that have the potential to affect these resources are not categorically exempt from CEQA (Section 15300.2[c]); therefore, this draft mitigated negative declaration (MND) has been prepared in compliance with CEQA and provides an analysis of the potential impacts of the proposed project.

Storm Drainage Policy 14.11 in the Mobility and Infrastructure Element of the *City of Escondido General Plan* (2012) requires that the City "maintain flood control channels and storm drains through periodic dredging, repair, desilting, and clearing to prevent losses in effective use." In response to a longstanding flooding and vector control problem, the City of Escondido applied for and was awarded a funding grant by the County of San Diego Department of Environmental Health under the Vector Habitat Remediation Program funding (fiscal year 2011–2012). The City is using the Vector Habitat Remediation Program funding to implement a variety of drainage improvements to eliminate vector breeding and nuisance water issues that have existed for more than a decade in the proposed project area by:

- clearing excessive vegetation overgrowth (including invasive, non-native species) and accumulated sediment within the drainage;
- integrating new slope and bottom configuration designs for the soft-bottom channels to safely convey the 100-year flood event while integrating native drought-tolerant plantings for slope stability;
- modifying structural components within culverts for improved hydraulic performance and reduced sedimentation fallout;
- constructing maintenance manhole openings for improved access and maintenance under Spruce Street;
- providing a strategic offline sediment trapping basin with a natural trash/debris screening design and a permanent access ramp to minimize maintenance needs in the main channel while also offering community enhancements and improved pedestrian access to public transit; and
- repairing erosion problems associated with off-site drainage for additional stormwater runoff treatment (rock infiltration swale).

The City is requesting a standard individual permit from the U.S. Army Corps of Engineers (USACE) under the Clean Water Act (CWA) Section 404 program to allow for drainage improvement activities in jurisdictional wetlands and nonwetland waters of the United States, as well as an individual CWA Section 401 Water Quality Certification from the San Diego Regional Water Quality Control Board (RWQCB). Although project design features that offer biological enhancements are anticipated, pursuing a permit under Regional General Permit 70 (Bioengineered Bank Stabilization Activities) would not meet permit requirements because proposed headwall modifications and other hardscape designs are proposed (as discussed below in Section 1.3, "Drainage Improvement Activities"). The City is also requesting

authorization from the California Department of Fish and Wildlife (CDFW) under Section 1600 of the California Fish and Game Code (CFGC) to allow these drainage improvement activities to occur within jurisdictional wetlands and nonwetland waters of the state.

1.2 PURPOSE AND NEED

The channel located between 3rd Avenue and the flood control channel of Escondido Creek in the city of Escondido (Figure 1) has a long history of being chronically wet with standing water, thus creating a breeding habitat for mosquitoes, particularly in the upstream concrete-lined portion of the proposed project area. As a result, the existing channel has experienced a long history of flooding and vector control issues, resulting in impacts related to flood control, public health and safety, and water quality.

The City is using the County of San Diego Department of Environmental Health funding grant to implement a variety of drainage improvement activities to eliminate vector breeding and nuisance water issues that have existed within the channel. The proposed drainage improvement activities listed in below in Section 1.3 are necessary to reduce stagnant water and allow increased flow in the channel, thus eliminating vector issues and reducing sedimentation. In implementing the proposed drainage improvements, the City also would integrate design characteristics intended to offset or minimize environmental impacts through a variety of beneficial improvements to the earthen drainage features that provide habitat, water quality, and aesthetic value.

1.3 DRAINAGE IMPROVEMENT ACTIVITIES

The proposed project includes drainage improvement activities to reduce standing water & sedimentation, and to allow increased flow along an approx. 1/2 mile section of earthen & concrete-lined drainage channel adjacent to Spruce Street. A combination of maintenance and construction activities include repairs and improvements within the channel through the following measures:

- concrete and earthen channel dredging;
- culvert clean-out;
- installation of permanent manholes, concrete wingwalls, and sediment traps;
- vegetation clearing and trimming;
- access road clearing; and
- revegetation using drought-tolerant native plants.

To simplify the discussion of the proposed Spruce Street channel drainage improvement activities, the channel has been divided into segments that share common characteristics (e.g., concrete-lined versus earthen bottom). The proposed activities within each segment explained in detail below.

Open Concrete-Lined Ditch

The eastern (upstream) portion of the proposed construction area, located between South Spruce Street and West 3rd Avenue, consists of a concrete trapezoidal channel that receives dry- and wet-weather runoff from the culvert underneath West 3rd Avenue. Construction activities in the concrete trapezoidal channel would include water extraction, removal of sediment and vegetation, and dredging to its existing (and original) invert elevation. Minor riprap drainage improvements are proposed to address problem erosion from off-site North County Transit District Sprinter Station runoff that enters the channel where the channel curves west. Construction access would be available through a chain-link fence gate that provides access to the adjacent banks of the channel. In addition, dirt ramps may be temporarily placed at either end of the concrete channel (or at both ends) to allow backhoe access.

Source: Esri; SanGIS; SANDAG.

Figure 1
Regional Map

Path: P:\2014\60313771_Esc_MissionP\900-CAD-GIS\920 GIS\922_Maps\SpruceStreet_IS_MND\Regional_Map.mxd, 8/5/2015, Daniel_Arellano

Spruce Street Underground Culvert

The channel continues west underground beneath South Spruce Street, where it then turns and conveys drainage northward. The existing reinforced-concrete culvert along the northeast side of South Spruce Street has no access other than entry from the northwest or southeast openings, located just north of West Grand Avenue and just northeast of the West 2nd Avenue/South Spruce Street intersection. These access points have allowed for sediment removal in the past but create difficult and hazardous conditions for maintenance workers. For this project, accumulated sediment within the reinforced-concrete box culvert would be removed via a contractor-selected method that would likely include different approaches to mechanical dredging. During sediment removal, four 36-inch manholes (access shafts) spaced approximately 90 feet apart would be permanently installed in the existing box culvert along South Spruce Street, between West 3rd Street and Grand Avenue. These access shafts would improve ventilation for construction personnel during dredging, and installation of the permanent maintenance manholes would improve maintenance access for minimizing potential vector and flooding hazards.

Soft-Bottom Drainage Improvements—West Grand Avenue to West Valley Parkway

Between West Grand Avenue and West Valley Parkway, the project drainage consists of a short earth-lined channel section directly adjacent to an existing vacant parking lot along its eastern side. Within this earth-lined section, dredging and channel improvement activities would include water extraction, bulk vegetation clearing, and mechanical sediment dredging to the section's original design depth (line and grade) for improved flood control. The existing vacant parking lot would be used as a temporary staging and dewatering area during the dredging and recontouring phase of the earth-lined channel.

Sediment Trap Option

As a last construction element, removal of the parking lot is being considered, including excavation of portions of the lot down to the channel's thalweg elevation, and ground contouring to establish a sediment-trapping basin in its place. Incorporating the sedimentation basin would require removing and relocating a utility pole currently located along the eastern edge of the parking lot.

The sedimentation basin would integrate a variety of environmental and community enhancements: water quality improvement controls, a permeable pedestrian pathway between West Grand Avenue and West Valley Parkway, a new picnic bench terrace along a constructed retaining wall, a permanent maintenance access path to the channel bottom, and a knoll area for open sitting along the eastern bank. Trees and native shrub cover would be planted along the western bank. As a result, the flat, impervious paved parking area would be replaced with pervious earthen surfaces that offer environmental and aesthetic improvements.

Culvert Improvements

The reinforced-concrete culvert immediately downstream of the parking lot and under West Valley Parkway would be improved for capacity and hydraulic efficiency. A new 5-foot reinforced-concrete box along the eastern side of the existing reinforced-concrete pipes would be installed to convey the 100-year flood event. A pier nose would be installed between the double reinforced-concrete pipes to reduce turbulence at the culvert and improve laminar flow that would decrease sediment fallout.

Along the main downstream channel adjacent to the North County Transit District Sprinter Station, located between West Valley Parkway and Escondido Creek, the earthen channel with an outlet into Escondido Creek would be cleared of invasive and nonnative vegetation; the existing pedestrian bridge would be removed to improve hydraulic capacity; problematic sediment and debris would be dredged;

and the channel banks would be recontoured to allow conveyance of 100-year floodwaters. After final grading, banks would be planted with native drought-tolerant vegetation for stabilization and a prefabricated pedestrian bridge overcrossing would be installed to provide safe pedestrian access along the north side of West Valley Parkway where the existing sidewalk is discontinuous. The construction of new concrete wingwall structures at the upstream and downstream ends of the channel would further stabilize culvert structures and improve conveyance while minimizing stagnation.

The culvert at the Escondido Creek outfall would be reconstructed for flood control and equipment accessibility from the concrete-lined Escondido Creek flood channel. The reconstruction of the Escondido Creek outfall would accommodate a 4-foot drop in elevation to allow the main channel to reach a minimum drainage slope of 1.5%. This design characteristic is the only element that deviates from the original line and grade of the project drainage, which is necessary to eliminate vector breeding, improve public health and safety, and improve water quality.

Staging and Hauling Routes

Staging

Equipment staging and waste stockpiling of the removed vegetation and sediment would occur in the vacant parking lot just east of the existing channel and north of West Grand Avenue. It is expected that additional staging would occur in the unpaved portion of the City's Corporate Public Works Yard off of Washington Avenue. See Figure 2 for details.

Haul Routes

The vegetation removal, dredging, and recontouring of the earthen channel between Escondido Creek and West 3rd Avenue would involve waste hauling (i.e., hauling of removed vegetation and sediment) around the immediate area to access the vacant parking lot on the northeast side of the short earthen channel. Depending on work location, the following routes are anticipated during construction (see Figure 2 for details):

- West Valley Parkway to South Tulip Street to West Grand Avenue and into the southeast entrance of the vacant parking lot;
- West Valley Parkway to North Tulip Street with a U-turn onto West Grand Avenue and into the southeast entrance of the vacant parking lot; and
- West Valley Parkway to North Tulip Street (north) to North Hale Avenue/Washington Avenue and into the City's Corporate Public Works Yard (if the yard is used for staging).

Revegetation

The proposed project includes a revegetation plan that would result in revegetation of 0.978 acre in the instream freshwater marsh (0 to 4 feet) consisting of yerba mansa, San Diego sedge, Southwestern spiny rush, arrow reed, and arrowgrass, as well as revegetation of 0.989 acre of mid-terrace and upland areas of the channel (4 feet and above) that would also consist of an all-native seed mix (see Figures 3a and 5b). A restoration ecologist would confirm the upland planting areas before seeding. All seed would be collected within 5 miles of the site (or next closest location if unavailable) from a licensed native seed company upon approval by the restoration ecologist. All seed would be mixed and planted by hand and would be raked to a soil depth of one-quarter inch. Table 1 lists the proposed native candidate restoration species to be included in the restoration plan.

Table 1: Candidate Restoration Species,
Spruce Street Drainage Improvements

Scientific Name	Common Name
Instream (Freshwater Marsh) Palette	
Anemopsis californica	Yerba mansa
Carex spissa	San Diego sedge
Iva hayesiana	San Diego marsh elder
Juncus acutus ssp. *Leopoldii*	Southwestern spiny rush
Pluchea sericea	Arrow weed
Triglochin concinna	Arrowgrass
Mid-terrace and Upland Palette	
Baccharis salicifolia	Mule fat
Juncus acutus ssp. *Leopoldii*	Southwestern spiny rush
Encilia californica	California bush sunflower
Eriogonum fasciculatum	California buckwheat
Pluchea sericea	Arrow weed
Rosa californica	California rose
Platanus racemosa	Western sycamore
Populus fremontii	Fremont cottonwood
Salix gooddingii	Black willow
Sambucus mexicana	Blue elderberry
Artemisia californica	California sagebrush
Hymenoclea monogyra	Leafy burrowbush
Isomeris arborea	Bladderpod
Nassella pulchra	Purple needlegrass
Simmondsia chinesis	Jojoba

1.4 ANTICIPATED PUBLIC MEETINGS/HEARINGS

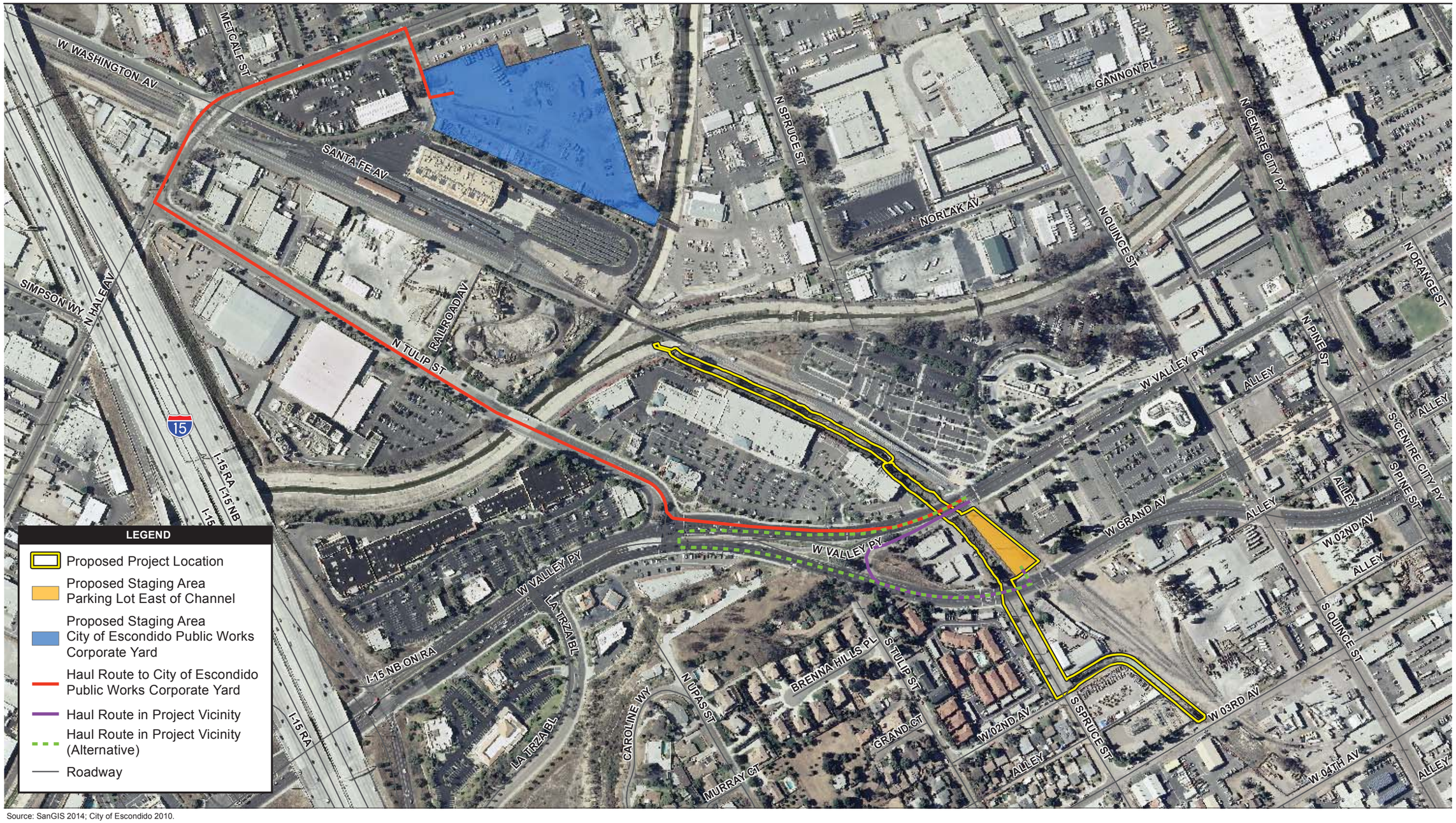
City Council: The proposed project is tentatively scheduled for City Council consideration and adoption in February 2016.

1.5 ENVIRONMENTAL SETTINGS

The proposed project is located within a tributary of Escondido Creek in the city of Escondido, San Diego County, California. The channel (the proposed project area) begins north of the intersection of South Spruce Street and West 3rd Avenue as a concrete-lined channel and conveys drainage west (downstream) before going underground at South Spruce Street. The channel daylights west of the intersection of West Grand Avenue and South Spruce Street as an earthen channel and flows west through a short culvert under West Valley Parkway, and then continues as an earthen channel until it drains into Escondido Creek (a concrete-lined flood-control channel).

The proposed project area is bounded to the west by the Escondido Creek flood channel, on the east by West 3rd Avenue, on the north by the North County Transit District railroad (primarily the Escondido Transit Center) and various commercial properties, and to the south by an existing small commercial strip mall and various industrial buildings.

The existing vegetation within the earthen portions of the Spruce Street drainage system includes a substantial presence of nonnative species, as well as minimal native vegetation. Most of the existing vegetation occurs within earthen portions of the channel and channel banks, although some vegetation temporarily establishes in concrete-lined sections of the channel where sediment accumulates. Currently, the predominant habitat within the channel and lower channel banks is freshwater marsh, which includes the native species of southern cattail and American tule, but also nonnatives such as Mexican fan palm,



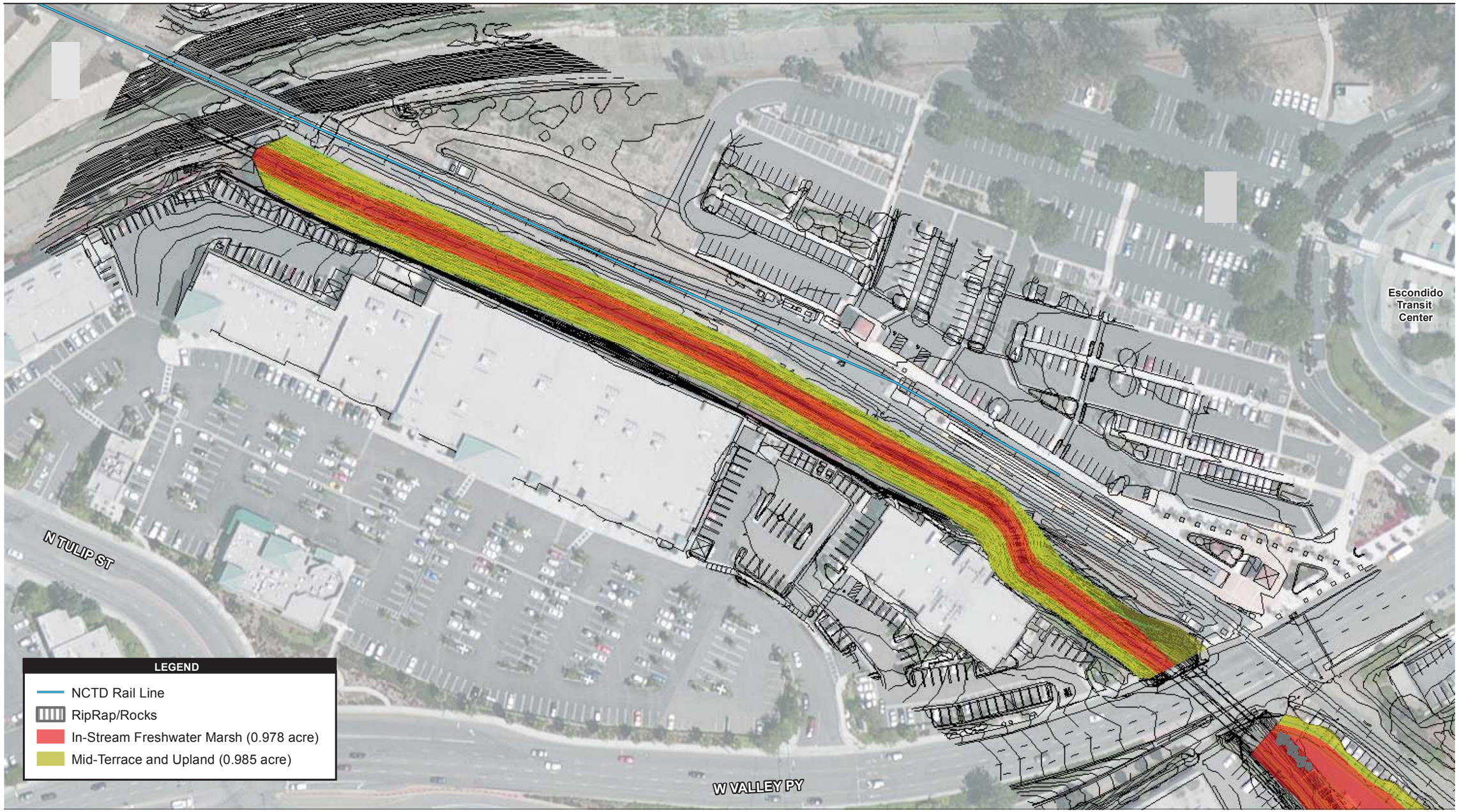
Source: SanGIS 2014; City of Escondido 2010.

350 175 0 350 Feet

Scale: 1:4,200; 1 inch = 350 feet

Figure 2
Proposed Project Location

Path: P:\2014\60313771_Esc_MissionP\900-CAD-GIS\920 GIS\922_Maps\SpruceStreet_IS_MND\Project_Location.mxd, 8/10/2015, Daniel_Arellano



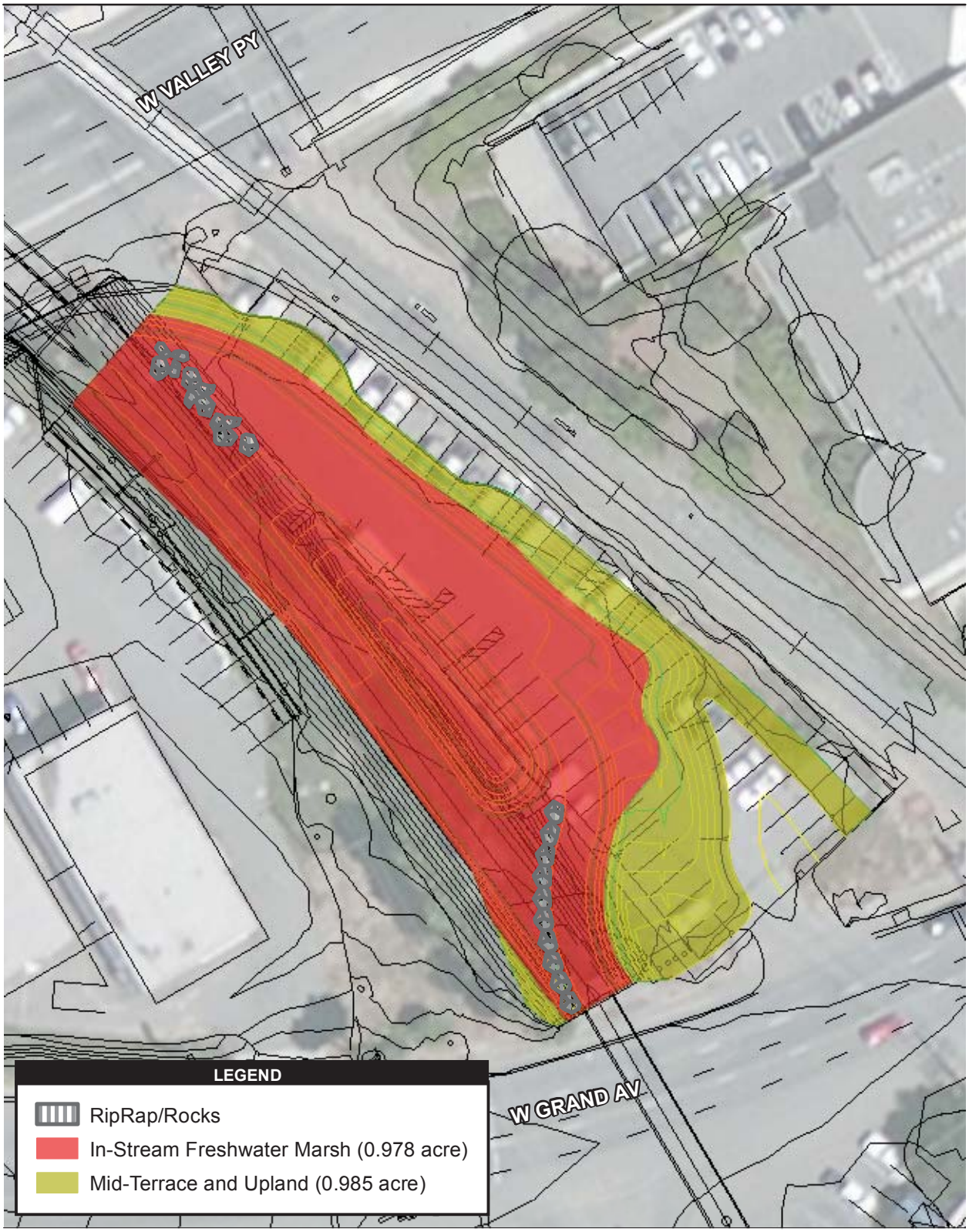
Source:

100 50 0 100 Feet

Scale: 1:1,200; 1 inch = 100 feet

Figure 3a
Revegetation Area North

Path: P:\2014\60313771_Esc_MissionP\900-CAD-GIS\920 GIS\922_Maps\SpruceStreet_IS_MND\Reveg_Overview_North.mxd, 9/30/2015, Daniel_Arellano



Source: NAIP 2014.

50 25 0 50 Feet

Scale: 1:600; 1 inch = 50 feet

Figure 3b
Revegetation Area South

Path: P:\2014\60313771_Esc_MissionP\900-CAD-GIS\920 GIS\922_Maps\SpruceStreet_IS_MND\Reveg_Overview_South.mxd, 9/30/2015, Daniel_Arellano

broadleaf annuals, and grasses (Figure 4). The channel zone also includes some nonvegetated areas and open water. The higher channel banks and other upland areas within the site include disturbed habitat and urban/developed areas and are dominated by nonnative species such as castor-bean, short-pod mustard, Russian thistle, periwinkle, hottentot-fig, and Mexican fan palm. Potential impacts on sensitive habitat communities and species known to occur on-site or with a moderate to high potential to occur on-site are discussed below in Section 2.1, "Impacts on Biological Resources."

1.6 REGULATORY SETTING

Applicable regional planning documents include the general plan of the City of Escondido and the City of Escondido Subarea Plan (City of Escondido 2001) under the Draft Multiple Habitat Conservation Program (MHCP) (SANDAG 2003).

The Draft MHCP Escondido Subarea Plan documents core conservation areas, known as habitat management plan areas; however, the proposed project is located within the area defined as urban/developed land and is not considered a focused planning area. Although the MHCP Escondido Subarea Plan is currently in the draft phase, the project is consistent with the plan.

Various regulations govern jurisdictional wetlands and nonwetland waters of the United States and state. Moreover, the federal and state agencies that govern activities within these resources must ensure that the activities they authorize will not adversely affect other regulated resources that can occur within jurisdictional waters. As applicable to the project, these other regulated resources include federally listed and state-listed species, migratory birds, and potential historic properties. Additionally, ordinances promulgated by the City of Escondido protect certain resources known to occur in the proposed project area. Therefore, as applicable to the proposed project, jurisdictional waters (including wetlands and other aquatic environments/habitats), and the protected species and potential historic properties that may occur within or adjacent to these waters, are regulated under the following federal and state laws, and local ordinances.

Federal Regulations

Clean Water Act

Under Section 404 of the CWA, USACE is authorized to regulate any activity that would result in the discharge of dredged or fill material into jurisdictional waters of the United States, which include those waters listed in 33 Code of Federal Regulations (CFR) Part 328 (Definitions). USACE, with oversight by the U.S. Environmental Protection Agency, has the principal authority to issue CWA Section 404 permits.

In accordance with CWA Section 401, the San Diego RWQCB (Region 9) certifies that any discharge into jurisdictional waters of the United States will comply with state water quality standards. The San Diego RWQCB, as delegated by the U.S. Environmental Protection Agency, has the principal authority to issue a CWA Section 401 water quality certification or waiver.

Endangered Species Act

The U.S. Fish and Wildlife Service (USFWS) and the National Marine Fisheries Service (NMFS) administer the federal Endangered Species Act (ESA). Enacted in 1973, the ESA provides for the conservation of threatened and endangered species and their ecosystems. ESA Section 9 prohibits the take of any fish or wildlife species listed under the ESA as endangered and most species listed as

Source: SanGIS 2012, 2014; City of Escondido 2010

0 175 350 Feet

Scale - 1:4,200; 1 inch = 350 feet

Figure 4
Jurisdictional Waters Overview Map

Path: P:\2014\60313771_Esc_MissionP\900-CAD-GIS\920 GIS\922_Maps\SpruceStreet_IS_MND\Veg_Wetland_JD_overview.mxd, 9/30/2015, Daniel_Arellano

threatened.[1] *Take*, as defined by the ESA, means "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct." *Harm* is defined as "any act that kills or injures the species, including significant habitat modification." For threatened and endangered plant species, Section 9 prohibits the "removal or reduction to possession" of any listed plant species "under federal jurisdiction" (i.e., on federal land). The ESA includes mechanisms that provide exceptions to the Section 9 take prohibitions. These are addressed in the ESA under Sections 4(d), 7, and 10(a).

Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) of 1918, as amended, implements various treaties and conventions between the United States and Canada, Japan, Mexico, and the former Soviet Union for the protection of migratory birds. Under the MBTA, taking, killing, or possessing migratory birds is unlawful as is taking of any parts, nests, or eggs of such birds (16 United States Code 703). The definition of *taking* is different under MBTA from the definition under the ESA and includes only the death or injury of individuals of a migratory bird species or its eggs. *Take* under the MBTA does not include the concepts of harm and harassment as defined by the ESA. It is also important to note that the MBTA defines migratory birds broadly; most of the bird species documented from the proposed project area are covered by the provisions of the MBTA. No permit is issued under the MBTA; however, the proposed activities would need to comply with measures that would avoid or minimize effects on migratory birds.

State Regulations

Section 401 of the Clean Water Act

The San Diego RWQCB has primary authority for permit and enforcement activities for this project under the Porter-Cologne Water Quality Control Act (California Water Code Sections 13000 through 13999.10) and the CWA on behalf of the State Water Resources Control Board. Given the nature of the proposed project, the San Diego RWQCB will require a CWA Section 401 water quality certification (Section 401 Certification) to ensure compliance with established water quality standards (and possibly other project-specific requirements) because of the potential to discharge pollutants into regulated receiving waters. Water quality standards, according to the CWA (40 CFR 131), include beneficial uses, water quality objectives, and the antidegradation policy. Under the CWA, USACE cannot issue the project an individual or nationwide Section 404 permit until the RWQCB grants the water quality certification. For the Section 401 Certification process, the RWQCB typically uses the delineation verified by USACE as the basis for determining impacts to waters of the United States

California Fish and Game Code

The CFGC regulates the taking or possession of birds, mammals, fish, amphibians, and reptiles, as well as natural resources such as wetlands and waters of the state. It includes the California Endangered Species Act (CESA) (Sections 2050–2115) and streambed alteration agreement regulations (Sections 1600–1616). These sections are described further below.

Sections 1600–1616

Pursuant to Section 1600 et seq. of the CFGC, CDFW regulates activities of an applicant's project that would substantially alter the flow, bed, channel, or bank of streams or lakes, unless the applicant meets

[1] The protection of threatened species under Section 9 is discretionary through a rule issued under Section 4(d) of the ESA. Until a "4(d) rule" is issued by NMFS, threatened anadromous fish or marine species are not protected by the ESA. By regulation, USFWS automatically affords Section 9 protection to threatened species at the time of listing. These protections later can be modified by USFWS through a 4(d) rule.

certain conditions outlined by CDFW. The limits of CDFW jurisdiction are defined in CFGC Section 1600 et seq. as the "bed, channel, or bank of any river, stream,[2] or lake designated by CDFW in which there is at any time an existing fish or wildlife resource or from which these resources derive benefit."[3] However, in practice, CDFW usually extends its jurisdictional limit and assertion to the top of a bank of a stream, the bank of a lake, or outer edge of the riparian vegetation, whichever is wider.

In some cases, drainage ditches and retention ponds[4] can be potentially considered under the regulatory administration of CDFW. CDFW provides specific guidance concerning its regulatory administration in 14 CCR Section 720 (Designation of Waters of Department Interest):

> For the purpose of implementing Sections 1601 and 1603 of the Fish and Game Code, which requires submission to the department of general plans sufficient to indicate the nature of a project for construction by or on behalf of any person, governmental agency, state or local, and any public utility, of any project which will divert, obstruct, or change the natural flow or bed of any river, stream, or lake designated by the department, or will use material from the streambeds designated by the department, all rivers, streams, lakes, and streambeds in the State of California, including all rivers, streams, and streambeds, *which may have intermittent flows of water*, are hereby designated for such purpose. [Italics added.]

Sections 2050–2115

Any proposed impact on state-listed species within or adjacent to the proposed project area would require a permit under the CESA. The CESA generally parallels the main provisions of the federal ESA and is administered by CDFW. The CESA prohibits take of wildlife and plants listed as threatened or endangered by the California Fish and Game Commission. *Take* is defined under the CFGC as any action or attempt to "hunt, pursue, catch, capture, or kill." Therefore, take under the CESA does not include "the taking of habitat alone or the impacts of the taking."[5] Rather, the courts have affirmed that under the CESA, "taking involves mortality."

The CESA allows exceptions to the take prohibition for take that occurs during otherwise lawful activities. The requirements of an application for incidental take permit under the CESA are described in Section 2081 of the CFGC. Incidental take of state-listed species may be authorized if an applicant submits an approved plan that minimizes and "fully mitigates" the impacts of this take. Therefore, any proposed impact on state-listed species within or adjacent to the project area would require an incidental take permit under the CESA.

CFGC Section 2080.1 allows an applicant that has obtained a federal incidental take statement as part of a biological opinion pursuant to an ESA Section 7 consultation or an incidental take permit under ESA Section 10(a) to notify the CDFW Director in writing that the applicant has been issued an incidental take statement or permit pursuant to the ESA and submit a copy to the CDFW Director. The Director then has 30 days to determine whether the incidental take statement or permit is "consistent" with the CESA in the form of a written "consistency determination." If the Director determines that the incidental take statement or permit is consistent with the CESA, the applicant does not need to obtain separate take authorization

---

[2] California Code of Regulations (CCR) Title 14, Section 1.72 defines a stream as "a body of water that flows at least periodically or intermittently through a bed or channel having banks and supports fish or other aquatic life. This includes watercourses having a surface or subsurface flow that supports or has supported riparian vegetation."

[3] This also includes the habitat upon which they depend for continued viability (CFGC Division 5, Chapter 1, Section 45, and Division 2, Chapter 1, Section 711.2[a]).

[4] 14 CCR Section 1.56 defines a lake as a feature that "includes lakes or man-made reservoirs."

[5] *Environmental Council of Sacramento v. City of Sacramento*, 142 Cal. App. 4th 1018 (2006).

from CDFW in the form of an incidental take permit under CFGC Sections 2081(b) and 2081(c). However, consistency determinations apply only in those situations where the affected species is listed under both the ESA and the CESA. If the species is listed only under the CESA, an applicant must obtain an incidental take permit under CFGC Sections 2081(b) and 2081(c).

Section 3503

Under CFGC Division 4, Part 2, Chapter 1, Section 3503.5, "it is unlawful to take, possess, or destroy any birds in the orders Falconiformes or Strigiformes (birds of prey) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation adopted pursuant thereto," where "take" is defined under Division 0.5, Chapter 1, Section 86 as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill." In addition, the MBTA restricts the killing of migratory birds or destruction of active migratory bird nests and/or eggs.

Porter-Cologne Water Quality Act

Under Section 13000 et seq. of the California Water Code (the 1969 Porter-Cologne Water Quality Control Act), the RWQCBs are authorized to regulate any activity that would result in discharges of waste or fill material to waters of the state, including "isolated" waters and wetlands (e.g., vernal pools and seeps). Waters of the state include any surface water or groundwater within the boundaries of the state (California Water Code Section 13050[e]). The RWQCB also adopts and implements water quality control plans ("basin plans") that recognize and are designed to maintain the unique characteristics of each region with regard to natural water quality, actual and potential beneficial uses, maintaining water quality, and addressing the water quality problems of that region.

Designated beneficial uses of state waters that may be protected against quality degradation include preservation and enhancement of fish, wildlife, designated biological habitats of special significance, and other aquatic resources or preserves.

Natural Community Conservation Planning Act of 1991

The Natural Community Conservation Planning Act is designed to conserve natural communities at the ecosystem scale while accommodating compatible land use. CDFW is the principal state agency implementing the Natural Community Conservation Planning Act Program. Conservation plans developed in accordance with the act (i.e., natural communities conservation plans) provide for comprehensive management and conservation of multiple wildlife species and identify and provide for the regional or areawide protection and perpetuation of natural wildlife diversity while allowing compatible and appropriate development and growth. Project-specific permits under the Natural Community Conservation Planning Act are not issued; however, proposed City-authorized projects (e.g., this project) must comply with California's Natural Community Conservation Planning Act Program.

City of Escondido Regulations and Ordinances

Tree Protection Ordinance

City ordinance protects against the removal of historically significant and mature trees within Escondido city limits, with a focus on oak tree protection. The City defines protected trees as "any oak (*Quercus* sp.) which has a ten (10) inch or greater DBH [diameter at breast height], or any other species or individual specimen listed on the local historic register, or determined to substantially contribute to the historic character of a property or structure listed on the local historic register, pursuant to Article 40 of the Escondido Zoning Code (2001)."

City of Escondido General Plan

A general plan is a statement of long-range public policy to guide the use of private and public lands within a community's boundaries. The policies within the plan are intended to become the basis for decisions by elected and appointed officials. The *City of Escondido General Plan* is both general and comprehensive in that it provides broad guidelines for development in the city while addressing a wide range of issues that will affect the city's desirability as a place to live and work. The general plan represents both an evaluation and vision of the future, typically 15–20 years, and beyond. The goals and policies are aimed at guiding growth and development in that direction.

The general plan is an internally consistent document in that the goals, objectives, policies, principles, and standards present a comprehensive, unified program for development. California planning law requires consistency between the general plan and its implementation programs—zoning and subdivision ordinances, growth management policies, capital improvements programming, specific plans, environmental review procedures, building and housing codes, and redevelopment plans.

The *City of Escondido General Plan* update was adopted by the City Council in May 2012 and ratified by the voters on November 6, 2012 (Proposition N). General plan elements that could apply to the Spruce Street drainage improvements include Biological Policies K1.1 through 1.6 and Natural Resources Policies G1.1 through G1.3.

Stormwater Management and Discharge Control Ordinance

Under Chapter 22, Article 2 (Stormwater Management and Discharge Control) of the City of Escondido Municipal Code, it is unlawful for any person to discharge nonstormwater to the MS4, except as provided in Municipal Code Section 22-23 (which lists exceptions to discharge prohibitions). Although there are several nonstormwater discharges that the City allows to be discharged to the MS4 in accordance with state allowances, the City identifies the following as illicit discharges to the MS4 that are strictly prohibited:

- sewage;
- discharges of wash water resulting from the hosing or cleaning of gas stations, auto repair garages, or other types of automotive service facilities;
- discharges resulting from the cleaning, repair, or maintenance of any type of equipment, machinery, or facility including motor vehicles, cement-related equipment, and porta-potty servicing, etc.;
- discharges of wash water from mobile operations such as mobile automobile washing, steam cleaning, power washing, and carpet cleaning;
- discharges of wash water from the cleaning or hosing of impervious surfaces in municipal, industrial, commercial, and residential areas including parking lots, streets, sidewalks, driveways, patios, plazas, work yards, and outdoor eating or drinking areas, etc.;
- discharges of runoff from material storage areas containing chemicals, fuels, grease, oil, or other hazardous materials;
- discharges of pool or fountain water containing chlorine, biocides, or other chemicals;
- discharges of pool or fountain filter backwash water;
- discharges of sediment, pet waste, vegetation clippings, or other landscape or construction-related wastes; and

- discharges of food-related wastes (e.g., grease, fish processing, and restaurant kitchen mat and trash bin wash water).

Excavations and Grading Ordinance

Chapter 33, Article 55 (Excavations and Grading) of the City of Escondido Municipal Code was drafted to ensure that excavation and grading activities for development projects occur in a manner that protects:

- the natural and topographic character and identity of the environment;
- the visual integrity of hillsides and ridgelines;
- sensitive species and unique geologic/geographic features; and
- the health, safety, and welfare of the general public.

1.7 REGULATORY APPROVALS

The regulatory approvals listed in Table 2 would be obtained, if required, for the proposed operations and maintenance activities.

Table 2: Permits

Resource Agency	Permit Type
U.S. Army Corps of Engineers	Standard individual permit
California Department of Fish and Game	Streambed alteration agreement
San Diego Regional Water Quality Control Board	Section 401 water quality certification
North County Transit District	Right of entry permit

SECTION 2.0: DISCUSSION OF ENVIRONMENTAL IMPACTS

An environmental checklist (Appendix A) was prepared as a preliminary assessment to determine whether the drainage improvement activities associated with the proposed project would have the potential to result in significant environmental impacts. Based on this initial assessment, it was determined that the proposed project would not have an impact on the following resource areas: Aesthetics, Greenhouse Gas Emissions, Land Use/Planning, Population and Housing, Transportation and Traffic, Agriculture and Forestry, Hazards and Hazardous Materials, Hydrology and Water Quality, Mineral Resources, Public Services, Utilities and Service Systems, Air Quality, Geology and Soils, Noise, and Recreation. The proposed project would not degrade the existing visual quality of the area, and it would not convert agricultural lands or conflict with agricultural or forest zoning. The proposed project would not violate air quality standards, and the proposed project area is not located in an area subject to greater seismic risk than surrounding areas. The proposed project would not create health hazards to the public, nor would it conflict with applicable land use policies and plans. It would cause no permanent increase in noise and would not affect population growth or traffic congestion. These resources are evaluated further in Appendix A of this document. The environmental resources that were determined to be potentially affected by the proposed project are Biological Resources and Cultural Resources.

The two issue areas that were determined to be potentially affected by the proposed project are discussed in detail in the following sections.

2.1 BIOLOGICAL RESOURCES

This section is based on the results of a site reconnaissance conducted by AECOM for the 1.60-acre proposed project area on June 18, 2014, to verify that the existing conditions remained essentially unchanged, and to update the existing Arid West Region data forms, from the survey conducted on July 14, 2010, as part of the Phase I efforts for the City's Channel Maintenance Regional General Permit. Subsequent to the 2010 survey, this site was determined to require individual permitting because of the size of the site and the additional work activities needed to clear and stabilize the channel, which precludes its inclusion in the regional general permit applications. Because the wetland delineation for the proposed project area was conducted in 2010 in accordance with regulations that remain current today (e.g., *Corps of Engineers Wetlands Delineation Manual* [Environmental Laboratory 1987] and *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0)* [Environmental Laboratory 2008]), the site did not require redelineation. As a result, existing conditions were compared to the formal delineation completed in 2010 during the June 2014 site reconnaissance.

During the site reconnaissance, the earthen segment of the channel was determined to have remained essentially unchanged; however, a slight increase in the extent of coastal and valley freshwater marsh was noted. The concrete segment of the channel was previously mapped as unvegetated open water; however, during the June 2014 site reconnaissance survey, small areas of coastal and valley freshwater marsh and southern willow scrub were observed within the channel. Because of the amount of wetland vegetation, two additional wetland sample points were dug within the concrete-lined segment of the proposed project area and an Arid West region data form was completed for these new wetland sample points. For further details regarding the June 2014 site reconnaissance, see Attachment A of Attachment 1.

AECOM cross-referenced regional data sets both before and after conducting field surveys, the results of which are incorporated into the analyses below. These data sets include:

- CDFW Natural Diversity Database (CNDDB) (CDFG 2012a),
- California Native Plant Society (CNPS) Rare Plants Database (CNPS 2012),
- California Consortium of Herbaria (CCH 2012),
- San Diego Natural History Museum Plant Atlas Database (SDNHM 2012),
- CDFW Vegetation Classification and Mapping Program Inventory (CDFG 2012b),
- National Wetlands Inventory Wetlands Mapper (USFWS 2012), and
- U.S. Natural Resources Conservation Service Web Soil Survey (NRCS 2012).

2.1.1 Existing Conditions

The following discussion briefly describes the biological characteristics specific to the proposed project's biological study area (BSA). The BSA encompasses the proposed project area and a 100-foot buffer area.

Biological Setting

Natural Communities and Other Land Covers

AECOM ecologists conducted vegetation mapping during the June 18, 2014, site reconnaissance survey. During the site reconnaissance it was determined that the existing vegetation within the earthen portions of the Spruce Street drainage system includes a substantial presence of nonnative species, as well as minimal native vegetation. Most of the existing vegetation occurs within earthen portions of the channel and channel banks, although some vegetation temporarily establishes in concrete-lined sections of the channel where sediment accumulates. Currently, the predominant habitat within the channel and lower channel banks is freshwater marsh, which includes the native species of southern cattail and American tule, but also nonnatives such as Mexican fan palm, broadleaf annuals, and grasses. The channel zone also includes some nonvegetated areas and open water. The higher channel banks and other upland areas within the site include disturbed habitat and urban/developed areas and are dominated by nonnative species such as castor-bean, short-pod mustard, Russian thistle, periwinkle, hottentot-fig, and Mexican fan palm. Table 3 depicts the habitats occurring within the BSA, per the Holland Classification System, as modified for San Diego County by Oberbauer et al. (2008).

Vegetation communities and other land cover types classified as "sensitive" within this MND were determined by applying the following regulatory context. Guidance for determining sensitive vegetation communities is provided by the resource agencies including CDFW and CNPS, as well as supporting documentation such as the CNDDB. These federal, state, and local agencies and related publications are typically in concurrence regarding the classification of sensitive vegetation communities and other land cover types. For example, vegetation communities or other cover types that are considered potential jurisdictional waters of the United States and state typically result in the vegetation community or nonvegetated area being considered sensitive. For this proposed project, these waters are regulated by CWA sections 401 and 404, CFGC Section 1600 *et seq*., and the Porter-Cologne Water Quality Control Act. In addition, vegetation communities are considered sensitive if identified as warranting mitigation in the MHCP Escondido Subarea Plan. Biologically, the vegetation communities that provide the highest habitat values within the BSA are the structurally diverse riparian communities.

Of the seven habitats/land cover types occurring within the proposed project area, five are sensitive according to the federal, state, and local guidance above and are denoted above in Table 3 with an asterisk. The City has designed the project to avoid sensitive habitats where feasible and proposes a native revegetation plan that would result in benefits that are greater than the impacts. As shown in Table

3, the project estimates a total of approximately 1.61 acres of impacts within the proposed project area. Potential impacts on sensitive habitat communities and species known to occur on-site or with a moderate to high potential to occur on-site are discussed below.

Table 3: Vegetation Communities and Cover Types Within and Adjacent to the Proposed Project Area

Vegetation Communities and Cover Types[1]	Acres within the Study Area[2]			Dominant/Significant Species[3]
	Project Footprint	100-Foot Buffer	Total	
Riparian and Wetland				
Southern willow scrub*	0.01	0	0.01	*Salix gooddingii, S. lasiolepis, Typha domingensis*
Coastal and valley freshwater marsh*	0.46	0	0.46	*Typha domingensis*
Eucalyptus woodland*	0.09	0.11	0.20	*Eucalyptus citriodora, E. camaldulensis, E. sideroxylon, Salix laevigata* (one individual); *Ricinis communis*
Open water*	0.12	0	0.12	*N/A*
Unvegetated channel*	0.04	0	0.04	*N/A*
Subtotal Riparian and Wetland	0.72	0.11	0.83	
Upland			0.53	
None				
Subtotal Upland	0	0	0	
Other				
Urban/developed	0.39	20.45	20.84	*Vinca* sp., *Carpobrotus edulis, Washingtonia robusta*
Disturbed habitat	0.50	1.79	2.28	*Ricinis communis, Rumex crispus, Conyza bonariensis, Hirschfeldia incana, Salsola tragus, Anagallis arvensis, Melilotus albus, Lolium multiflorum, Washingtonia robusta*
Subtotal Other	*0.88*	*22.24*	*23.12*	
GRAND TOTAL	**1.60**	**22.35**	**23.95**	

N/A = not applicable
[1] Asterisks denote a sensitive vegetation community (i.e., regulated by a resource agency or identified as warranting mitigation in the Multiple Habitat Conservation Program Escondido Subarea Plan).
[2] All acreages rounded to two decimal places after summation.
[3] Based on AECOM (2014) survey results.

Potential Jurisdictional Waters of the United States and State

The Spruce Street drainage channel is a developed channel located in the Carlsbad Hydrologic Unit and Escondido Hydrologic Areas (RWQCB Basin 904.62, USACE Hydrologic Unit Code 18070303). It consists of an earth-lined segment and a connecting concrete bottom segment that conveys stormwater and other runoff to the flood control channel of Escondido Creek, which eventually flows to the Pacific Ocean. Based on this hydrologic and ecological context, the channel is considered to be located within potential jurisdictional waters and is protected by federal, state, and local regulations.

During the site reconnaissance AECOM had access to the BSA to sample vegetation, soils, and hydrology in support of the formal jurisdictional delineation for waters of the United States and state. The presence of wetlands and other waters was assessed based on pre-field surveys and ambient site conditions, along with the formal delineation of wetland and nonwetland waters pursuant to the guidance and criteria outlined in and in accordance with the following:

- 33 CFR 328 (definition of waters of the United States)
- Regulatory Guidance Letters 07-02, 88-06, and 05-05
- *Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory 1987) (1987 Manual)
- *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* (Version 2.0) (Environmental Laboratory 2008)[6] (2008 Supplement)
- *A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States: A Delineation Manual* (USACE 2008)

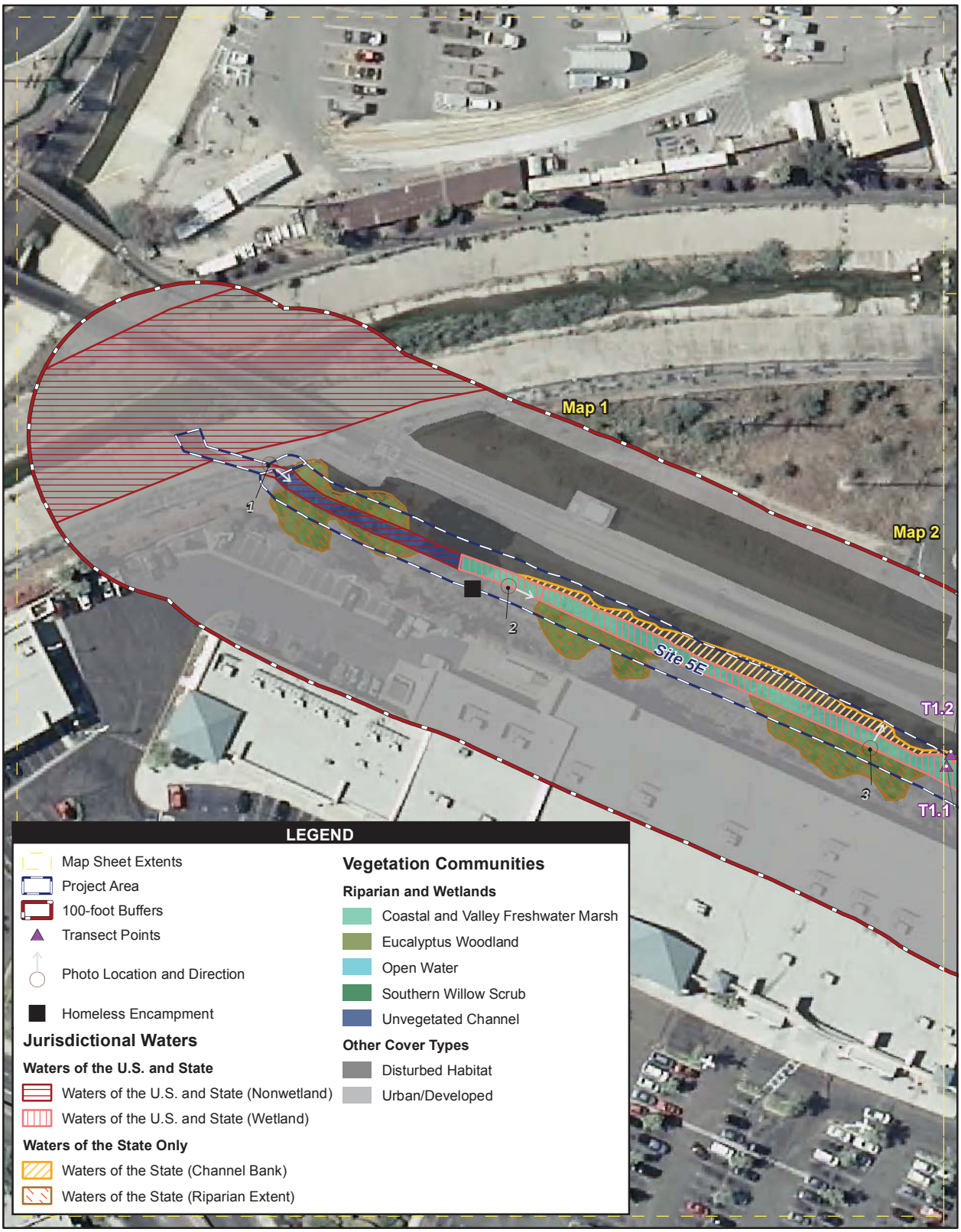
A total of 0.97 acre of jurisdictional waters of the United States and state (sensitive habitat) occurs within the proposed project area (Table 4) (Figures 5a through 5d). Of the 0.97 acre, 0.78 acre is within the earthen segment of the channel and is composed of 0.45 acre of waters of the United States in the form of coastal and valley freshwater marsh (0.41 acre), unvegetated channel (0.04 acre), and urban (<0.01 acre); and 0.33 acre of waters of the state under the exclusive purview of CDFW in the form of eucalyptus woodland (0.09 acre) and disturbed habitat (0.24 acre). The additional 0.19 acre within the concrete-lined channel segment is waters of the United States in the form of coastal and valley freshwater marsh (0.05 acre), southern willow scrub (0.01 acre), and open water (0.12 acre); and less than 0.01 acre of waters of the state under the exclusive purview of CDFW in the form of eucalyptus woodland (<0.01 acre). See Section 1.0, "Project Description," for further information regarding biological resources and waters of the United States and state that occur within the proposed project area project site and that have the potential to be affected by project activities.

Table 4: Waters of the United States and State Occurring within the Proposed Project Area

Type of Channel Bottom	Type of Waters	Type of Habitat (Holland 1986; Oberbauer et al. 2008)	Acres/ Linear Feet within Survey Area[a,b]
Waters of the United States and State (USACE, San Diego RWQCB, and CDFW)			
Earthen	Wetland	Coastal and valley freshwater marsh*	0.41/1,210
	Other waters	Unvegetated channel*	0.04/174
	Other waters	Urban/Developed*	<0.01
Subtotal Earthen Segment			*0.46/1,384*
Concrete	Wetland	Coastal and valley freshwater marsh*	0.05/147
	Wetland	Southern willow scrub*	0.01/30
	Other waters	Open water*	0.12/390
	Other waters	Urban/developed/culvert*	0.01/74
Subtotal Concrete-Lined Segment			*0.19/641*
Subtotal Waters of the United States and State			***0.64/2,025***
Jurisdictional Waters of the State, CDFW Exclusively			
Earthen	Riparian extent	Eucalyptus woodland*	0.09
	Channel bank	Disturbed habitat*	0.24
Subtotal Earthen Segment			*0.33*
Concrete	Riparian extent	Eucalyptus woodland*	<0.01
Subtotal Concrete-Lined Segment			*<0.01*
Subtotal Jurisdictional Waters of the State Only (acres)			***0.33***
Grand Total Jurisdictional Waters (acres)			**0.97/2,025**

[a] Linear feet are provided only for linear aquatic resources such as stream/riverine features and wetland/riparian corridors directly adjacent to stream features.
[b] Acreages are rounded to the nearest thousandth, which may account for minor rounding error.
CDFW = California Department of Fish and Wildlife; RWQCB = Regional Water Quality Control Board; USACE = U.S. Army Corps of Engineers

[6] It should be noted that the 1987 Manual and 2008 Supplement are guidance documents for delineating waters in the form of wetlands only.



Source: SanGIS 2012, 2014; City of Escondido 2010

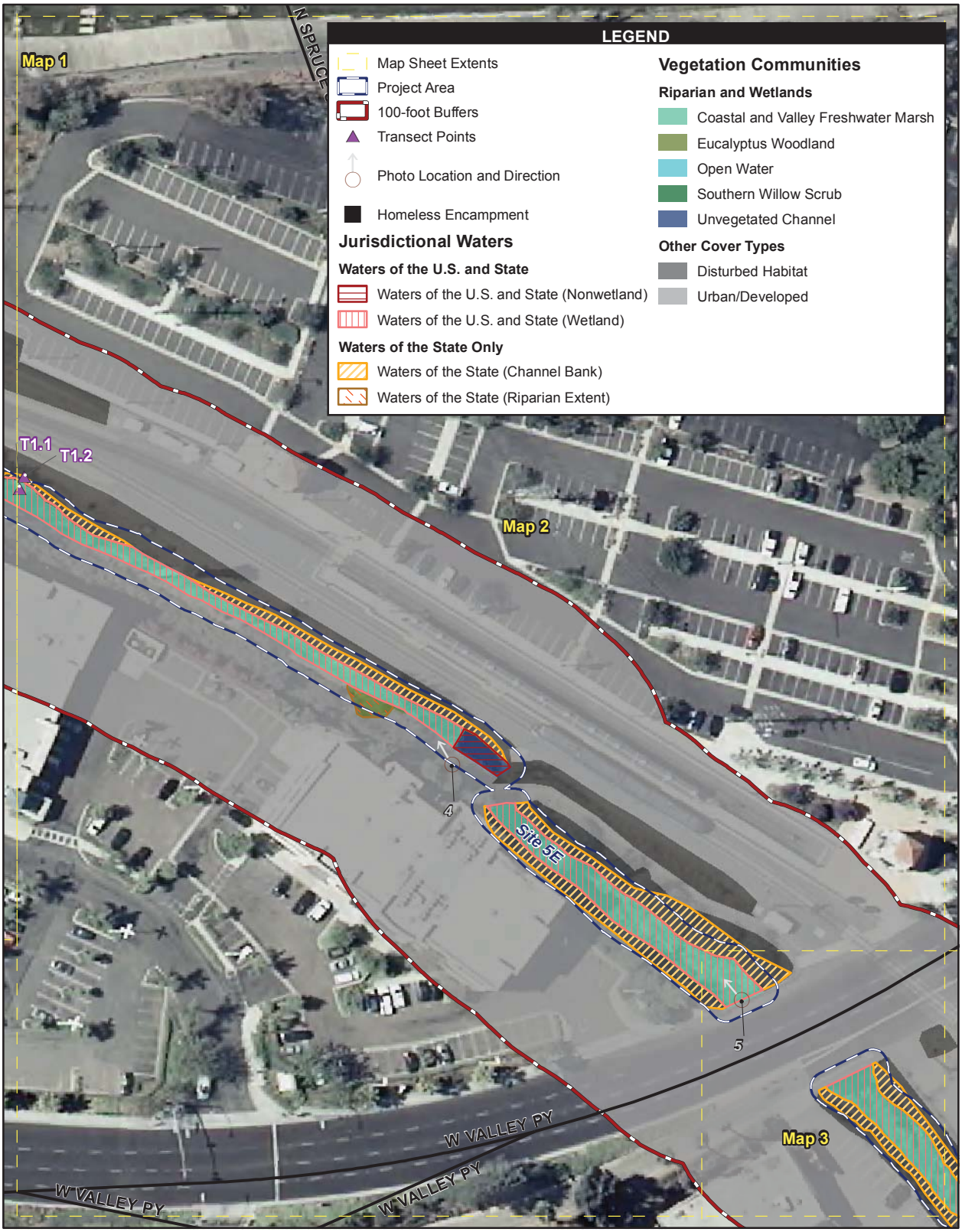
0 50 100 Feet

Scale - 1:1,200; 1 inch = 100 feet

Figure 5a
Detailed Jurisdictional Waters

Map 1

Path: P:\2014\60313771_Esc_MissionP\900-CAD-GIS\920 GIS\922_Maps\SpruceStreet_IS_MND\Veg_Wetland_JD_series.mxd, 8/10/2015, Daniel_Arellano



Source: SanGIS 2012, 2014; City of Escondido 2010

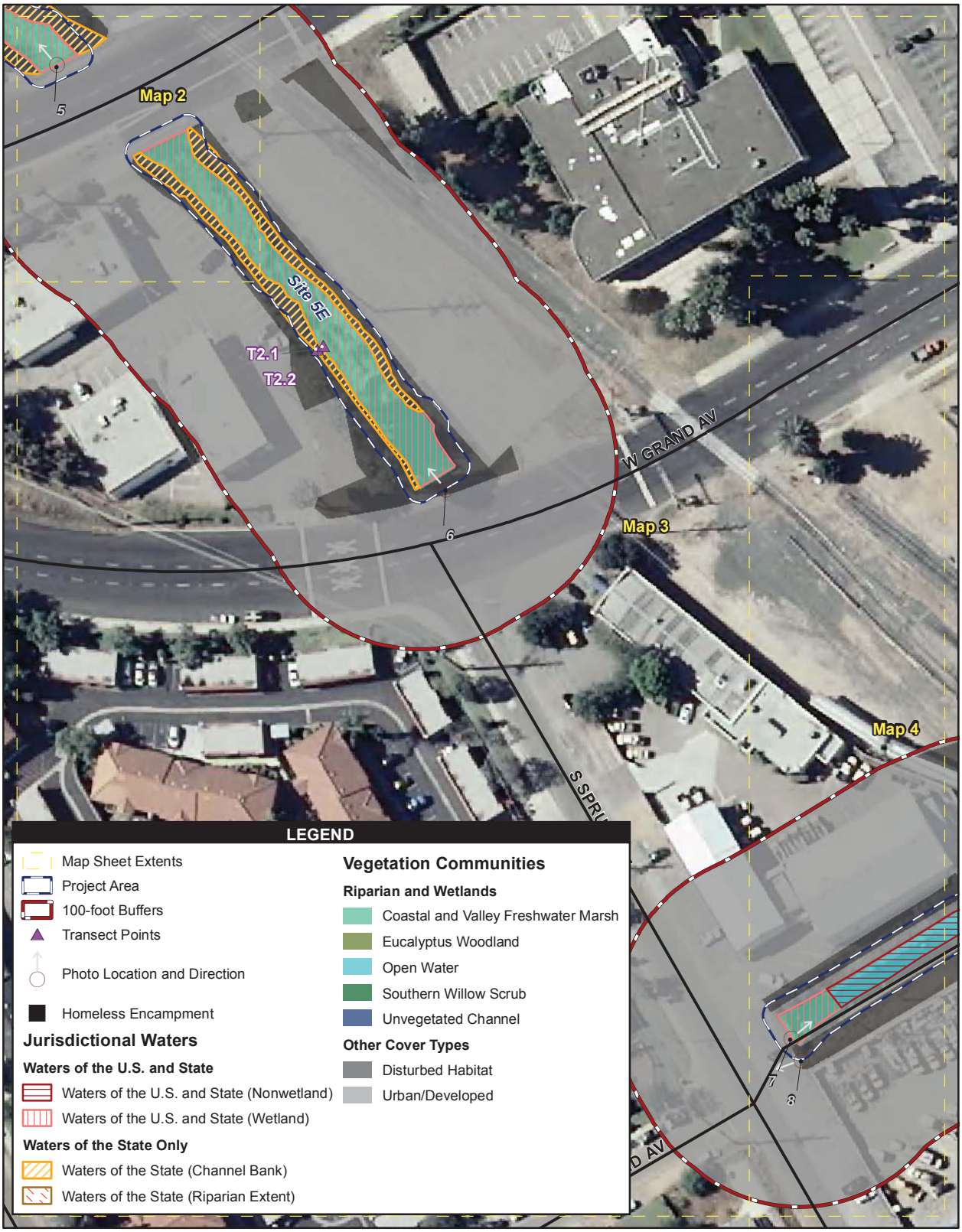
0 50 100 Feet

Scale - 1:1,200; 1 inch = 100 feet

Figure 5b
Detailed Jurisdictional Waters

Map 2

Path: P:\2014\60313771_Esc_MissionP\900-CAD-GIS\920 GIS\922_Maps\SpruceStreet_IS_MND\Veg_Wetland_JD_series.mxd, 8/10/2015, Daniel_Arellano



Source: SanGIS 2012, 2014; City of Escondido 2010

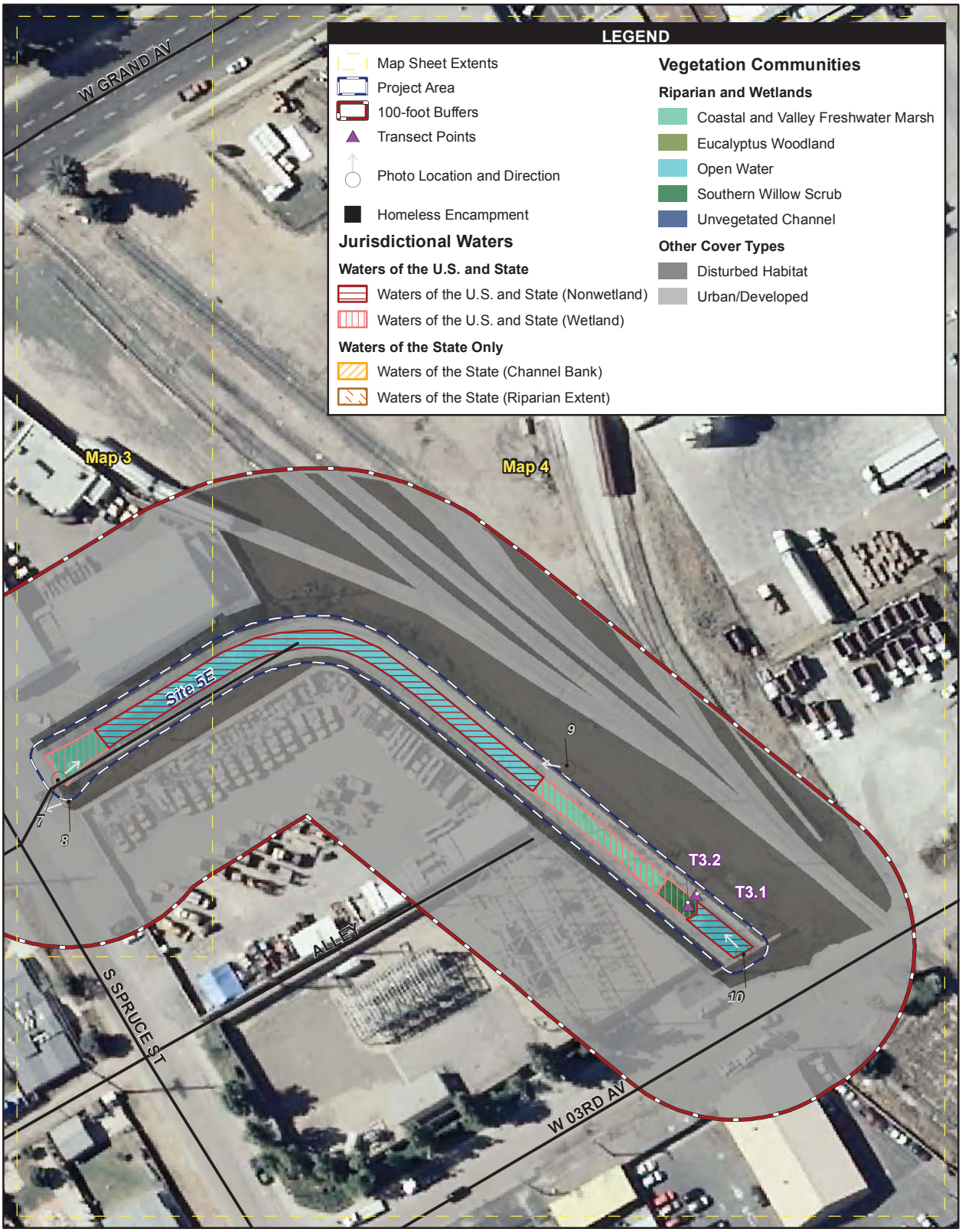
0 50 100 Feet

Scale - 1:1,200; 1 inch = 100 feet

Figure 5c
Detailed Jurisdictional Waters

Map 3

Path: P:\2014\60313771_Esc_MissionP\900-CAD-GIS\920 GIS\922_Maps\SpruceStreet_IS_MND\Veg_Wetland_JD_series.mxd, 8/10/2015, Daniel_Arellano



Source: SanGIS 2012, 2014; City of Escondido 2010

0 50 100 Feet

Scale - 1:1,200; 1 inch = 100 feet

Figure 5d
Detailed Jurisdictional Waters

Map 4

Path: P:\2014\60313771_Esc_MissionP\900-CAD-GIS\920 GIS\922_Maps\SpruceStreet_IS_MND\Veg_Wetland_JD_series.mxd, 8/10/2015, Daniel_Arellano

Special-Status Species

For the purposes of this report, species were considered special-status if they met at least one of the following criteria:

- Listed or proposed for listing (including candidate species) under the FESA and CESA.
- CDFW Species of Special Concern.
- CDFW Fully Protected species.
- California Rare Plant Rank Species (formerly CNPS listed species[7]): (CRPR) 1A (presumed extinct in California and rare/extinct elsewhere), 1B (rare, threatened, and endangered in California and elsewhere), 2A (presumed extinct in California, but more common elsewhere), 2B (rare, threatened, or endangered in California, but more common elsewhere), or 3 (plants are those for which more information is needed [a review list]) (CNPS 2015). All plants constituting CRPR 1A, 1B, 2A, 2B, and 3 meet the definitions of Sections 2062 and 2067 (CESA) of the California Fish and Game Code.
- Some (as specified in CNDDB), but not all, CRPR 4 plant species meet the definitions of Sections 2062 and 2067 (CESA) of the CFGC (CNPS 2015). CRPR 4 plants are those of limited distribution (watch list) (CNPS 2015).

Species are given special consideration by resource agencies such as USFWS and CDFW because of their limited distribution (i.e., rarity), their local significance, and/or the threat of extinction by human activities.

To determine the potential for special-status species to occur within the area a CNDDB quadrangle search for historically documented species occurrences, field surveys and vegetation mapping of the area were conducted. No special-status, threatened, or endangered species were observed during the 2010 and 2014 field surveys, or have designated critical habitat, within the boundaries of the proposed project area and associated 100-foot buffer. Based on the existing habitat within the project area and associated 100-foot buffer, the only special status species with potential to occur in the area would be the Western Red Bat (*Lasiurus blossevillii) (*CDFW:SSC) (WBWG:H[8]).

This species is common in some areas of California, occurring from Shasta County to the Mexican border, west of the Sierra Nevada/Cascade crest and deserts. The winter range includes western lowlands and coastal regions south of San Francisco Bay. There is migration between summer and winter ranges, and migrants may be found outside the normal range. Roosting habitat includes forests and woodlands from sea level up through mixed conifer forests. This species roosts in the foliage of large shrubs and trees, usually sheltering on the underside of overhanging leaves. Foraging has been noted in habitats such as mature orchards, oak woodland, low-elevation conifer forest, along riparian corridors,

[7] In 2010, the (CDFW) changed the name of the California Native Plant Society (CNPS) Lists in its publications to "California Rare Plant Rank," The change was intended to correct a public misimpression that the CNPS was solely responsible for the rank assignments. Rare Plant Status Review groups (300+ botanical experts from government, academia, nongovernmental organizations, and the private sector) produce the rank assignments for rare plants and both CDFW and CNPS jointly manage this collaborative effort.

[8] The WBWG high designation represents those bat species considered the highest priority for funding, planning, and conservation actions. Information about status and threats to most bat species could result in effective conservation actions being implemented should a commitment to management exist. These species are imperiled or are at high risk of imperilment.

among nonnative trees in urban and rural residential areas, and also near strong lights that attract flying insects. In addition, this species may forage in habitats and agricultural areas adjacent to streams and rivers that do not provide roosting habitat.

The closest known recently documented location of the Western Red Bat was in July 2002 approximately detected 8 miles southeast of the project site in native habitat in which individuals were detected with Anabat technology. Although there is potential for the species to occur within the project area and associated 100-foot buffer, as they occasionally roost in large trees within developed areas, the potential for the species to roost within the project area is low as the site is relatively narrow and highly urbanized,

Migratory Birds, Wildlife Movement, and Migration Corridors

In addition to the special-status species discussed above, as noted previously, migratory birds are protected under the MBTA. Under the act, most migratory birds are protected during the nesting season, as are the habitats in which they reside. Several species of migratory birds, including raptors (Cooper's hawk and red-shouldered hawk), have the potential to use habitat within and adjacent to the channel during the nesting season.

The proposed project area is highly disturbed and supports minimal native vegetation and is surrounded by developed urban areas. As a result, the channel, in its existing condition provides little value as a corridor for wildlife movement.

2.1.2 Significance Criteria and Impact Analysis

The effects of a project on biological resources are considered to be significant if the proposed project would:

a. *Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service;*

Less than Significant Impact with Mitigation Incorporated—The majority of the project area consists of disturbed habitat and urban developed areas with primarily coastal and valley freshwater marsh within the streambed. To determine the potential for special-status species to occur within the area a CNDDB quadrangle search for historically documented species occurrences, field surveys and vegetation mapping of the area were conducted No special status species were observed during the 2010 and 2014 field surveys within the facility buffer.

The existing habitat of the project area is highly disturbed and surrounded by urbanization, however historically there was habitat for a variety of species within the project area. In its existing condition, the only potential suitable habitat for a special-status species would be for the Western Red Bat (*Lasiurus blossevillii)*. Although there could be potential for this species to occur within the project area, based on the findings from the CNNDB search combined with the narrow and highly urbanized area of the project site the potential for this species to occur within the area is low. All potential impacts to this species would be minor and temporary. As a result, mitigation for this special-status species is not required.

Because project activities would result in direct impacts on small migratory birds, including raptors (Cooper's hawk and red-shouldered hawk), that may breed and nest within the vicinity of the project area, mitigation is required. Mitigation would include but would not be limited to vegetation clearing outside of the breeding season (February 15 through September 15) and surveys by a qualified biologist, which would result in impacts on migratory birds and raptors that would be less than significant.

Two mitigation measures have been identified to avoid and minimize otherwise potentially significant impacts on nesting birds to a level below significance. The nesting season would be avoided if at all possible with applicable preconstruction surveys, flagging of environmentally sensitive avoidance buffers, and biological monitoring through the implementation of the following mitigation measure:

BIO-1: Vegetation clearing shall occur outside of the typical breeding season for raptors and migratory birds (February 15 through September 15). However, if this is not possible, then a qualified biologist will conduct a raptor nesting survey prior to construction to determine the presence or absence of nests in the riparian habitat, and the potential need for additional project mitigation measures.

BIO-2: To the greatest extent feasible, vegetation clearing, dredging, and other mechanized activities within 500 feet of undeveloped vegetation communities will be conducted outside the breeding season for federally protected migratory and listed bird species. In situations where these types of maintenance activities will occur adjacent to undeveloped vegetation communities during the breeding season (February 15 through September 15), the measures outlined in Table 5 will be implemented.

Through the use of these adequate avoidance and minimization measures, the proposed project would have a less-than-significant impact (direct and indirect) on special-status species.

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

Less than Significant Impact with Mitigation Incorporated—The proposed project would affect a total of 0.97 acre of jurisdictional waters of the United States and state. Of the 0.97 acre, 0.78 acre is within the earthen segment of the channel and is composed of 0.45 acre of waters of the United States in the form of coastal and valley freshwater marsh (0.41 acre), unvegetated channel (0.04 acre), and urban (<0.01 acre); and 0.33 acre of waters of the state under the exclusive purview of CDFW in the form of eucalyptus woodland (0.09 acre) and disturbed habitat (0.24 acre). The additional 0.19 acre within the concrete-lined channel segment is waters of the United States in the form of coastal and valley freshwater marsh (0.05 acre), southern willow scrub (0.01 acre), and open water (0.12 acre); and less than 0.01 acre of waters of the state under the exclusive purview of CDFW in the form of eucalyptus woodland (<0.01 acre).

Although impacts on habitat within the channel would occur, the project proposes a revegetation plan that would result in revegetation of 0.978 acre in the instream freshwater marsh (0 to 4 feet) consisting of yerba mansa, San Diego sedge, Southwestern spiny rush, arrow reed, and arrowgrass, as well as revegetation of 0.989 acre of mid-terrace and upland areas of the channel (4 feet and above) that would also consist of an all-native seed mix. The restoration ecologist would confirm the upland planting areas before seeding. All seed would be collected within 5 miles of the site (or next closest location if unavailable) from a licensed native seed company upon approval by the restoration ecologist. All seed would be mixed and planted by hand and would be raked to a soil depth of one-quarter inch.

Table 5: Mitigation Measures for Biological Resources

Measure	Description
Biological Resources General Avoidance and Minimization	
Migratory Bird Avoidance and Minimization	
BIO-1 **Nesting Season Avoidance**	Vegetation clearing shall occur outside of the typical breeding season for raptors and migratory birds (February 15 through September 15). However, if this is not possible, then a qualified biologist will conduct a raptor nesting survey prior to construction to determine the presence or absence of nests in the riparian habitat, and the potential need for additional project mitigation measures.
BIO-2 **Nest Buffers**	To the greatest extent feasible, vegetation clearing, dredging, and other mechanized activities within 500 feet of undeveloped vegetation communities will be conducted outside the breeding season for federally protected migratory and listed bird species. In situations where these types of maintenance activities will occur adjacent to undeveloped vegetation communities during the breeding season (February 15 through September 15), the following measures will be implemented: 1. A preconstruction survey for migratory birds shall be performed by a qualified biologist within 3 days prior to any removal of trees, shrubs, or structures on the project site. If no active nests are found, then no further action will be warranted. 2. If an active nest is detected on or within 300 feet of the project site (500 feet for raptors), no work shall be conducted within a 300-foot radius (500 feet for raptors) of the detected nest until a biological monitor determines the nest is no longer active.
Maintenance and Monitoring Plan	
BIO-3 **5-Year Maintenance and Monitoring Plan**	A revegetation and monitoring plan for 0.978 acre of instream freshwater marsh and 0.985 acre of terrace and upland habitats would be prepared by the City. The City plans to restore the habitat beyond its existing state through a comprehensive revegetation plan that would include the use of native species. The City would identify a qualified restoration ecologist that would be responsible for preparing the revegetation and monitoring plan. The revegetation and monitoring plan would incorporate an appropriate native species palette to blend in with the existing and surrounding habitats. Preference for habitat community restoration would be determined by the qualified restoration ecologist, and based on the existing and surrounding habitats. The plan would include details of site preparation and implementation, planting specifications, and 5-year maintenance and monitoring procedures. The plan would outline yearly success criteria and remedial measures should the mitigation effort fall short of the success criteria.
Biological Resources	
BIO-4 **Mature Tree Protection**	All tree replacement would be in accordance with the City's Tree Preservation and Grading Ordinance requirements for mature and any protected trees (Oaks). It is anticipated that any mature and any protected trees (Oaks) would be planted on-site or within adjacent City owned property.

Although construction activities would result in impacts on habitat within the channel, the habitat modifications from the revegetation plan would result in overall net benefits to the habitat and the proposed project's restoration design would reduce and/or eliminate net loss of habitat. As a result, the project may be considered self-mitigating and does not require compensatory mitigation, and the overall impact on species and habitat is less than significant. The native revegetation plan would be successfully incorporated through the implementation of the following mitigation measure:

BIO-3: A 5-year maintenance and monitoring plan shall be prepared by a qualified restoration ecologist. Through the use of this adequate avoidance and minimization measure, the proposed project would have a less-than-significant impact (direct and indirect) on riparian habitat or other sensitive natural communities identified in local or regional plans, policies, regulations, or by CDFW or USFWS.

c. *Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means;*

Less than Significant Impact with Mitigation Incorporated—As stated above, the proposed project would affect a total of 0.97 acre of jurisdictional waters of the United States and state. Of the 0.97 acre, 0.78 acre is within the earthen segment of the channel and is composed of 0.45 acre of waters of the United States in the form of coastal and valley freshwater marsh (0.41 acre), unvegetated channel (0.04 acre), and urban (<0.01 acre); and 0.33 acre of waters of the state under the exclusive purview of CDFW in the form of eucalyptus woodland (0.09 acre) and disturbed habitat (0.24 acre). The additional 0.19 acre within the concrete-lined channel segment is waters of the United States in the form of coastal and valley freshwater marsh (0.05 acre), southern willow scrub (0.01 acre), and open water (0.12 acre); and less than 0.01 acre of waters of the state under the exclusive purview of CDFW in the form of eucalyptus woodland (<0.01 acre).

The proposed project necessitates work within and around jurisdictional waters. The City has made great efforts to minimize impacts to the greatest extent practicable by incorporating a native revegetation plan as part of the proposed project, while also maintaining the project objectives. The proposed revegetation plan would result in revegetation of 0.978 acre in the instream freshwater marsh (0–4 feet) consisting of yerba mansa, San Diego sedge, Southwestern spiny rush, arrow reed, and arrowgrass, as well as revegetation of 0.989 acre of mid-terrace and upland areas of the channel (4 feet and above) that would also consist of an all-native seed mix. The restoration ecologist would confirm the upland planting areas before seeding. All seed would be collected within 5 miles of the site (or next closest location if unavailable) from a licensed native seed company upon approval by the restoration ecologist. All seed would be mixed and planted by hand and would be raked to a soil depth of one-quarter inch. Although construction activities would result in impacts on habitat within the channel, the habitat modifications from the revegetation plan would result in overall net benefits to the habitat and the proposed project's restoration design would reduce and/or eliminate net loss of habitat.

The proposed native revegetation plan would result in beneficial impacts through the implementation of BIO-3 described above.

d. *Interfere substantially with the movement of any native resident or migratory fish or wildlife species, or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;*

Less than Significant Impact—The County of San Diego has been providing nonmigratory mosquitofish as a method of vector treatment for several years; however, there are no migratory fish within the channel and the project does not propose improvements that could prevent fish from moving downstream. The proposed project area is not identified as a wildlife corridor within the Multiple Species Conservation Program. In the postproject condition, the area would function similar to the preproject condition in regard to wildlife movement. The proposed project improvements do not include features that would deter wildlife movement beyond existing conditions. No mitigation is required.

e. *Conflict with any local policies/ordinance that protect biological resources (e.g. tree preservation policy or ordinance); or,*

Less than Significant Impact with Mitigation Incorporated—Willow trees occur scattered within the concrete and earthen channels of the proposed project area. Direct impacts on mature trees would result from channel clearing (vegetation removal); however channel clearing will also include the beneficial

removal of invasive eucalyptus. Potential temporary, indirect impacts on mature and/or protected trees may arise during project construction as a result of runoff and sedimentation, erosion, and fugitive dust. Runoff, sedimentation, and erosion can adversely affect plant populations by damaging individuals or by altering site conditions sufficiently to favor other species (native and exotic nonnatives) that would competitively displace native trees. Construction-generated fugitive dust can adversely affect plants by reducing the rates of metabolic processes such as photosynthesis and respiration. Potential permanent indirect impacts on mature and/or protected trees may occur during project operation. Erosion and stormwater contaminant runoff may degrade adjacent habitat.

Potential direct and indirect impacts on mature trees would be considered a significant impact. Because mature trees cannot be preserved on-site, impacts would be mitigated through the following mitigation measure to ensure that impacts of the proposed project on mature trees would be less than significant:

BIO-4: Tree replacement would be in accordance with the City's Tree Preservation and Grading Ordinance requirements for mature and any protected trees (Oaks). A detailed tree survey would be prepared as part of the revegetation plan to determine the number and type of mature and protected trees that would need to be replaced.

f. Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

No Impact. The proposed project is consistent with the provisions of the Draft MHCP Escondido Subarea Plan, because the project area is located within the area defined by the plan as urban/developed land and is not considered a focused planning area. Although the MHCP Escondido Subarea Plan is currently in the draft phase, the project is consistent with the plan, and as a result it would not conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan.

2.1.3 Mitigation Measures for Biological Resources

Impacts to biological resources will be mitigated to a level less than significant through the mitigation measures for biological resources listed below in Table 5.

2.2 CULTURAL RESOURCES

This section briefly discusses the cultural resources within the city of Escondido. Specifically, this section provides a description of existing conditions, an outline of significance criteria, an analysis of the potential impacts of the project on eligible or significant cultural resources, and proposed mitigation measures for the protection of these resources.

2.2.1 Existing Conditions

Cultural Setting

San Diego Region

The sequence of human occupation of coastal Southern California begins in the Paleoindian period (11,500–8500 years Before Present [B.P.]), a time when adaptations were formerly believed to have focused on the hunting of large game, but are now recognized to represent more generalized hunting and gathering, with considerable emphasis on marine resources (Erlandson and Colten 1991; Jones 1991). The following period, the Archaic (8500–1300 B.P.), is traditionally seen as encompassing both a coastal and an inland focus, with the coastal Archaic represented by the shell middens of the La Jolla complex

and the inland Archaic represented by the Pauma complex. The Late Prehistoric period (1300–200 B.P.) is marked by the appearance of small projectile points indicating the use of the bow and arrow, the common use of ceramics, and the replacement of inhumations with cremations.

During the Spanish period (1769–1821), the San Diego region was subject to exploration and the establishment of permanent Spanish settlements. The San Diego Presidio and the missions at San Diego and San Luis Rey were built and occupied during this period. Water has always been an important resource in the semiarid San Diego region, and water projects began in the Spanish period with the construction of Padre (Mission) Dam and its appurtenant 6-mile flume. Agriculture and livestock grazing formed the basis of the economy. Aboriginal lifeways were increasingly modified as more and more of the local natives came under the influence of the missions.

Many Spanish practices survived into the early part of the Mexican period (1821–1848). The secularization of the missions in 1834 brought notable changes to land ownership in the region. Large tracts of land were granted to families and individuals. Cattle ranching was a major economic focus.

The American period (1848–present) began when Mexico ceded California to the United States as part of the Treaty of Guadalupe Hidalgo. Some of the previous land claims were validated, but much of the land that was once part of the ranchos became available for settlement. Population movement into California was an outgrowth of several events: the discovery of gold, the conclusion of the Civil War, the passage of the Homestead Act, the construction of connecting railways, and World Wars I and II.

Proposed Project Area

After the arrival of Spanish explorers, the area that is now Escondido became part of the Spanish mission system. In 1843, the area was part of a rancho (El Rincon del Diablo) granted to Juan Bautista Alvarado, and in 1860, it was acquired by the Wolfskill brothers, who planted vineyards and raised sheep (McGrew 1988). In 1883, much of the area was purchased by the Escondido Company, a group of Stockton speculators that subdivided the property 3 years later. In 1886, a 12,000-acre tract was purchased by a group of investors that formed the Escondido Land and Town Company, which platted the city of Escondido and lobbied for construction of a railroad connection to the coast. Aggressive land promotions during the latter half of the 1880s drew many people to the area, and although growth had slowed considerably during the 1890s, settlers continued to arrive in the back country, establishing small farms and ranches throughout the area. This migration declined sharply with the onset of the Great Depression during the 1930s, as many of the rural farmers abandoned their farms and moved to urban areas. The number of people living on farms fell 63% during the 1930s, while San Diego County's overall population increased by 38% (Van Wormer and Walters 1991). Nevertheless, farming and ranching continued to be the major focus of Escondido's economy until the 1960s.

Cultural Resources within the Proposed Project Area

Over the last decade, AECOM has conducted several cultural resources investigations near the proposed project area. These investigations consisted of records searches, field surveys, and test excavations, the results of which reveal that the city of Escondido contains both historical and archaeological resources.

Proposed activities taking place in the proposed project area would involve primarily removing silt and vegetation from the open concrete-lined ditch, underground culvert, earth-lined channel, inlets, and outlets. In most cases, this removal would be done with mechanized equipment (e.g., excavator or backhoe). In some locations, work may be restricted to the use of hand tools (mechanical and manual). The proposed work between South Spruce Street and West 3rd Avenue and in the underground culvert on Spruce Street between West Grand Avenue and West 2nd Avenue would occur within concrete-lined

or encased areas and removal of silt and vegetation would not cause ground disturbance; therefore, no significant impacts on historic resources are expected. In the remaining portion of the proposed project area, between West Grand Avenue and West Valley Parkway, proposed work would occur within an earth-lined channel where mechanical dredging and cleaning are expected to cause ground disturbance averaging 1 foot deep. Additionally, work proposed for the sediment trap option and proposed culvert improvements between West Valley Parkway and Escondido Creek has the potential to disturb previously undisturbed soils. Work at these locations has the potential to cause impacts on significant historic resources.

Records Search

A cultural resources records search of the proposed project area was conducted on July 19, 2015, by the South Coastal Information Center (SCIC). A total of 58 previous investigations have been conducted within a 1-mile radius of the proposed project area. Of these, 31 are survey investigations, five are evaluation/assessment studies, three are environmental impact reports, 10 are historical resources studies, one is a data recovery effort, three are testing reports, and five are monitoring reports. Two investigations overlap with the proposed project area and consist of survey investigations. Ten cultural resources have been previously recorded within a 1-mile radius of the proposed project area: three bedrock milling stations, one historic artifact scatter, two historic trash dumps, one multi-component site, one isolate (a flake and a mano fragment), and two prehistoric resources that have no description. The isolated flake and mano fragment are located within 200 feet of the proposed project area.

Field Survey

AECOM conducted a pedestrian survey on July 27, 2015, to identify cultural resources in the proposed project area. The area was very disturbed and overgrown with vegetation, and much of it was inaccessible. Field efforts did not identify any surface evidence of the archaeological sites within the proposed project area. However, the site is part of “Line N” and “Line I” of the larger storm drainage system designed by the City of Escondido in 1960 and constructed thereafter. The section of the storm drainage system that is located within part of the proposed project area was recorded in the field and site forms will be submitted to the SCIC.

City of Escondido Storm Drainage System (1960)

San Diego County, including Escondido, received a large influx of new residents after World War II. The population of Escondido was 6,544 in 1950; by 1960, the city’s population had more than doubled to 16,377 residents, with growth projected to continue unabated in the near future. In response to this growth, the City began several public improvements, including the development of a citywide stormwater drainage system. The portion of the storm drainage system that includes the proposed project area was designed in 1960. The new system, designed by the local firm Sholders, Tanner, Marquardt and Associates, Inc., would include a number of concrete pipelines, concrete-lined channels, underground concrete culverts, and earth-lined channels. The system was bounded by West 13th Street on the south, South Broadway on the east, Escondido Creek on the north, and South Upas Street on the west.

The City of Escondido Storm Drainage System (1960) is of a ubiquitous design for its time and such systems are still being used and built in California. The resource is not associated with significant events in history or with important persons in history. The design is common throughout the region, state, and country and does not possess distinctive characteristics or possess high artistic values. The resource does not have the potential to yield information important to the history of the local area, state, or nation, and the recording of the resource has exhausted its research potential.

Although the proposed project area is largely previously disturbed, ground disturbance associated with the project activities would include work in previously undisturbed soils in an earth-lined channel between West Grand Avenue and West Valley Parkway that may have the potential to contain archaeological resources, and monitoring would be required for all ground-disturbing activities proposed in previously undisturbed soils. Due to the possibility of silt and soil build up from drainage, the professional Archaeological Monitor may determine that there is no potential for archaeological resources within the proposed disturbance area and monitoring may be terminated after in-field observation. Monitoring requirements and protocols in the event of an inadvertent discovery are outlined in CR-1.

Tribal Cultural Resources

As part of the cultural resources evaluation conducted by AECOM, a Sacred Lands File Request was sent to the Native American Heritage Commission (NAHC) on July 19, 2015 for the Project area and a one-mile radius. The letter requested information concerning any tribal cultural resources or concerns within the search area. A follow up email was sent on September 30, 2015. A response from NAHC was received on October 2, 2015 which identified a potential for Native American cultural resources to be impacted during project activities and included a Native American Contact List as an additional source of l information. On October 16, 2015 the City's consultant (AECOM) reached out to all tribes included in the Native American Contact List via a hand mailed letter informing the tribes of the proposed project. Each letter included a figure of the proposed project area, as well as a response form. As of November 4th, two letters were received from the Pala Band of Mission Indians and the Rincon Band of Luiseño Indians. The Pala Band of Mission Indians indicated that the tribe does not have any objections to the continuation of the project activities as currently planned and to defer to the wishes of Tribes in closer proximity to the project area. A response was received from the Rincon Band of Luiseño Indians on October 23, 2015 indicating no concerns regarding known cultural resources within the area and no further consultation was deemed necessary.

In accordance with California State Assembly Bill AB 52, the City initiated government to government consultation with the three tribes that requested formal notification, Rincon Band of Luiseno Indians, the San Luis Rey Band of Mission Indians and the Soboba Band of Luiseno Indians through written notification of the proposed project activities. As required under AB 52, letters were sent to the tribes on August 18, 2015. A response was not received from the Rincon Band of Luiseno Indians. A response was received from the Soboba Band of Luiseno Indians on September 14, 2015 indicating no concerns regarding known cultural resources within the area and deferring responsibility to the Pauma Band of Luiseño Indians and the Rincon Band of Luiseno Indians. City staff met with the San Luis Rey Band of Mission Indians and received from them a determination that no avoidance or mitigation measures for tribal cultural resources were necessary. Consultation has been concluded in accordance with AB 52 and no Tribal Cultural monitoring is required. For further information regarding correspondence to the tribes please refer to Appendix C (Tribal Correspondence).

2.2.2 Significance Criteria and Impact Analysis

Significance Criteria

Under CEQA, the lead agency is responsible for determining whether a project may have a significant effect on historical and archaeological resources. Section 21083.2 of the Public Resources Code states that if the lead agency determines that the project may have a significant effect on "unique" archaeological resources, an environmental impact report shall address these resources. A unique

archaeological resource is an artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets one of the following criteria:

1. Associated with events that have made a significant contribution to the broad patterns of local or regional history or the cultural heritage of California or the United States.
2. Associated with the lives of persons important to local, California, or national history.
3. Embodies the distinctive characteristics of a type, period, region, or method of construction or represents the work of a master or possesses high artistic values.
4. Has yielded, or has the potential to yield, information important to the prehistory or history of the local area, California, or the nation.

The effects of a project on cultural resources are considered to be significant if the proposed project would:

a. Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5;

Less than Significant Impact with Mitigation Incorporated—No potentially significant cultural resources or tribal cultural resources are located within the proposed project area. Even though some portions of the site were not able to be thoroughly surveyed because of access issues or poor visibility from dense vegetation, the likelihood for potential resources to be present in the proposed project area is low due to the previously-developed nature of the project site and surrounding area, and the nature of the current silt and other debris deposited from the upstream drainage. However, appropriate mitigation is in place (Mitigation Measures CR-1, CR-2, and/or CR-3 (see Table 6, Section 2.2.3) should unanticipated historical resources be discovered.

b. Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5;

Less than Significant Impact with Mitigation Incorporated—No potentially significant cultural resources or tribal cultural resources are located within the proposed project area. Even though some portions of the site were not able to be thoroughly surveyed because of access issues or poor visibility from dense vegetation, the likelihood for potential resources to be present in the proposed project area is low due to the previously-developed nature of the project site and surrounding area, and the nature of the current silt and other debris deposited from the upstream drainage. However, appropriate mitigation is in place (Mitigation Measures CR-1, CR-2, and/or CR-3 (see Table 6, Section 2.2.3) should unanticipated archaeological resources be discovered.

c. Disturb any human remains, including those interred outside of formal cemeteries.

Less than Significant Impact with Mitigation Incorporated—The SCIC records search and field survey of the proposed project area indicated that no human remains are present in the area. As such, there would be no impact on known human remains. In the event of an inadvertent discovery of human remains, Mitigation Measure CR-4 shall be followed.

2.2.3 Mitigation Measures for Cultural Resources

Impacts to cultural resources will be mitigated to a level less than significant through the mitigation measures for cultural resources listed below in Table 6.

Table 6: Mitigation Measures for Cultural Resources

Measure	Description
Mitigation	
Cultural Resources	
CR-1 **Avoidance of Archaeological Resources**	If an unanticipated archaeological resource is discovered the contractor shall temporarily divert construction activities in the area of cultural resource and immediately notify the resident engineer, as appropriate, and the PI (Principle Investigator) (unless Monitor is the PI). The PI shall immediately notify appropriate City staff by phone of the incident, and shall also submit written documentation to City staff within 24 hours by fax or email with photos of the resource in context. The PI will assess the potential significance of the find and report to City staff. If feasible the unanticipated archaeological will be avoided. If an unanticipated discovery is significant and cannot be avoided see CR-2 below.
CR-2 **Testing of Archaeological Resources**	If an unanticipated archaeological discovery is potentially significant and cannot be avoided, an evaluation plan that identifies research topics and procedures for evaluation of the resource will be prepared. The evaluation plan will be a stand-alone document and will be implemented prior to additional ground-disturbing maintenance activities.
CR-3 **Data Recovery of Archaeological Resources**	If an unanticipated archaeological discovery is significant and cannot be avoided, a treatment plan will outline the procedures for conducting data recovery. The treatment plan will be a stand-alone document and will be implemented prior to any additional ground-disturbing maintenance activities.
CR-4 **Treatment of Human Remains**	If human remains are inadvertently discovered, they shall be treated according to appropriate state regulations(Public Resources Code Sections 5097.98, 5097.99, 5097.991, 7050.5, and 8010–8011 and Assembly Bill 2641); or on federal land Native American Graves Protection and Repatriation Act provisions, as outlined in the monitoring and discovery plan.

This page intentionally left blank.

SECTION 3.0: MANDATORY FINDINGS OF SIGNIFICANCE

Potential impacts of the proposed project on the environment are in the areas of Biological Resources and Cultural Resources. With implementation of the mitigation measures and conditions of approval, the proposed project is not expected to have any significant impacts. The project would not degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, or cause the fish or wildlife population to drop below self-sustaining levels. The project would not threaten to eliminate a plant or animal community or substantially reduce the number or restrict the range of a rare or endangered plant or animal. The project would not eliminate important examples of the major periods of California history or prehistory. The project would not materially degrade levels of service of the adjacent streets, intersections, or utilities. The project would not have impacts that are cumulatively considerable, and would not have effects that would cause substantial adverse effects on human beings, either directly or indirectly. Therefore, in staff's opinion, the proposed project would not have a significant individual or cumulative impact on the environment.

This page intentionally left blank.

SECTION 4.0: SUMMARY OF AVOIDANCE, MINIMIZATION, AND MITIGATION MEASURES

Appropriate avoidance, minimization, and mitigation measures for the various resource areas are described in the project description, individual resource area sections of this document, and Table 7.

Table 7: Summary of Avoidance, Minimization, and Compensatory Mitigation Measures

Biological Resources	
Biological Resources General Avoidance and Minimization	
Migratory and Nesting Bird Avoidance and Minimization	
BIO-1 **Nesting Season Avoidance**	Vegetation clearing shall occur outside of the typical breeding season for raptors and migratory birds (February 15 through September 15). However, if this is not possible, then a qualified biologist will conduct a raptor nesting survey prior to construction to determine the presence or absence of nests in the riparian habitat, and the potential need for additional project mitigation measures.
BIO-2 **Nest Buffers**	To the greatest extent feasible, vegetation clearing, dredging, and other mechanized activities within 500 feet of undeveloped vegetation communities will be conducted outside the breeding season for federally protected migratory and listed bird species. In situations where these types of maintenance activities will occur adjacent to undeveloped vegetation communities during the breeding season (February 15 through September 15), the following measures will be implemented: 1. A preconstruction survey for migratory birds shall be performed by a qualified biologist within 3 days prior to any removal of trees, shrubs, or structures on the project site. If no active nests are found, then no further action will be warranted. 2. If an active nest is detected on or within 300 feet of the project site (500 feet for raptors), no work shall be conducted within a 300-foot radius (500 feet for raptors) of the detected nest until a biological monitor determines the nest is no longer active.
Maintenance and Monitoring	
BIO-3 **5-Year Maintenance and Monitoring Plan**	A revegetation and monitoring plan for 0.978 acre of instream freshwater marsh and 0.985 acre of terrace and upland habitats would be prepared by the City. The City plans to restore the habitat beyond its existing state through a comprehensive revegetation plan that would include the use of native species. The City would identify a qualified restoration ecologist that would be responsible for preparing the revegetation and monitoring plan. The revegetation and monitoring plan would incorporate an appropriate native species palette to blend in with the existing and surrounding habitats. Preference for habitat community restoration would be determined by the qualified restoration ecologist, and based on the existing and surrounding habitats. The plan would include details of site preparation and implementation, planting specifications, and 5-year maintenance and monitoring procedures. The plan would outline yearly success criteria and remedial measures should the mitigation effort fall short of the success criteria.
Biological Resources	
BIO-4 **Mature Tree Protection**	All tree replacement would be in accordance with the City's Tree Preservation and Grading Ordinance requirements for mature and any protected trees (Oaks). It is anticipated that any mature and any protected trees (Oaks) would be planted on-site or within adjacent City owned property.
Cultural Resources	
Cultural Resources General Avoidance and Minimization	
CR-1 **Avoidance of Archaeological Resources**	If an unanticipated archaeological resource is discovered the contractor shall temporarily divert construction activities in the area of cultural resource and immediately notify the resident engineer, as appropriate, and the PI (unless Monitor is the PI). The PI shall immediately notify appropriate City staff by phone of the incident, and shall also submit written documentation to City staff within 24 hours by fax or email with photos of the resource in context**.** The PI will assess the potential significance of the find and report to City staff. If feasible the unanticipated archaeological will be avoided. If an unanticipated discovery is significant and cannot be avoided see CR-2 below.

CR-2 **Testing of Archaeological Resources**	If an unanticipated archaeological discovery is potentially significant and cannot be avoided, an evaluation plan that identifies research topics and procedures for evaluation of the resource will be prepared. The evaluation plan will be a stand-alone document and will be implemented prior to additional ground-disturbing maintenance activities.
CR-3 **Data Recovery of Archaeological Resources**	If an unanticipated archaeological discovery is significant and cannot be avoided, a treatment plan will outline the procedures for conducting data recovery. The treatment plan will be a stand-alone document and will be implemented prior to any additional ground-disturbing maintenance activities.
CR-4 **Treatment of Human Remains**	If human remains are inadvertently discovered, they shall be treated according to appropriate state regulations(Public Resources Code Sections 5097.98, 5097.99, 5097.991, 7050.5, and 8010–8011 and Assembly Bill 2641); or on federal land Native American Graves Protection and Repatriation Act provisions, as outlined in the monitoring and discovery plan.

SECTION 5.0: REFERENCES

California Consortium of Herbaria (CCH)

2012 Online database of herbaria voucher specimens within California. Accessed intermittently July 2010 through January 2012, from http://ucjeps.berkeley.edu/consortium/.

California Department of Fish and Game (CDFG)

2012a California Natural Diversity Database (CNDDB) GIS layer. Search for Escondido Channel Maintenance Project study area. State of California Resources Agency. Sacramento, CA.

2012b Vegetation Classification and Mapping Program. Online Natural Communities List. Accessed February 9, 2012 from http://www.dfg.ca.gov/biogeodata/vegcamp/natural_comm_list.asp.

California Native Plant Society (CNPS)

2012 Inventory of Rare and Endangered Plants of California, California Native Plant Society, Sacramento, CA. Accessed intermittently July 2010 through January 2012, from http://www.rareplants.cnps.org/.

City of Escondido

2001 *Public Review Draft Escondido Subarea Plan Implementing the Multiple Habitat Conservation Program*. June.

Demere, Tom

2007 *Technical Report Paleontological Resource Assessment, Citracado Parkway Extension, City of Escondido, San Diego County, California*. Report on file at the San Diego Natural History Museum, San Diego, CA.

Environmental Laboratory

1987 *Corps of Engineers Wetlands Delineation Manual.* Technical Report Y-87-1. U.S. Army Engineer Waterways Experiment Station. Vicksburg, MS.

2008 *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0)*. September.

Erlandson, Jon M., and Roger H. Colten (editors)

1991 *Hunter-Gatherers of Early Holocene Coastal California*. Perspectives in California Archaeology, Volume 1. Institute of Archaeology, University of California, Los Angeles.

Holland, Robert F., Ph.D.

1986 *Preliminary Descriptions of the Terrestrial Natural Communities of California*. October.

Jones, Terry L.

1991 Marine-Resource Value and the Priority of Coastal Settlement: A California Perspective. *American Antiquity* 56:419–443.

McGrew, Alan B.
1988 *Hidden Valley Heritage: Escondido's First 100 years*. Blue-Ribbon Centennial History Committee, Escondido, CA. L&W Printery, Inc.

Oberbauer, Thomas, Meghan Kelly, and Jeremy Buegge
2008 *Draft Vegetation Communities of San Diego County*. March. Based on *Preliminary Descriptions of the Terrestrial Natural Communities of California*, Robert F. Holland, Ph.D., October 1986.

San Diego Association of Governments (SANDAG)
2003 *Final MHC Plan for the Cities of Carlsbad, Encinitas, Escondido, Oceanside, San Marcos, Solana Beach, and Vista*. March.

San Diego Natural History Museum (SDNHM)
2012 Online database of plant distributions within San Diego County. Accessed intermittently July 2010 through January 2012, from http://sdplantatlas.org/GMap/GMapSpeciesMap_Eco.htm.

U.S. Army Corps of Engineers (USACE)
2008 *A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States: A Delineation Manual*. ERDC/CRREL TR-08-12.

U.S. Fish and Wildlife Service (USFWS)
2012 National Wetlands Inventory Interactive Wetlands Mapper. Accessed intermittently July 2010 through January 2012, from http://www.nwi.fws.gov.

U.S. Natural Resources Conservation Service (NRCS)
2012 Web Soil Survey. Accessed intermittently July 2010 through January 2012, from http://websoilsurvey.nrcs.usda.gov/app/.

Van Wormer, Stephen, and Susan Walters
1991 *Historical and Architectural Assessment of the Soledad Schoolhouse*. Prepared by Walter Enterprises. Submitted to the San Diego Department of Planning and Land Use, San Diego, CA.

APPENDIX A

CEQA ENVIRONMENTAL CHECKLIST

ENVIRONMENTAL CHECKLIST FORM

1. Project title: *Spruce Street Drainage Improvements*

2. Lead agency name and address: *City of Escondido, 201 N. Broadway, Escondido, CA 92025-2798*

3. Contact persons and phone numbers:
   Helen Davies, (760) 839-6315

4. Project location: *City of Escondido, San Diego County, CA*

5. Project sponsor's name and address:
   City of Escondido
   201 N. Broadway
   Escondido, CA 92025-2798

6. General plan designation: *General Industrial (GI) and Downtown Specific Plan Area #9*

7. Zoning: *General Industrial (M-2) and Specific Plan (SP)*

8. Description of project: (Describe the whole action involved, including but not limited to later phases of the project, and any secondary, support, or off-site features necessary for its implementation. Attach additional sheets if necessary.)
   Please see above.

9. Surrounding land uses and setting: Briefly describe the project's surroundings:
   Please see above.

10. Other public agencies whose approval is required (e.g., permits, financing approval, or participation agreement.)

    U.S. Army Corps of Engineers—Individual or Nationwide Permit
    San Diego Regional Water Quality Control Board—Water Quality Certification
    California Department of Fish and Wildlife—Streambed Alteration Agreement

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED:

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact" as indicated by the checklist on the following pages.

☐ Aesthetics	☐ Agriculture and Forestry Resources	☐ Air Quality
☒ Biological Resources	☒ Cultural Resources	☐ Geology /Soils
☐ Greenhouse Gas Emissions	☐ Hazards & Hazardous Materials	☐ Hydrology / Water Quality
☐ Land Use / Planning	☐ Mineral Resources	☐ Noise
☐ Population / Housing	☐ Public Services	☐ Recreation
☐ Transportation/Traffic	☐ Utilities / Service Systems	☒ Mandatory Findings of Significance

DETERMINATION: (To be completed by the Lead Agency)
On the basis of this initial evaluation:

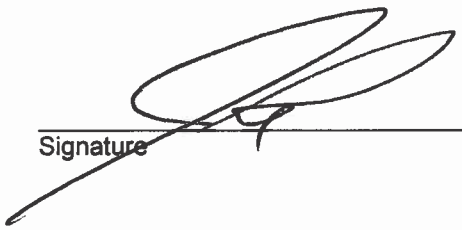
☐ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

☒ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.

☐ I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

☐ I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

☐ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.



Signature _____ Date 12-24-15

Signature _____ Date _____

EVALUATION OF ENVIRONMENTAL IMPACTS:

1) A brief explanation is required for all answers except “No Impact” answers that are adequately supported by the information sources a lead agency cites in the parentheses following each question. A “No Impact” answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g., the project falls outside a fault rupture zone). A “No Impact” answer should be explained where it is based on project-specific factors as well as general standards (e.g., the project will not expose sensitive receptors to pollutants, based on a project-specific screening analysis).

2) All answers must take account of the whole action involved, including off-site as well as on-site, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.

3) Once the lead agency has determined that a particular physical impact may occur, then the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. “Potentially Significant Impact” is appropriate if there is substantial evidence that an effect may be significant. If there are one or more “Potentially Significant Impact” entries when the determination is made, an EIR is required.

4) “Negative Declaration: Less Than Significant With Mitigation Incorporated” applies where the incorporation of mitigation measures has reduced an effect from “Potentially Significant Impact” to a “Less Than Significant Impact.” The lead agency must describe the mitigation measures, and briefly explain how they reduce the effect to a less than significant level (mitigation measures from “Earlier Analyses,” as described in (5) below, may be cross-referenced).

5) Earlier analyses may be used where, pursuant to the tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or negative declaration. Section 15063(c)(3)(D). In this case, a brief discussion should identify the following:

   a) Earlier Analysis Used. Identify and state where they are available for review.
   b) Impacts Adequately Addressed. Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.
   c) Mitigation Measures. For effects that are “Less than Significant with Mitigation Measures Incorporated,” describe the mitigation measures which were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project.

6) Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g., general plans, zoning ordinances). Reference to a previously prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated.

7) Supporting Information Sources: A source list should be attached, and other sources used or individuals contacted should be cited in the discussion.

8) This is only a suggested form, and lead agencies are free to use different formats; however, lead agencies should normally address the questions from this checklist that are relevant to a project's environmental effects in whatever format is selected.

9) The explanation of each issue should identify:

   a) the significance criteria or threshold, if any, used to evaluate each question; and
   b) the mitigation measure identified, if any, to reduce the impact to less than significance

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
I. AESTHETICS. Would the project:				
a) Have a substantial adverse effect on a scenic vista?	☐	☐	☐	☒
No Impact. *The project would not construct structures or modify the existing land form in a way that would cause an adverse effect on a scenic vista, and the project does not propose activities that would damage scenic resources or degrade the existing visual character. The project includes ancillary aesthetic improvements to the area through pedestrian improvements and integrated community amenities including a sitting knoll and picnic area. The project would not significantly alter the developed character of the site or adversely affect any scenic views through and across the property.*				
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☒	☐
Less than Significant Impact. *The project does not propose activities that would damage scenic resources or degrade the existing visual character. Because the project is not located along a scenic highway, it would not damage any significant scenic resources within a designated state scenic highway or create an aesthetically offensive site open to the public. The proposed project would include a visual change through the removal of invasive species and the replanting with drought-resistant vegetation via restoration management plan. Although included as part of the proposed project, the restoration plan has not yet been developed, but it proposes an increase in native vegetation and a landscape design that would include the revegetation of the entire earthen channel, as well as a vegetative screen along the proposed pedestrian pathway that would connect from the Escondido Sprinter Station to Grand Avenue. Although the proposed project includes vegetation removal within the channels, it would not include substantial damage to scenic resources, and scenic resources are expected to be improved through the implementation of the proposed restoration plan. As a result, impacts would be less than significant and no mitigation is required.*				
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	☐	☐	☒	☐
Less than Significant Impact. *The proposed project would include the removal of existing vegetation. Although the proposed revegetation plan has not yet been developed, it would include replanting with native grasses, shrubs, and trees throughout the channel. In addition, the proposed project would replace the existing vacant parking lot with a sediment trapping basin that would have a picnic area, sitting knoll, and pedestrian walkway along its eastern side. Impacts on existing visual character would occur; however, the design features listed in the latter would improve the visual character and quality of the area.*				
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	☐	☒
No Impact. *The project would not create a new source of light or glare that would affect daytime or nighttime views of the area.*				

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Although no impacts are anticipated, compliance with the City of Escondido's (City's) Outdoor Lighting Ordinance would ensure that any impacts of the project related to light and glare would be less than significant.				
II. AGRICULTURE AND FORESTRY RESOURCES. In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project:				
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☒
No Impact. *The majority of the proposed project area is within urban and suburban areas, and the project does not involve changes to the existing environment that would result in conversion of farmland to a nonagricultural use.*				
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	☒
No Impact. *The majority of the proposed project area is within urban and suburban areas, and the project does not conflict with existing zoning for agricultural use or a Williamson Act contract.*				
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	☐	☐	☐	☒
No Impact. *The proposed project does not conflict with existing zoning for forest land and does not propose to rezone existing forest land or timberland.*				
d) Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒
No Impact. *The project does not propose to convert forest land to a nonforest use and would not result in the loss of forest land.*				
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	☐	☐	☐	☒
No Impact. *The proposed project does not involve any other*				

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
changes to the existing environment that would result in conversion of farmland to a nonagricultural use, or forest land to a non-forest use.				
III. AIR QUALITY. Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations.				
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☒	☐
Less than Significant Impact. *Air quality plans describe air pollution control strategies to be implemented by a city, county, or regional air district. The primary purpose of an air quality plan is to bring an area that does not attain national ambient air quality standards (NAAQS) and California ambient air quality standards (CAAQS) into compliance with those standards pursuant to the requirements of the Clean Air Act (CAA) and California CAA. NAAQS and CAAQS have been established for the following criteria pollutants: ozone, carbon monoxide (CO), sulfur dioxide, nitrogen dioxide, particulate matter less than 10 microns in diameter (PM_{10}), particulate matter less than 2.5 microns in diameter ($PM_{2.5}$), and lead.*				
The proposed project area is located within the San Diego Air Basin. The State Implementation Plan includes strategies and tactics to be used to attain and maintain acceptable air quality in the county; this list of strategies is called the San Diego Regional Air Quality Strategy (RAQS). The RAQS was developed pursuant to California CAA requirements and identifies feasible emissions control measures to provide expeditious progress toward attaining the state ozone standard in San Diego County.				
Projects that are consistent with the assumptions used in development of the air quality plan are considered to not conflict with or obstruct the attainment of the air quality levels identified in the plan. The contribution of construction equipment emissions forecasted in the RAQS emissions inventory is estimated for the region on an annual basis. The proposed project would not result in a substantial increase in employment and is not growth inducing. Moreover, as discussed in (b), emissions generated from the proposed project would not exceed City thresholds and, therefore, would not create or contribute substantially to existing or projected violations of the NAAQS or CAAQS.				
The proposed project would comply with all San Diego Air Pollution Control District rules and regulations and would not construct a land use that would result in a net increase in long-term operational emissions. For these reasons, the proposed project would not conflict with or obstruct implementation of the applicable air quality plan. The impact would be less than significant and no mitigation is required.				
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	☐	☐	☒	☐
Less than Significant Impact. *Construction emissions are considered short term and temporary, but they have the potential to represent a significant impact with respect to air quality.*				

Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

Construction of the proposed project would temporarily generate emissions of volatile organic compounds (VOCs) and oxides of nitrogen (NO_X), CO, PM_{10}, and $PM_{2.5}$. Emissions of VOCs and NO_X are generated primarily by on-road mobile sources (i.e., delivery vehicles, construction worker vehicles) and off-road construction equipment. The level of emissions generated varies as a function of vehicle trips per day for worker commute trips; the types and number of heavy-duty, off-road equipment used; and the intensity and frequency of their operation. Fugitive PM dust emissions are associated primarily with site preparation and vary as a function of such parameters as soil silt content, soil moisture, wind speed, acreage of disturbance area, and vehicle miles traveled by construction vehicles on- and off-site.

Construction of the proposed project is expected to begin in May 2016 and would be completed within 3 to 4 months. Construction-related emissions were modeled using the California Emissions Estimator Model (CalEEMod), Version 2013.2.2. CalEEMod allows the user to enter project-specific construction information, such as types, number, and horsepower of construction equipment, and number and length of off-site motor vehicle trips. Vehicle fleet characteristics and data specific to San Diego County or specific to the project were used in place of CalEEMod defaults, where available.

As shown in Table 1, construction emissions for the proposed project would result in maximum daily emissions of approximately 2 pounds of VOCs, 16 pounds of NO_X, 11 pounds of CO, 7 pounds of PM_{10}, and 4 pounds of $PM_{2.5}$. Additional modeling assumptions and details are provided in Appendix B.

Table 1
Estimated Maximum Daily Construction Emissions

	VOCs	NO_X	CO	PM_{10}	$PM_{2.5}$
Maximum Daily Construction Emissions (lb/day)	1.57	16.36	11.30	6.54	3.66
City of Escondido Threshold of Significance (lb/day)	75	250	550	100	55
Significant Impact?	No	No	No	No	No

CO = carbon monoxide; lb/day = pounds per day; PM_{10} = suspended particulate matter; $PM_{2.5}$ = fine particulate matter; NO_X = oxides of nitrogen; VOCs = volatile organic compounds
Source: Estimated by AECOM in 2015

As shown in Table 1, construction-generated emissions of VOCs, NO_X, CO, PM_{10}, and $PM_{2.5}$ would not exceed applicable daily thresholds established by the City of Escondido. The proposed project would not involve a change to existing operational activities. Regular maintenance and inspection activities would not increase beyond existing conditions. For these reasons, the proposed project would not result in a violation of any air quality standard or contribute substantially to an existing or projected air quality violation. The impact would be less than significant and no mitigation is necessary.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	☐	☐	☒	☐

Less than Significant Impact. *The cumulative analysis focuses on whether a specific project would result in a cumulatively considerable increase in emissions. By its very nature, air pollution is largely a cumulative impact. A project's emissions may be individually limited, but cumulatively considerable when taken in combination with past, present, and future development projects. The thresholds of significance are relevant to whether a project's individual emissions would result in a cumulatively considerable incremental contribution to the existing cumulative air quality conditions.*

As discussed in (b) above, the proposed project would generate emissions of criteria air pollutants, but at levels that do not exceed any of the City thresholds. Projects that would not exceed the thresholds of significance would be considered not to contribute a considerable amount of criteria air pollutant emissions to the region's emission profile and not impede attainment and maintenance of ambient air quality standards. Accordingly, the proposed project's construction and operational emissions would not result in a cumulatively considerable contribution to the region's air quality. Therefore, the impact would be less than significant and no mitigation is necessary.

d) Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☒	☐

Less than Significant Impact. *Some members of the population are especially sensitive to emissions of air pollutants and should be given special consideration during the evaluation of a project's air quality impacts. These people include children, older adults, persons with preexisting respiratory or cardiovascular illness, and athletes and others who engage in frequent exercise. Sensitive receptors include residences, schools, playgrounds, child care centers, athletic facilities, long-term health care facilities, rehabilitation centers, convalescent centers, and retirement homes. The proposed project area is located in a primarily commercial area. However, the nearest sensitive receptor is a single-family residence located approximately 100 feet southwest of the site.*

The greatest potential for toxic air contaminant (TAC) emissions would be related to diesel PM emissions associated with activity by heavy-duty construction equipment. According to the California Air Resources Board, most of the estimated local health risk from TACs is from diesel PM. The dose to which receptors are exposed is the primary factor used to determine health risk and is a function of the concentration and duration of exposure. According to the Office of Environmental Health Hazard Assessment, health risk assessments that determine the health risks associated with exposure of residential receptors to TAC emissions should be based on a 30-year exposure period (OEHHA 2015). However, heath risk assessments should be limited to the period/duration of activities associated with the emissions activity. Construction

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

activities would likely occur at a location for days or weeks.

Because the proposed project would require only a few pieces of off-road equipment, and because that equipment would be used for a relatively short time period, construction activities would not be anticipated to expose sensitive receptors to substantial TAC concentrations. For these reasons, the proposed project would not result in a substantial adverse effect related to the exposure of sensitive receptors to substantial pollutant concentrations. This impact would be less than significant and no mitigation is required.

e) Create objectionable odors affecting a substantial number of people?	☐	☐	☒	☐

Less than Significant Impact. *The occurrence and severity of odor impacts depend on numerous factors such as the nature, frequency, and intensity of the source; wind speed and direction; and the sensitivity of the receptors. Offensive odors rarely cause any physical harm, but they can be very unpleasant, leading to considerable distress among the public and often generating citizen complaints to local governments and regulatory agencies.*

Sources that may emit odors during construction activities include exhaust from diesel construction equipment, which some individuals could consider offensive. Odors from these sources would be localized and generally confined to the immediate area surrounding the proposed project area. The proposed project would use typical construction techniques, and the odors from off-road equipment and on-road vehicles would be typical of most construction sites and temporary in nature. As a result, the proposed project would not create objectionable odors affecting a substantial number of people. This impact would be less than significant and no mitigation is required.

IV. BIOLOGICAL RESOURCES.

The existing vegetation within the earthen portions of the Spruce Street drainage system includes a substantial presence of nonnative species, as well as minimal native vegetation. Most of the existing vegetation occurs within earthen portions of the channel and channel banks, although some vegetation is temporarily established in the concrete-lined sections of the channel where sediment accumulates. Currently, the predominant habitat within the channel and lower channel banks is freshwater marsh, which includes the native species of southern cattail and American tule, but also nonnatives such as Mexican fan palm, broadleaf annuals, and grasses. The channel zone also includes some nonvegetated areas and open water. The higher channel banks and other upland areas within the site include disturbed habitat and urban/developed areas and are dominated by nonnative species such as castor-bean, short-pod mustard, Russian thistle, periwinkle, hottentot-fig, and Mexican fan palm. Potential impacts on sensitive habitat communities and species known to occur on-site or with a moderate to high potential to occur on-site are discussed below.

A total of 0.97 acre of jurisdictional waters of the United States and state occurs within the project site. Of the 0.97 acre, 0.78 acre is within the earthen segment of the channel and is composed of 0.45 acre of waters of the United States in the form of coastal and valley freshwater marsh (0.41 acre), unvegetated channel (0.04

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

acre), and urban (<0.01 acre); and 0.33 acre of waters of the state under the exclusive purview of the California Department of Fish and Wildlife (CDFW) in the form of eucalyptus woodland (0.09 acre) and disturbed habitat (0.24 acre). The additional 0.19 acre within the concrete-lined channel segment is waters of the United States in the form of coastal and valley freshwater marsh (0.05 acre), southern willow scrub (0.01 acre), and open water (0.12 acre); and less than 0.01 acre of waters of the state under the exclusive purview of CDFW in the form of eucalyptus woodland (<0.01 acre). See Section 1.0, "Project Description," of the Mitigated Negative Declaration (MND) for further information regarding biological resources and waters of the United States and state that occur within the proposed project area and that have the potential to be affected by project activities.

Would the project:

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

***Less than Significant with Mitigation Incorporated**. The proposed project would affect a total of 0.97 acre of jurisdictional waters of the United States and state. Of the 0.97 acre, 0.78 acre is within the earthen segment of the channel and is composed of 0.45 acre of waters of the United States in the form of coastal and valley freshwater marsh (0.41 acre), unvegetated channel (0.04 acre), and urban (<0.01 acre); and 0.33 acre of waters of the state under the exclusive purview of CDFW in the form of eucalyptus woodland (0.09 acre) and disturbed habitat (0.24 acre). The additional 0.19 acre within the concrete-lined channel segment is waters of the United States in the form of coastal and valley freshwater marsh (0.05 acre), southern willow scrub (0.01 acre), and open water (0.12 acre); and less than 0.01 acre of waters of the state under the exclusive purview of CDFW in the form of eucalyptus woodland (<0.01 acre).*

Although impacts on habitat within the channel would occur, the project proposes a revegetation plan that would result in revegetation of 0.978 acre in the instream freshwater marsh (0–4 feet) consisting of yerba mansa, San Diego sedge, Southwestern spiny rush, arrow reed, and arrowgrass, as well as revegetation of 0.989 acre of mid-terrace and upland areas of the channel (4 feet and above) that would also consist of an all-native seed mix. The restoration ecologist would confirm the upland planting areas before seeding. All seed would be collected within 5 miles of the site (or next closest location if unavailable) from a licensed native seed company upon approval by the restoration ecologist. All seed would be mixed and planted by hand and would be raked to a soil depth of one-quarter inch. Although construction activities would result in impacts on habitat within the channel, the habitat modifications from the revegetation plan would result in overall net benefits to the habitat and the proposed project's restoration design would reduce and/or eliminate net loss of habitat. As a result, the project may be considered self-mitigating and does not require compensatory mitigation, and the overall impact on

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

species and habitat is less than significant.

Historically the proposed project area provided habitat to a variety of currently threatened/endangered and special-status species, however in its existing condition, the only potential suitable habitat within the project area for a special-status species would be for the Western Red Bat (Lasiurus blossevillii) (SSC). As determined by a CNNDB quadrangle search, field surveys and vegetation mapping the potential for this species to occur within the project area is low. Species were determined in the CNNDB quad search, with the most recent record in 2003 approximately 8 miles away in native habitat, however there is a low potential for this species to occur within tall trees in urbanized areas. All potential impacts to the species would be minor and temporary in nature. As a result, mitigation for this special-status species is not required.

Although construction activities would result in impacts on habitat within the channel, the project proposes to replace a greater acreage of vegetation than what the proposed project would affect. Overall net benefits to the habitat through the proposed project's restoration design would result in no net loss of habitat. The proposed project would therefore be considered self-mitigating and does not require compensatory mitigation.

Because project activities would result in direct impacts on small migratory birds, including raptors (Cooper's hawk and red-shouldered hawk) that may breed and nest within the vicinity of the project site, mitigation is required. Mitigation would include but would not be limited to vegetation clearing outside of the breeding season (February 15–September 15) and surveys by a qualified biologist, which would result in impacts on migratory birds and raptors that would be less than significant. Further details regarding mitigation are provided in the MND.

b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service?	☐	☒	☐	☐

***Less than Significant with Mitigation Incorporated**. As discussed above, the proposed project would include permanent direct impacts on 0.41 acre of wetland (0.41 acre of coastal and valley freshwater marsh) in jurisdictional waters of the United States and state located in the earthen channel and 0.64 acre of wetland (0.05 acre of coastal and valley freshwater marsh and 0.01 acre of southern willow scrub), and 0.09 acre of riparian habitat (eucalyptus woodland) located in the earthen channel and <0.1 acre of riparian habitat (eucalyptus woodland) located in the concrete channel that is jurisdictional waters of the state; however, as discussed previously, the revegetation plan would result in a greater amount of native vegetation within the channel than what would be affected by the proposed project.*

The areas of vegetation occurring within the concrete-lined channel are temporal resources. Although these resources may have minor positive effects because of a temporary increase in habitat, they also have negative effects on water quality. The negative effects caused by sediment buildup and vegetation within

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

concrete-lined channels include but are not limited to:

- *reduction in flow, which allows water to heat (beneficial use is listed as warm/cold)—lower flows can result in algae growth and reduction of dissolved oxygen;*
- *wet-weather discharge of sediment and organic materials downstream to San Elijo Lagoon (the downstream receiving water),which is currently listed as a 303(d) water body that is impaired for sediment;*
- *increase in turbidity, total suspended solids, and total dissolved solids;*
- *increase in sediment-bound pollutants traveling downstream and into receiving waters;*
- *increase in total coliform (e.g., vegetation/organic materials decomposing in the water column); and*
- *increase in anthropogenic gross solids.*

The project proposes channel stabilization to prevent further erosion and would incorporate a restoration design to reduce and/or eliminate no net loss of jurisdictional waters. Because (as discussed above) the proposed revegetation plan would result in benefits that are greater than the impacts, off-site compensatory mitigation would not be required. Although a native revegetation plan would result in beneficial impacts, it is unclear how the revegetation plan would be incorporated. As a result, incorporated mitigation is required and is suggested to be a 5-year maintenance and monitoring plan prepared by a qualified restoration ecologist. Further details regarding mitigation requirements are provided in the MND.

c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☒	☐	☐

Less than Significant with Mitigation Incorporated*. Channel clearing (plant and sediment removal) and channel grading for the proposed project would result in permanent direct impacts on 0.41 acre of wetland in jurisdictional waters of the United States and state (0.41 acre of coastal and valley freshwater marsh) located in the earthen channel and 0.64 acre of wetland in jurisdictional waters of the state (0.05 acre of coastal and valley freshwater marsh and 0.01 acre of southern willow scrub) located in the concrete channel. As discussed previously, however, the proposed revegetation plan would result in revegetation of 0.978 acre of freshwater marsh. The areas of vegetation occurring within the concrete-lined channel are temporal resources. Although these resources may have minor positive effects because of a temporary increase in habitat, they also result in negative effects on water quality. The negative effects caused by sediment buildup and vegetation within concrete-lined channels include but are not limited to the following:*

- *reduction in flow, which allows water to heat (beneficial use is listed as warm/cold)—lower flows can result in algae growth*

and reduction of dissolved oxygen;

- *wet-weather discharge of sediment and organic materials downstream to San Elijo Lagoon (the downstream receiving water),which is currently listed as a 303(d) water body that is impaired for sediment;*
- *increase in turbidity, total suspended solids, and total dissolved solids;*
- *increase in sediment-bound pollutants traveling downstream and into receiving waters;*
- *increase in total coliform (e.g., vegetation/organic materials decomposing in the water column); and*
- *increase in anthropogenic gross solids.*

The project proposes channel stabilization to prevent further erosion and would incorporate a restoration design to result in a no net loss of jurisdictional waters (i.e., using a bioengineered approach and revegetating the channel and banks with native wetland/riparian plant species). Table 2 lists the proposed native candidate restoration species to be included in the restoration plan.

Table 2
Candidate Restoration Species, Spruce Street Drainage Improvements

Scientific Name	Common Name
Instream (Freshwater Marsh) Palette	
Anemopsis californica	Yerba mansa
Carex spissa	San Diego sedge
Iva hayesiana	San Diego marsh elder
Juncus acutus ssp. *leopoldii*	Southwestern spiny rush
Pluchea sericea	Arrow weed
Triglochin concinna	Arrowgrass
Mid-terrace and Upland Palette	
Baccharis salicifolia	Mule fat
Juncus acutus ssp. *leopoldii*	Southwestern spiny rush
Encilia californica	California bush sunflower
Eriogonum fasciculatum	California buckwheat
Pluchea sericea	Arrow weed
Rosa californica	California rose
Platanus racemosa	Western sycamore
Populus fremontii	Fremont cottonwood
Salix gooddingii	Black willow
Sambucus mexicana	Blue elderberry
Artemisia californica	California sagebrush
Hymenoclea monogyra	Leafy burrowbush
Isomeris arborea	Bladderpod
Nassella pulchra	Purple needlegrass
Simmondsia chinesis	Jojoba

Therefore, the project may be considered self-mitigating and would not require compensatory mitigation. Because the project proposes a revegetation plan with native species resulting in beneficial impacts that would outweigh the negative effects of the

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

existing conditions discussed above, off-site compensatory mitigation would not be required. Although a native revegetation plan would result in beneficial impacts, it is unclear how the revegetation plan would be incorporated. As a result, incorporated mitigation is required and is suggested to be a 5-year restoration maintenance and monitoring plan prepared by a qualified restoration ecologist. Further details regarding mitigation requirements are provided in the MND.

d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☒	☐	☐

***Less than Significant with Mitigation Incorporated**. The County of San Diego has been providing nonmigratory mosquitofish as a method of vector treatment for several years; however, there are no migratory fish within the channel and the project does not propose improvements that could prevent fish from moving downstream. The proposed project is not identified as a wildlife corridor within the Multiple Species Conservation Program. In the postproject condition, the area would function similar to the preproject condition in regard to wildlife movement. The proposed project improvements do not include features that would deter wildlife movement beyond existing conditions.*

e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☒	☐	☐

***Less than Significant with Mitigation Incorporated**. Willow trees occur scattered within the concrete and earthen channels of the proposed project area. Direct impacts on mature trees would result from channel clearing (vegetation removal). Potential temporary, indirect impacts on mature and/or protected trees may arise during project construction as a result of runoff and sedimentation, erosion, and fugitive dust. Runoff, sedimentation, and erosion can adversely affect plant populations by damaging individuals or by altering site conditions sufficiently to favor other species (native and exotic nonnatives) that would competitively displace native trees. Construction-generated fugitive dust can adversely affect plants by reducing the rates of metabolic processes such as photosynthesis and respiration. Potential permanent indirect impacts on mature and/or protected trees may occur during project operation. Erosion and stormwater contaminant runoff may degrade adjacent habitat. Potential direct and indirect impacts on mature trees would be considered a significant impact. Because mature trees cannot be preserved on-site, then impacts would be mitigated as required under the City of Escondido Municipal Code (Chapter 33, Article 55) to ensure that impacts on mature trees would be less than significant.*

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

***No Impact.** The proposed project is consistent with the proposed provisions of the Draft Multiple Habitat Conservation Program*

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
(MHCP) Escondido Subarea Plan, because the project area is located within the area defined as urban/developed land and it not considered a focused planning area. Although the MHCP Escondido Subarea Plan is currently in the draft phase, the proposed project is consistent with the plan, and as a result it would not conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan (NCCP), or other approved local, regional, or state habitat conservation plan.				
V. CULTURAL RESOURCES. Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource as defined in § 15064.5?	☐	☒	☐	☐
Less than Significant Impact with Mitigation Incorporated— *No potentially significant cultural resources are located within the proposed project area. Although no known cultural resources would be adversely affected by the proposed project, portions of the site were not adequately surveyed because of access issues or poor visibility from dense vegetation. Therefore, the potential exists for resources to be present in the proposed project area. Any adverse impacts on unknown archaeological resources would be mitigated to a less-than-significant level with the use of mitigation measures as discussed in detail in the MND. It is recommended that the mitigation measures include but not be limited to a monitoring and discovery plan.*				
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to § 15064.5?	☐	☒	☐	☐
Less than Significant Impact with Mitigation Incorporated— *No potentially significant cultural resources are located within the proposed project area. Although no known cultural resources would be adversely affected by the project, portions of the site were not adequately surveyed because of access issues or poor visibility from dense vegetation. Therefore, the potential exists for resources to be present in the proposed project area. Any adverse impacts on unknown archaeological resources would be mitigated to a less-than-significant level with the use of mitigation measures as discussed in detail in the MND. It is recommended that the mitigation measures include but not be limited to an archaeological monitor and Native American monitor on-site during ground disturbing activities.*				
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☐	☒	☐
Less than Significant Impact—*No paleontological resources have been identified within the city of Escondido (Demere 2007) and the concrete-lined portion of the proposed project area does not have the potential for discovery of paleontological resources. The underlying formation of the proposed project area consists of Undivided Pliocene Nonmarine deposits. The underlying formation may have the potential for paleontological resources; however, the proposed project includes excavation at depths that are not expected to be significant enough to effect potential paleontological resources (e.g., less than 5 feet). As a result, impacts to paleontological resources would be less than significant*				

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
and no mitigation is required.				
d) Disturb any human remains, including those interred outside of formal cemeteries?	☐	☒	☐	☐
Less than Significant Impact with Mitigation Incorporated— *The South Coastal Information Center records search and field survey of the proposed project area indicated that no human remains are present in the area. As such, there would be no impact on known human remains. Any adverse impacts that may result in the event of an inadvertent discovery of human remains would be mitigated to a less-than-significant level with the use of mitigation measures as discussed in detail in the MND.*				
VI. GEOLOGY AND SOILS. Would the project:				
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:	☐	☐	☐	☒
i. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	☐	☐	☐	☒
No Impact. *The project site is located within the city of Escondido, which is located within Seismic Zone 4; however, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map, the proposed project area is not located near active faults. The closest known active faults are the Rose Canyon Fault and the Elsinore Fault. Because of the distance of the proposed project area from these faults, fault surface rupture is not likely at the site. In the event of a major earthquake on these faults, or other faults within the Southern California region, the site could be subjected to moderate to severe ground shaking. However, the site is not considered to possess a significantly greater seismic risk than that of the surrounding area in general. Furthermore, the proposed project does not involve the construction of structures that would subject people to risk from fault rupture.*				
ii. Strong seismic ground shaking?	☐	☐	☐	☒
No Impact. *Please see response above, as strong seismic shaking would be the result of the rupture of an earthquake fault.*				
iii. Seismic-related ground failure, including liquefaction?	☐	☐	☐	☒
No Impact. *Please see response above, as ground failure, including liquefaction, would be the result of the rupture of an earthquake fault.*				
iv. Landslides?	☐	☐	☐	☒
No Impact*. The proposed project includes minimal grading of the earthen channel slopes to increase channel depth to accommodate the 100-year flood event and to clear the accumulated sediment. The engineering design has considered soils susceptible to landslides and proposes the replanting of slopes with a variety of native species.*				
b) Result in substantial soil erosion or the loss of topsoil?	☐	☐	☐	☒

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

No Impact. *The purpose of the proposed project is to increase flood control through various drainage improvement activities. In its existing condition, the channel experiences severe erosion along its banks, leading to sediment/siltation loading and the transport of pollutant-loaded sediment downstream to San Elijo Lagoon (a 303[d] impaired water body for sediment). Severe erosion along the eastern bank is also a hazard to the existing railroad system. The proposed project design includes features to reduce the existing erosion issues, including clearing the existing accumulated sediment and installing a sediment trapping basin in the existing vacant parking lot. The proposed project is required to comply with best management practices (BMPs) as required by the City's Stormwater Management Requirements and the National Pollutant Discharge Elimination System (NPDES) storm water pollution prevention plan (SWPPP). With implementation of these measures, the project would not result in substantial soil erosion or loss of topsoil.*

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

No Impact. *Potential geologic hazards such as tsunamis, seiches, liquefaction, or collapse should be considered to be negligible or nonexistent.*

d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	☐	☐	☐	☒

No Impact. *Expansive soils contain minerals such as smectite clays that are capable of absorbing water. When these soils absorb water, they increase in volume. This change in volume can exert enough force on a building or other structure to cause damage. Expansive soils will also shrink when they dry out. This shrinkage can remove support from structures and result in damage when structures are not designed to withstand changing soil pressures. Fissures in the soil can also develop. These fissures can facilitate dispersion of water when a moist condition or runoff occurs. The proposed project area is located on Visalia sandy loam, 2 to 5% slopes, which has a low shrink-swell behavior. As a result, the site is not located on an expansive soil.*

e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	☐	☐	☐	☒

No Impact. *The proposed project includes drainage improvement activities within existing channels. Activities include dredging and excavation work that would require dewatering to maintain the stability of the earthen channel slopes. Disposal of water produced in the dewatering operation would occur in accordance with applicable government regulations and all applicable water quality regulations (i.e., General Waste Discharge Requirements for Discharges from Groundwater Extraction and Similar Discharges to Surface Waters within the San Diego Region Except for San Diego Bay, Order R9-2008-0002). Dewatering activities would*

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

require on-site tanks for collection and settling before off-site disposal at a predetermined landfill or the City's Corporate Yard for later reuse. The dewatering operation would occur within the existing vacant parking lot until the area is scheduled for construction into the proposed sediment trapping basin, at which point dewatering of dredged spoils would occur within the City's Corporate Yard. The use and addition of septic tanks and waste disposal systems would not be needed to dispose of wastewater from the project.

VII. GREENHOUSE GAS EMISSIONS. Would the project:

a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☒	☐

Less than Significant Impact. *Greenhouse gases (GHGs) are present in the atmosphere naturally, are released by natural sources, and are formed from secondary reactions taking place in the atmosphere. Natural sources of GHGs include the respiration of humans, animals, and plants; decomposition of organic matter; and evaporation from the oceans. Anthropogenic sources include the combustion of fossil fuels, waste treatment, and agricultural processes.*

Construction-related GHG emissions would be generated by sources such as heavy-duty off-road equipment, trucks hauling materials to the project site, and worker commute vehicles. GHG emissions generated by the proposed project would consist primarily of carbon dioxide (CO_2). While emissions of other GHGs, such as methane and nitrous oxide, are important with respect to global climate change, emission levels of other GHGs are less dependent on the emissions-generating activities associated with the proposed project than are levels of CO_2.

Global warming potential (GWP) is a concept developed to compare the ability of each GHG to trap heat in the atmosphere relative to CO_2. The GWP of a GHG is based on several factors, including the relative effectiveness of a gas to absorb infrared radiation and length of time (i.e., lifetime) that the gas remains in the atmosphere ("atmospheric lifetime"). The GWP of each gas is measured relative to CO_2, the most abundant GHG. GHGs with lower emissions rates than CO_2 may still contribute to climate change because they are more effective at absorbing outgoing infrared radiation than CO_2 (i.e., high GWP). The concept of CO_2-equivalents (CO_2e) is used to account for the different GWP potentials of GHGs to absorb infrared radiation.

The City has established a threshold of 2,500 metric tons (MT) CO_2e per year as a project-level GHG significance threshold that would apply to land use development projects (City of Escondido 2013). The emissions level is considered a threshold above which a project would require "project-specific technical analysis to quantify and mitigate project emissions" (City of Escondido 2013).

GHG emissions associated with the proposed project were estimated using the same methodology discussed earlier under Section III, "Air Quality." The total emissions during construction of the proposed project were estimated at 31 MT CO_2e per year. The

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
GHG emissions associated with the proposed project would be less than the threshold of 2,500 MT CO_2e per year. Therefore, the proposed project would not generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment. This impact would be less than significant and no mitigation is required.				
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☒	☐
Less than Significant Impact. *In 2013, the City developed the Escondido Climate Action Plan (E-CAP), which revised the 2005 inventory and developed emission estimates for 2010, 2020, and 2035. Pursuant to the state's adopted Assembly Bill 32 GHG reduction target, Escondido has set a goal to reduce emissions back to 1990 levels by the year 2020. This target was calculated as a 15% decrease from 2005 levels, as recommended in the Assembly Bill 32 Scoping Plan. To reach the reduction target, the City would implement additional local reduction measures that encourage energy efficiency and renewable energy in buildings, transit-oriented planning, and water conservation, and increase waste diversion. After 2020, many of the E-CAP and statewide reduction measures would continue to reduce GHG emissions.*				
The E-CAP is an implementation tool of the City's general plan to guide development in Escondido by focusing on attaining the various general plan goals and policies while also achieving GHG reduction goals. Measure R2-C1, "Construction Emissions Reductions," includes optional measures for projects to reduce construction-related emissions. According to the City, projects that generate less than 2,500 MT CO_2e would be considered to have a "less than significant GHG emissions impact" and would have a difficult time implementing the R2 measures (City of Escondido 2013). As discussed in (a), the annual emissions for the proposed project would not exceed the threshold of significance. As a result, the proposed project would be consistent with the goals of the E-CAP and implementation of Measure R2-C1 is not required. Therefore, the project would not conflict with any applicable plan, policy, or regulation for the purpose of reducing GHG emissions. This impact would be less than significant and no mitigation is required.				
<u>VIII. HAZARDS AND HAZARDOUS MATERIALS.</u> Would the project:				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☒	☐
Less than Significant Impact*. Waste materials generated from the project, including sediment spoils and removed vegetation, are expected to be nonhazardous. Regardless, the proposed project would be subject to federal, local, and state agency regulations for the handling of hazardous materials, including the use of BMPs in compliance with the City of Escondido's Storm Water Management Requirements. The project's compliance with these regulations would ensure that potential health and safety impacts associated with the exposure to hazardous materials would be*				

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

less than significant.

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

No Impact. *The proposed project would not result in the creation of any health hazards, nor would it involve a risk of an explosion or the release of hazardous substances. The project would not involve the use or storage of hazardous materials, beyond typical construction materials, that would result in reasonably foreseeable upset or accident conditions.*

c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school? ☐ ☐ ☒ ☐

Less than Significant Impact. *An existing school, Diego Valley Charter School, is located within one-quarter mile west of the proposed project area. Waste materials generated from the project, including sediment spoils and removed vegetation, are expected to be nonhazardous. Regardless, the proposed project would be subject to federal, local, and state agency regulations for the handling of hazardous materials, including the use of BMPs in compliance with the City of Escondido's Storm Water Management Requirements. The project's compliance with these regulations would ensure that potential health and safety impacts associated with the exposure to hazardous materials would be less than significant.*

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

No Impact. *No significant odors, pools of liquid, significantly stained soils, indicators of underground storage tanks, pits, or ponds have been observed at the site. No evidence or indication of releases of petroleum hydrocarbons, heavy metals, hazardous chemicals, or other "recognized environmental conditions" have been revealed at the site in present or previous conditions. According to the California Department of Toxic Substances Control Hazardous Waste and Substances Site List (DTSC 2007), only one active hazardous waste and substances site is located in Escondido. This site is known as the Chatham Brothers Barrel Yard and is located at 2257 Bernardo Avenue, Escondido, California. This site is located approximately 1 mile from the closest structure/channel (H-07) and therefore would not create or contribute to a significant hazard to the public or environment.*

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

No Impact. *The proposed project area is not located within 2 miles of a public airport or public-use airport and would not result*

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
in a safety hazard for people residing or working in the area.				
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒
No Impact. *The proposed project area is not located within the vicinity of a private airstrip and would not result in a safety hazard for people residing or working in the area.*				
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☒
No Impact. *The proposed project consists of drainage improvement activities, including channel clearing and water quality improvements, within existing channels. The proposed project would not include activities or structures that would impair the implementation of, or physically interfere with, an adopted emergency response plan or evacuation plan and is not expected to result in the need for additional emergency and fire facilities.*				
h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	☐	☐	☐	☒
No Impact. *The proposed project area is located in an urban setting. Most project activities would occur within existing channels and an adjacent vacant parking lot. As a result, the proposed project would not expose people or structures to wildland fires. The project does not include activities that would increase the risk of fires and/or result in the need for additional emergency and fire facilities.*				
IX. HYDROLOGY AND WATER QUALITY. Would the project:				
a) Violate any water quality standards or waste discharge requirements?	☐	☐	☒	☐
Less than Significant Impact. *The proposed project has the potential to discharge pollutants to receiving waters through the implementation of various proposed drainage improvement activities. Potential pollutants include (1) sediment, siltation, and turbidity from ground-disturbing activities, vegetation removal, and/or dredging of channels (concrete- and earth-lined); (2) reentrainment of pollutants in accumulated sediment that are disturbed/removed; and (3) pollutants from heavy equipment, which may consist of oil and grease, heavy metals, and various petroleum products.*				
The proposed project is required to implement BMPs to protect water quality in compliance with the City of Escondido's Stormwater Management Requirements and the NPDES SWPPP that will be developed for the project. With implementation of these measures, impacts on water quality from drainage improvement activities would be less than significant. Because of the nature of the accumulated sediment/vegetation that would be proposed for removal, hazardous pollutant levels within the sediment would not be expected.				

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	☐	☐	☒	☐

Less than Significant Impact. *The proposed project would involve removing vegetation and/or sediment/silt from earth-lined and concrete-lined channels to improve flood control and vector control. The project includes the possibility of withdrawal of groundwater, if encountered during excavation work within the channels. Any groundwater encountered during excavation would be disposed of in accordance with applicable government regulations, in an environmentally safe manner, and in strict conformance with applicable water quality regulations (i.e., General Waste Discharge Requirements for Discharges from Groundwater Extraction and Similar Discharges to Surface Waters within the San Diego Region Except for San Diego Bay, Order R9-2008-0002).*

c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?	☐	☐	☒	☐

Less than Significant Impact. *The proposed project may include the short-term potential for an increase in erosion and sedimentation during construction activities. As discussed previously, however, the project's compliance with regulations mandating the preparation and implementation of a SWPPP would ensure that impacts associated with erosion and sedimentation would not be significant.*

The proposed project design does not include permanent features that would alter the existing drainage pattern of the site or area in a manner that would result in substantial increase in the rate or amount of surface runoff. The proposed project would include beneficial improvements to existing erosion and siltation issues on-site and off-site, which would incorporate the construction of water quality improvement features throughout the channel, including a proposed sediment trapping basin that would reduce the transport of sediment downstream into Escondido Creek.

d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?	☐	☐	☒	☐

Less than Significant Impact. *The proposed drainage improvement project would include alteration of the existing channels through grading and recontouring activities. The negative effects caused by sediment buildup and vegetation within concrete-lined channels include but are not limited to:*

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
reduction in flow, which allows water to heat (beneficial use is listed as warm/cold)—lower flows can result in algae growth and reduction of dissolved oxygen; • *wet-weather discharge of sediment and organic materials downstream to San Elijo Lagoon (the downstream receiving water),which is currently listed as a 303(d) water body that is impaired for sediment;* • *increase in turbidity, total suspended solids, and total dissolved solids;* • *increase in sediment-bound pollutants traveling downstream and into receiving waters;* • *increase in total coliform (e.g., vegetation/organic materials decomposing in the water column); and* • *increase in anthropogenic gross solids.* *Although grading and recontouring activities would result in the alteration of the existing channel, the alterations would be minor and would result in beneficial effects on the existing drainage pattern that would outweigh the negative effects caused by the existing conditions listed above. Impacts would be less than significant and no mitigation is required.*				
e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff? ***No Impact.*** *The proposed project would serve to increase stormwater conveyance capacity within the limits of the original design. Proposed improvements would not create or contribute runoff water to existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff.*	☐	☐	☐	☒
f) Otherwise substantially degrade water quality? ***No Impact.*** *The proposed project design does not include activities that would otherwise substantially degrade water quality; however, as a preventative measure, and as discussed previously, the project's compliance with regulations mandating the preparation and implementation of a SWPPP would ensure that water quality would not be degraded.*	☐	☐	☐	☒
g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map? ***No Impact.*** *The project does not propose to construct any housing within a flood hazard area.*	☐	☐	☐	☒
h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows? ***No Impact.*** *The project does not propose to construct structures that would impede or redirect flows within a 100-year flood hazard area. The purpose of the proposed project is to improve the*	☐	☐	☐	☒

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
existing drainage of the channels, resulting in improved flood control in the area.				
i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	☐	☐	☐	☒
No Impact. *The project does not propose to construct a levee or dam and would not otherwise expose people or structures to a significant risk of flooding. The purpose of the proposed project is to improve the existing drainage of the channels, resulting in improved flood control in the area.*				
j) Inundation by seiche, tsunami, or mudflow?	☐	☐	☐	☒
No Impact. *The project does not propose activities that would increase the risk of inundation by seiche, tsunami, or mudflow.*				
X. LAND USE AND PLANNING. Would the project:				
a) Physically divide an established community?	☐	☐	☐	☒
No Impact. *The proposed project does not include the creation of any new land use barriers, or the construction of any new physical structures that would otherwise divide or disrupt the physical arrangement of the surrounding community. As an ancillary benefit to drainage improvements, the design of the proposed project includes features such as picnic areas and permeable walkways, which would improve the connectivity of the established community surrounding the area.*				
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☐	☒
No Impact. *The proposed project activities would occur in existing channels and an adjacent vacant parking lot. The land use designations in the City's general plan define the proposed project area from West 3rd Avenue north to West Grand Avenue as General Industrial and from West Grand Avenue north to West Valley Creek as Downtown Specific Planning Area #9. The City has designed the project so that it would comply with the general plan's land use designations and with elements of its general open space/conservation plan, which have the potential to apply to the project. The project has been designed to comply with the NCCP. The Draft MHCP Escondido Subarea Plan defines the project location as "Developed and Disturbed Land," and therefore, located outside of the focused planning area The project is intended to be self-mitigating and would provide overall benefits to the environment by reducing sediment load and sediment-bound pollutants to San Elijo Lagoon (currently listed as a 303[d] water body that is impaired for sediment). See Section 1.0, "Project Description," of the MND for further details regarding the overall benefits of the proposed project.*				

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	☐	☐	☐	☒

No Impact. *Please see above. The proposed project would not conflict with any habitat conservation plan.*

XI. MINERAL RESOURCES. Would the project:

a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☒

No Impact. *The proposed project consists of drainage improvement activities within an existing channel and a vacant parking lot. As a result, project activities would not change the existing availability of mineral resources that would be of value to the region and residents of the state.*

b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	☐	☐	☐	☒

No Impact. *No known locally important mineral resource recovery site is located in or near the proposed project area.*

XII. NOISE. Would the project result in:

a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☐	☒	☐

Less than Significant Impact. *The City Noise Ordinance is contained in Chapter 17, Article 12, Noise Abatement and Control, of the City Municipal Code (Code). General construction noise is governed by Section 17-234 of the Code, which limits construction operations to 7:00 a.m. through 6:00 p.m., Monday through Friday, and hours 9:00 a.m. through 5:00 p.m. on Saturdays, and prohibits construction on Sundays and City holidays. Noise generated by grading activities is governed by Section 17-238 of the Code, which limits grading operations to 7:00 a.m. to 6:00 p.m., Monday through Friday and prohibits grading on Saturdays, Sundays, and City holidays. A variance for grading may be issued by the City Manager to allow grading operations on Saturdays between 10:00 a.m. and 5:00 p.m., if it can be demonstrated that it would benefit the community. Both Section 17-234 and Section 17-238 of the Code limit noise generated by construction equipment to a maximum of 75 A-weighted decibels (dBA) for a 1-hour noise level equivalence (L_{eq}) at the property line of any property developed for residential purposes, unless a variance is obtained from the City Manager (pursuant to Code Sections 17-249 through 17-257) (City of Escondido 2015).*

Construction activities are typically carried out in phases with noise characteristics based on the mix and duration of operation of construction equipment in use at a given time. Earth-moving and impact activities typically generate the highest noise levels. Earth-moving typically involves the largest and heaviest equipment and may include excavators, dump trucks, front-end loaders, and graders. Impact equipment may include pavement breakers and industrial/concrete saws. Typical maximum noise levels from construction equipment would range from 70 to 90 dBA maximum

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
noise level (FTA 2006) at a distance of 50 feet from the noise source. Construction activities, with equipment moving from one point to another, work breaks, and idle time, have long-term noise averages that are lower than loud short-term noise events. For purposes of this analysis, a 1-hour average noise level of 75 dBA L_{eq} at a distance of 50 feet from the construction area is assumed to occur. Based on the project's developed urban area, the intervening ground surface is conservatively characterized as acoustically hard and noise levels would attenuate or drop off based on distance alone at a rate of -6 dBA per doubling of distance with no ground absorption of noise (i.e., 74 dBA L_{eq} at 100 feet). Thus, because most of the alignment is industrial/limited residential, construction-related noise levels are not anticipated to exceed the noise level limits of 75 dBA L_{eq} at a residential property line identified in Sections 17-234 and 17-238. The project does not contain operational components that would be subject to Section 17-229. Therefore, the proposed project would not result in noise levels in excess of standards established in the local general plan or noise ordinance, or other applicable standards. Impacts would be less than significant. No mitigation is required.				
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☒	☐
Less than Significant Impact. *Human and structural response to different vibration levels is influenced by a number of factors, including ground type, distance between source and receptor, duration, and the number of perceived vibration events. Project activities would generate groundborne vibration and potentially groundborne noise from the operation of heavy equipment (e.g., trucks) during construction activities. Potential vibration impacts would be structural damage and human annoyance, when near structures and humans. However, vibration levels from the proposed equipment, reported as the peak particle velocity in inches per second (PPV in/sec), would be 0.1 PPV in/sec or less at distances of 30 feet or more, which is well below the thresholds that would cause annoyance to people or damage structures. Therefore, less-than-significant vibration and groundborne noise impacts would be associated with the proposed project. Project activities would not establish any permanent vibration sources. Therefore, the project would not expose persons to or generation of excessive groundborne vibration and groundborne noise levels. Impacts would be less than significant. No mitigation is required.*				
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☐	☒
No Impact. *Project activities would not establish permanent noise sources and therefore would not generate a permanent increase in existing ambient noise levels. There would be no impact and no mitigation is required.*				
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☒	☐
Less than Significant Impact. *Project activities would generate temporary noise from the operation of equipment during construction activities, which may result in a substantial temporary*				

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
or periodic increase in existing ambient noise levels. However, the proposed project area is located in an urbanized area adjacent to roadway traffic, with the southeast section in an industrial portion of the alignment, where ambient levels are elevated. In addition, ambient noise level increases from project construction activities would occur during daytime hours, not affecting residential uses (i.e., sleeping activities), and typically would last for less than a few days in one area. Noise impacts would be reduced by City standard construction procedures and compliance with the City noise ordinance. Impacts would be less than significant. No mitigation is required.				
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒
No Impact. *The proposed project area is not located within an airport land use plan or within 2 miles of a public airport or public-use airport, and would not expose people residing or working in the area to excessive noise levels. There would be no impact and no mitigation is required.*				
f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒
No Impact. *The proposed project area is not located near a private airstrip; thus, people residing or working in the project area would not be exposed to excessive noise levels as a result of airport operations. There would be no impact and no mitigation is required.*				
<u>XIII. POPULATION AND HOUSING.</u> Would the project:				
a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☐	☒
No Impact. *The population in the surrounding area and Escondido would not incrementally increase as a result of the proposed project. The proposed channel drainage improvement activities would not alter the location, distribution, or population density within the area, nor would it adversely impact the City's housing demand. The project does not propose to create or expand infrastructure that would induce population growth.*				
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒
No Impact. *The locations of structures requiring drainage improvement activities do not contain any existing housing or rental units that would be displaced. The proposed project would not add any units to the existing housing stock and would not create a demand for additional housing or necessitate the construction of housing elsewhere.*				

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

No Impact. *The proposed project consists of drainage improvement activities in existing channels as well as a vacant parking lot. These activities would not displace any people or necessitate the construction of replacement housing.*

XIV. PUBLIC SERVICES.

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

No Impact. *Escondido is currently served by seven fire stations, located throughout the city. The proposed project would not impact fire protection services and would not result in the need for expanded fire protection services.*

ii. Police protection?	☐	☐	☐	☒

No Impact. *No impacts on police services are anticipated, and the proposed project would not result in the need for expanded police protection services.*

iii. Schools?	☐	☐	☐	☒

No Impact. *The proposed project would not result in additional elementary or high school students, and would not result in the need for construction of additional schools*.

iv. Parks?	☐	☐	☐	☒

No Impact. *As an ancillary benefit to the project, the proposed project design incorporates sustainable design features that would complement similar improvements currently occurring throughout the community. The proposed project's sustainable design features include integrated community amenities, such as a picnic area and a knoll area for sitting. The proposed project would not result in an incremental increase in the demand on the City's recreational facilities; however, it would require additional City maintenance crews. The site design includes a permanent access route onto the recreational grounds for City maintenance personnel.*

v. Other public facilities?	☐	☐	☒	☐

Less than Significant Impact. *The project may require the relocation of an existing major utility pole located within the existing parking lot. Conversion of the parking lot to the proposed sediment trapping basin would require relocating the utility pole. It is expected that the relocation would occur on the east side of the basin and would align with the existing location.*

The proposed project includes the removal of an existing east/west pedestrian bridge and its associated concrete pathway

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
located just north of West Valley Parkway to improve flood control in the channel. To continue east/west pedestrian access, the proposed project includes the placement of a sidewalk along the northern perimeter of West Valley Parkway where the existing sidewalk disconnects above the channel. The project also includes the construction of a permeable pedestrian pathway between West Grand Avenue and West Valley Parkway along the eastern edge of the proposed sediment trapping basin.				
The proposed project would not result in substantial adverse physical impacts associated with the provision of new or physically altered library facilities or staff. The project would not result in a significant increase in demand on library services or the development of additional library spaces. The project would not affect any other public facilities in a manner that would result in the need for additional or expanded public facilities.				
XV. RECREATION.				
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☐	☒
No Impact. *The proposed project would not increase the use of existing neighborhood parks and regional parks or other recreational facilities. No impact on recreational resources is anticipated.*				
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	☐	☐	☐	☒
No Impact. *The proposed project does not include any recreational facilities or require the construction or expansion of recreational facilities. The project proposes to improve upon a vacant parking lot by constructing a sustainable streetscape. No impacts on recreational resources are expected.*				
XVI. TRANSPORTATION/TRAFFIC. Would the project:				
a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?	☐	☐	☐	☒
No Impact. *The proposed project would not conflict with adopted policies, plans, or programs related to the performance of the circulation system or supporting alternative transportation. The proposed project would not affect any proposed bus routes or stops or require the development of new or relocated bus stops. All work associated with public convenience, safety, traffic control, and detours would conform to Section 7-10, "Public Convenience and Safety," of the Standard Specifications for Public Works Construction. Any and all traffic control plans and/or devices would conform to the* Manual on Uniform Traffic Control Devices*, 2012 Edition, and the technical provisions for this project.*				

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
b) Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?	☐	☐	☒	☐

Less than Significant Impact. *Construction of the proposed project would disrupt current traffic operations in the project area as a result of heavy equipment operating within or adjacent to public streets. Construction activities are assumed to occur within an 8-hour shift per day (typical 8-hour construction schedule with 30-minute lunch: 7:00 a.m. to 3:30 p.m.).*

During underground dredging and subsequent hauling, traffic would be affected by the arrival and departure of trucks hauling sediment. However, as the four new 36-inch manhole access points are constructed, traffic mobility and parking in the immediate construction area would be affected. Additional parking is available on the west side of South Spruce Street.

The proposed project also includes waste hauling around the immediate area to access the vacant parking lot on the northeast side of the short earthen channel. Depending on work location, the following routes are anticipated:

- *West Valley Parkway to South Tulip Street to West Grand Avenue and into the southeast entrance of the vacant parking lot (solid line)*
- *West Valley Parkway to North Tulip Street with a U-turn onto West Grand Avenue and into the southeast entrance of the vacant parking lot (dashed-line alternative)*

The amount of vegetation and sediment waste would need to be continually managed within the dewatering area in the vacant parking lot. It is expected that additional space would be required for waste staging. The unpaved portion of the City's Corporate Public Works Yard off of Washington Avenue is proposed for waste management. This lot is approximately 1 mile from the West Valley Parkway overcrossing of the project. If the Corporate Yard proves feasible, the haul route as depicted in Figure 2 would be anticipated:

The proposed project includes the employment of traffic-management measures at the upstream and downstream culvert openings; however, the designated contractor would be responsible for the development of traffic control plans by the Contractor's Civil or Traffic Engineer. Impacts on traffic would be temporary and short term. Although a traffic control plan has not yet been developed, it is proposed as part of the project and is expected to be in conformance with applicable City and state regulations. As a result, traffic impacts are expected to be less than significant and no mitigation is required.

c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	☐	☐	☐	☒

No Impact. *The proposed project would not result in a change in air traffic patterns.*

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☐	☒

No Impact. *The proposed project consists of activities in a storm drain channel, and does not propose any changes to existing design features or any incompatible uses.*

e) Result in inadequate emergency access?	☐	☐	☐	☒

No Impact. *Construction activities would adhere to requirements that allow for access for all emergency vehicles along roads. The Escondido Fire Department would be notified when access to any of the streets or intersections would be reduced.*

f) Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?	☐	☐	☐	☒

No Impact. *The proposed project would not conflict with adopted policies, plans, or programs supporting alternative transportation.*

XVII. UTILITIES AND SERVICE SYSTEMS. Would the project:

a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	☐	☐	☐	☒

No Impact. *The project would not discharge effluent that would exceed wastewater treatment requirements of the San Diego Regional Water Quality Control Board (RWQCB).*

b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☐	☒

No Impact. *The proposed project includes improvements of existing flood control channels, as well as the construction of a new sediment trapping basin, and does not require construction of a new wastewater treatment facility or new stormwater facilities.*

c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☐	☒

No Impact. *The proposed project includes flood control improvement activities of existing flood control channels, as well as the construction of a new sediment trapping basin where a vacant parking lot currently exists. The sediment trapping basin would capture and reduce sediment contribution to Escondido Creek, and ultimately San Elijo Lagoon, which is currently listed on the Clean Water Act Section 303(d) list of impaired waters as being impaired for sediment. The project does not include the construction of new stormwater drainage facilities or expansion of existing facilities that would cause significant environmental effects.*

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	☐	☐	☐	☒

No Impact. *The proposed project does not require a permanent source of water supply and would not require additional water entitlements.*

e) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☐	☒

No impact*. The proposed project would not require wastewater treatment services or the expansion of a wastewater treatment facility.*

f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	☐	☐	☐	☒

No Impact. *The proposed project includes the Sycamore Landfill and Otay Mesa Landfill as designated waste disposal sites. Each landfill has sufficient capacity for the project's estimated solid waste disposal needs. The City or contractor may also choose to recycle suitable dredged spoil material for land application, in accordance with the requirements of Conditional Waiver Number 8.I.A (RWQCB Resolution R9-2007-0104). Management of maintenance waste products removed from the project footprint would use the vacant parking lot or the City's Corporate Yard for temporary dewatering, recycling, and/or disposal. It is expected that the project's solid waste needs could be adequately served by the landfills or the combination of the landfills and recycled reuse by the City.*

g) Comply with federal, state, and local statutes and regulations related to solid waste?	☐	☐	☐	☒

No Impact. *All construction activities would comply with all federal, state, and local statutes and regulations related to solid waste. Construction personnel would dispose of solid waste in accordance with applicable solid waste regulations. Management of maintenance waste products removed from the project footprint would use the vacant parking lot or the City's Corporate Yard for temporary dewatering, recycling, and/or disposal. All soil (or sediment) designated for disposal to a permitted hazardous waste or specified waste facility or to a treatment/recycling facility would be sampled and analyzed in accordance with the receiving facilities requirements.*

XVIII. MANDATORY FINDINGS OF SIGNIFICANCE.

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

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

Less than Significant Impact with Mitigation. *As indicated in the analysis above, the proposed project activities are located in an existing channel and an existing vacant parking lot. The proposed project has the potential to discharge pollutants to receiving waters through the implementation of various proposed drainage improvement activities; however, these impacts would be reduced to below a level of significance through the use of BMPs as required by the City's Stormwater Management Requirements and the NPDES SWPPP.*

The proposed project includes drainage improvement activities that would result in beneficial effects on the existing condition of the channel and surrounding area that would outweigh the negative effects caused from the accumulation of sediment and vegetation within the channel. Although the overall benefits would be greater than the existing conditions, the proposed project does have the potential to reduce the quality of habitat for wildlife species, including migratory birds and raptors. These impacts would be less than significant with the incorporation of the mitigation measures discussed in the MND.

b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	☐	☐	☐	☒

No Impact. *The project would not have impacts that are cumulatively considerable, and would not have effects that would cause substantial adverse effects on human beings, either directly or indirectly.*

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

Less than Significant Impact*. As discussed previously, the proposed project is not expected to encounter hazardous material; however, there is a possibility that hazardous levels of contaminants could be found. The project would be subject to federal, state, and local agency regulations for the handling of hazardous materials, including the use of BMPs in compliance with the City's Storm Water Management Requirements. The project's compliance with these regulations would ensure that potential health and safety impacts associated with the exposure to hazardous materials would be less than significant.*

Note: Authority cited: Sections 21083 and 21083.05, Public Resources Code. Reference: Section 65088.4, Gov. Code; Sections 21080(c), 21080.1, 21080.3, 21083, 21083.05, 21083.3, 21093, 21094, 21095, and 21151, Public Resources Code; *Sundstrom v. County of Mendocino,*(1988) 202 Cal.App.3d 296; *Leonoff v. Monterey Board of Supervisors,* (1990) 222 Cal.App.3d 1337; *Eureka Citizens for Responsible Govt. v. City of Eureka* (2007) 147 Cal.App.4th 357; *Protect the Historic Amador Waterways v. Amador Water Agency* (2004) 116 Cal.App.4th at 1109; *San Franciscans Upholding the Downtown Plan v. City and County of San Francisco* (2002) 102 Cal.App.4th 656.

Revised 2009

References

California Department of Toxic Substances Control (DTSC)
2007 Envirostor database. Available at http://www.envirostor.dtsc.ca.gov.

City of Escondido
2013 *Greenhouse Gas Emissions Adopted CEQA Thresholds and Screening Tables. Escondido, CA.* Prepared by Atkins for the City of Escondido. December.

2015 Escondido Municipal Code, Chapter 17, Article 12 Noise Abatement and Control. Available at http://www.qcode.us/codes/escondido/.

Demere, Tom
2007 *Technical Report Paleontological Resource Assessment, Citracado Parkway Extension, City of Escondido, San Diego County, California.* Report on file at the San Diego Natural History Museum, San Diego, CA.

Federal Transit Administration (FTA)
2006 *Transit Noise and Vibration Impact Assessment.* Prepared by Harris Miller Miller & Hanson Inc. for the Federal Transit Administration. May.

State of California Office of Environmental Health Hazard Assessment (OEHHA)
2015 *Adoption of Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments*. February.

APPENDIX B

AIR QUALITY MODELING DETAILS

Spruce Street

San Diego Air Basin, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Industrial	1.60	User Defined Unit	1.60	70,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.6	**Precipitation Freq (Days)**	40
Climate Zone	13			**Operational Year**	2016
Utility Company	San Diego Gas & Electric				
CO2 Intensity (lb/MWhr)	720.49	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Acreage consistent with engineering report.

Construction Phase - Construction schedule consistent with the engineering report.

Off-road Equipment - Consistent with the engineering report.

Off-road Equipment - Consistent with the engineering report.

Off-road Equipment - Consistent with the engineering report.

Off-road Equipment - Consistent with the engineering report.

Off-road Equipment - Consistent with the engineering report.

Trips and VMT - Worker and haul trips consistent with engineering report. Assumes 2-mile roundtrip haul distance to the City's Corporate Public Works Yard.

Grading - Consistent with the engineering report.

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	200.00	1.00
tblConstructionPhase	NumDays	2.00	12.00
tblConstructionPhase	NumDays	2.00	3.00
tblConstructionPhase	NumDays	2.00	4.00
tblConstructionPhase	NumDays	2.00	45.00
tblGrading	AcresOfGrading	22.50	1.60
tblGrading	AcresOfGrading	1.50	1.60
tblGrading	AcresOfGrading	6.00	1.60
tblGrading	AcresOfGrading	2.00	1.60
tblGrading	MaterialExported	0.00	6,658.00
tblGrading	MaterialExported	0.00	259.00
tblGrading	MaterialExported	0.00	753.00
tblGrading	MaterialExported	0.00	495.00
tblLandUse	LandUseSquareFeet	0.00	70,000.00
tblLandUse	LotAcreage	0.00	1.60
tblOffRoadEquipment	OffRoadEquipmentType		Off-Highway Trucks
tblOffRoadEquipment	OffRoadEquipmentType		Off-Highway Trucks
tblOffRoadEquipment	OffRoadEquipmentType	Rubber Tired Dozers	Skid Steer Loaders
tblOffRoadEquipment	OffRoadEquipmentType	Rubber Tired Dozers	Skid Steer Loaders
tblOffRoadEquipment	OffRoadEquipmentType	Rubber Tired Dozers	Skid Steer Loaders
tblOffRoadEquipment	OffRoadEquipmentType	Rubber Tired Dozers	Skid Steer Loaders
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00

tblOffRoadEquipment	PhaseName		Concrete Channel
tblOffRoadEquipment	PhaseName		Spruce Street
tblOffRoadEquipment	PhaseName		Short Channel
tblOffRoadEquipment	PhaseName		Main Channel
tblOffRoadEquipment	PhaseName		Spruce Street
tblOffRoadEquipment	PhaseName		Concrete Channel
tblProjectCharacteristics	OperationalYear	2014	2016
tblTripsAndVMT	HaulingTripLength	20.00	2.00
tblTripsAndVMT	HaulingTripLength	20.00	2.00
tblTripsAndVMT	HaulingTripLength	20.00	2.00
tblTripsAndVMT	HaulingTripLength	20.00	2.00
tblTripsAndVMT	HaulingTripLength	20.00	2.00
tblTripsAndVMT	HaulingTripNumber	0.00	832.00
tblTripsAndVMT	HaulingTripNumber	0.00	32.00
tblTripsAndVMT	HaulingTripNumber	0.00	94.00
tblTripsAndVMT	HaulingTripNumber	0.00	62.00
tblTripsAndVMT	VendorTripNumber	11.00	0.00
tblTripsAndVMT	WorkerTripNumber	10.00	6.00
tblTripsAndVMT	WorkerTripNumber	10.00	4.00
tblTripsAndVMT	WorkerTripNumber	13.00	6.00
tblTripsAndVMT	WorkerTripNumber	13.00	6.00
tblTripsAndVMT	WorkerTripNumber	29.00	4.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2016	1.5681	16.3580	11.2969	0.0204	5.8987	0.7495	6.5370	2.9732	0.6895	3.6550	0.0000	2,096.2962	2,096.2962	0.5779	0.0000	2,108.4311
Total	**1.5681**	**16.3580**	**11.2969**	**0.0204**	**5.8987**	**0.7495**	**6.5370**	**2.9732**	**0.6895**	**3.6550**	**0.0000**	**2,096.2962**	**2,096.2962**	**0.5779**	**0.0000**	**2,108.4311**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2016	1.5681	16.3580	11.2969	0.0204	5.8987	0.7495	6.5370	2.9732	0.6895	3.6550	0.0000	2,096.2962	2,096.2962	0.5779	0.0000	2,108.4311
Total	**1.5681**	**16.3580**	**11.2969**	**0.0204**	**5.8987**	**0.7495**	**6.5370**	**2.9732**	**0.6895**	**3.6550**	**0.0000**	**2,096.2962**	**2,096.2962**	**0.5779**	**0.0000**	**2,108.4311**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	1.9425	0.0000	1.7000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		3.5000e-004	3.5000e-004	0.0000		3.7000e-004
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**1.9425**	**0.0000**	**1.7000e-004**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**3.5000e-004**	**3.5000e-004**	**0.0000**	**0.0000**	**3.7000e-004**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	1.9425	0.0000	1.7000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		3.5000e-004	3.5000e-004	0.0000		3.7000e-004
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**1.9425**	**0.0000**	**1.7000e-004**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**3.5000e-004**	**3.5000e-004**	**0.0000**	**0.0000**	**3.7000e-004**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Main Channel	Site Preparation	5/1/2016	7/1/2016	5	45	
2	Short Channel	Site Preparation	7/2/2016	7/6/2016	5	3	
3	Spruce Street	Site Preparation	7/7/2016	7/22/2016	5	12	
4	Concrete Channel	Site Preparation	7/23/2016	7/28/2016	5	4	
5	Dewatering Platform	Building Construction	7/29/2016	7/29/2016	5	1	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

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

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Dewatering Platform	Cranes	1	6.00	226	0.29
Concrete Channel	Off-Highway Trucks	1	8.00	400	0.38
Spruce Street	Off-Highway Trucks	1	8.00	400	0.38
Short Channel	Skid Steer Loaders	1	8.00	64	0.37
Spruce Street	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Short Channel	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Concrete Channel	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Main Channel	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Main Channel	Skid Steer Loaders	1	8.00	64	0.37
Spruce Street	Skid Steer Loaders	1	8.00	64	0.37
Concrete Channel	Skid Steer Loaders	1	8.00	64	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Main Channel	4	6.00	0.00	832.00	10.80	7.30	2.00	LD_Mix	HDT_Mix	HHDT
Short Channel	4	4.00	0.00	32.00	10.80	7.30	2.00	LD_Mix	HDT_Mix	HHDT
Spruce Street	5	6.00	0.00	94.00	10.80	7.30	2.00	LD_Mix	HDT_Mix	HHDT
Concrete Channel	5	6.00	0.00	62.00	10.80	7.30	2.00	LD_Mix	HDT_Mix	HHDT
Dewatering Platform	7	4.00	0.00	0.00	10.80	7.30	2.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Main Channel - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					5.3278	0.0000	5.3278	2.9037	0.0000	2.9037			0.0000			0.0000
Off-Road	0.4547	4.7312	3.8024	5.1500e-003		0.3331	0.3331		0.3064	0.3064		535.1291	535.1291	0.1614		538.5188
Total	**0.4547**	**4.7312**	**3.8024**	**5.1500e-003**	**5.3278**	**0.3331**	**5.6609**	**2.9037**	**0.3064**	**3.2101**		**535.1291**	**535.1291**	**0.1614**		**538.5188**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1796	0.8949	2.5909	1.7200e-003	0.0326	7.9300e-003	0.0405	8.9500e-003	7.2800e-003	0.0162		169.6334	169.6334	1.8300e-003		169.6719
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0210	0.0246	0.2684	6.2000e-004	0.0493	3.7000e-004	0.0497	0.0131	3.4000e-004	0.0134		52.1119	52.1119	2.6100e-003		52.1668
Total	**0.2005**	**0.9196**	**2.8594**	**2.3400e-003**	**0.0819**	**8.3000e-003**	**0.0902**	**0.0220**	**7.6200e-003**	**0.0296**		**221.7453**	**221.7453**	**4.4400e-003**		**221.8387**

3.2 Main Channel - 2016

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					5.3278	0.0000	5.3278	2.9037	0.0000	2.9037			0.0000			0.0000
Off-Road	0.4547	4.7312	3.8024	5.1500e-003		0.3331	0.3331		0.3064	0.3064	0.0000	535.1291	535.1291	0.1614		538.5188
Total	**0.4547**	**4.7312**	**3.8024**	**5.1500e-003**	**5.3278**	**0.3331**	**5.6609**	**2.9037**	**0.3064**	**3.2101**	**0.0000**	**535.1291**	**535.1291**	**0.1614**		**538.5188**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1796	0.8949	2.5909	1.7200e-003	0.0326	7.9300e-003	0.0405	8.9500e-003	7.2800e-003	0.0162		169.6334	169.6334	1.8300e-003		169.6719
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0210	0.0246	0.2684	6.2000e-004	0.0493	3.7000e-004	0.0497	0.0131	3.4000e-004	0.0134		52.1119	52.1119	2.6100e-003		52.1668
Total	**0.2005**	**0.9196**	**2.8594**	**2.3400e-003**	**0.0819**	**8.3000e-003**	**0.0902**	**0.0220**	**7.6200e-003**	**0.0296**		**221.7453**	**221.7453**	**4.4400e-003**		**221.8387**

3.3 Short Channel - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					5.8471	0.0000	5.8471	2.9594	0.0000	2.9594			0.0000			0.0000
Off-Road	0.4547	4.7312	3.8024	5.1500e-003		0.3331	0.3331		0.3064	0.3064		535.1291	535.1291	0.1614		538.5188
Total	**0.4547**	**4.7312**	**3.8024**	**5.1500e-003**	**5.8471**	**0.3331**	**6.1801**	**2.9594**	**0.3064**	**3.2658**		**535.1291**	**535.1291**	**0.1614**		**538.5188**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1036	0.5163	1.4948	9.9000e-004	0.0188	4.5700e-003	0.0234	5.1600e-003	4.2000e-003	9.3600e-003		97.8654	97.8654	1.0600e-003		97.8876
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0140	0.0164	0.1790	4.2000e-004	0.0329	2.5000e-004	0.0331	8.7200e-003	2.3000e-004	8.9400e-003		34.7413	34.7413	1.7400e-003		34.7778
Total	**0.1176**	**0.5327**	**1.6737**	**1.4100e-003**	**0.0517**	**4.8200e-003**	**0.0565**	**0.0139**	**4.4300e-003**	**0.0183**		**132.6067**	**132.6067**	**2.8000e-003**		**132.6655**

3.3 Short Channel - 2016

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					5.8471	0.0000	5.8471	2.9594	0.0000	2.9594			0.0000			0.0000
Off-Road	0.4547	4.7312	3.8024	5.1500e-003		0.3331	0.3331		0.3064	0.3064	0.0000	535.1291	535.1291	0.1614		538.5188
Total	**0.4547**	**4.7312**	**3.8024**	**5.1500e-003**	**5.8471**	**0.3331**	**6.1801**	**2.9594**	**0.3064**	**3.2658**	**0.0000**	**535.1291**	**535.1291**	**0.1614**		**538.5188**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1036	0.5163	1.4948	9.9000e-004	0.0188	4.5700e-003	0.0234	5.1600e-003	4.2000e-003	9.3600e-003		97.8654	97.8654	1.0600e-003		97.8876
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0140	0.0164	0.1790	4.2000e-004	0.0329	2.5000e-004	0.0331	8.7200e-003	2.3000e-004	8.9400e-003		34.7413	34.7413	1.7400e-003		34.7778
Total	**0.1176**	**0.5327**	**1.6737**	**1.4100e-003**	**0.0517**	**4.8200e-003**	**0.0565**	**0.0139**	**4.4300e-003**	**0.0183**		**132.6067**	**132.6067**	**2.8000e-003**		**132.6655**

3.4 Spruce Street - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					5.4195	0.0000	5.4195	2.9131	0.0000	2.9131			0.0000			0.0000
Off-Road	1.3966	15.5831	8.8564	0.0183		0.7425	0.7425		0.6831	0.6831		1,901.9736	1,901.9736	0.5737		1,914.0214
Total	**1.3966**	**15.5831**	**8.8564**	**0.0183**	**5.4195**	**0.7425**	**6.1620**	**2.9131**	**0.6831**	**3.5961**		**1,901.9736**	**1,901.9736**	**0.5737**		**1,914.0214**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0761	0.3792	1.0977	7.3000e-004	0.0138	3.3600e-003	0.0172	3.7900e-003	3.0900e-003	6.8800e-003		71.8699	71.8699	7.8000e-004		71.8862
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0210	0.0246	0.2684	6.2000e-004	0.0493	3.7000e-004	0.0497	0.0131	3.4000e-004	0.0134		52.1119	52.1119	2.6100e-003		52.1668
Total	**0.0971**	**0.4038**	**1.3662**	**1.3500e-003**	**0.0631**	**3.7300e-003**	**0.0668**	**0.0169**	**3.4300e-003**	**0.0203**		**123.9819**	**123.9819**	**3.3900e-003**		**124.0530**

3.4 Spruce Street - 2016

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					5.4195	0.0000	5.4195	2.9131	0.0000	2.9131			0.0000			0.0000
Off-Road	1.3966	15.5831	8.8564	0.0183		0.7425	0.7425		0.6831	0.6831	0.0000	1,901.9736	1,901.9736	0.5737		1,914.0214
Total	**1.3966**	**15.5831**	**8.8564**	**0.0183**	**5.4195**	**0.7425**	**6.1620**	**2.9131**	**0.6831**	**3.5961**	**0.0000**	**1,901.9736**	**1,901.9736**	**0.5737**		**1,914.0214**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0761	0.3792	1.0977	7.3000e-004	0.0138	3.3600e-003	0.0172	3.7900e-003	3.0900e-003	6.8800e-003		71.8699	71.8699	7.8000e-004		71.8862
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0210	0.0246	0.2684	6.2000e-004	0.0493	3.7000e-004	0.0497	0.0131	3.4000e-004	0.0134		52.1119	52.1119	2.6100e-003		52.1668
Total	**0.0971**	**0.4038**	**1.3662**	**1.3500e-003**	**0.0631**	**3.7300e-003**	**0.0668**	**0.0169**	**3.4300e-003**	**0.0203**		**123.9819**	**123.9819**	**3.3900e-003**		**124.0530**

3.5 Concrete Channel - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					5.7109	0.0000	5.7109	2.9449	0.0000	2.9449			0.0000			0.0000
Off-Road	1.3966	15.5831	8.8564	0.0183		0.7425	0.7425		0.6831	0.6831		1,901.9736	1,901.9736	0.5737		1,914.0214
Total	**1.3966**	**15.5831**	**8.8564**	**0.0183**	**5.7109**	**0.7425**	**6.4534**	**2.9449**	**0.6831**	**3.6280**		**1,901.9736**	**1,901.9736**	**0.5737**		**1,914.0214**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1505	0.7503	2.1721	1.4400e-003	0.0273	6.6500e-003	0.0339	7.5000e-003	6.1000e-003	0.0136		142.2107	142.2107	1.5400e-003		142.2430
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0210	0.0246	0.2684	6.2000e-004	0.0493	3.7000e-004	0.0497	0.0131	3.4000e-004	0.0134		52.1119	52.1119	2.6100e-003		52.1668
Total	**0.1715**	**0.7749**	**2.4405**	**2.0600e-003**	**0.0766**	**7.0200e-003**	**0.0836**	**0.0206**	**6.4400e-003**	**0.0270**		**194.3226**	**194.3226**	**4.1500e-003**		**194.4097**

3.5 Concrete Channel - 2016

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					5.7109	0.0000	5.7109	2.9449	0.0000	2.9449			0.0000			0.0000
Off-Road	1.3966	15.5831	8.8564	0.0183		0.7425	0.7425		0.6831	0.6831	0.0000	1,901.9736	1,901.9736	0.5737		1,914.0214
Total	**1.3966**	**15.5831**	**8.8564**	**0.0183**	**5.7109**	**0.7425**	**6.4534**	**2.9449**	**0.6831**	**3.6280**	**0.0000**	**1,901.9736**	**1,901.9736**	**0.5737**		**1,914.0214**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1505	0.7503	2.1721	1.4400e-003	0.0273	6.6500e-003	0.0339	7.5000e-003	6.1000e-003	0.0136		142.2107	142.2107	1.5400e-003		142.2430
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0210	0.0246	0.2684	6.2000e-004	0.0493	3.7000e-004	0.0497	0.0131	3.4000e-004	0.0134		52.1119	52.1119	2.6100e-003		52.1668
Total	**0.1715**	**0.7749**	**2.4405**	**2.0600e-003**	**0.0766**	**7.0200e-003**	**0.0836**	**0.0206**	**6.4400e-003**	**0.0270**		**194.3226**	**194.3226**	**4.1500e-003**		**194.4097**

3.6 Dewatering Platform - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.5400	6.3987	2.2386	4.2300e-003		0.2904	0.2904		0.2671	0.2671		439.6761	439.6761	0.1326		442.4611
Total	**0.5400**	**6.3987**	**2.2386**	**4.2300e-003**		**0.2904**	**0.2904**		**0.2671**	**0.2671**		**439.6761**	**439.6761**	**0.1326**		**442.4611**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0140	0.0164	0.1790	4.2000e-004	0.0329	2.5000e-004	0.0331	8.7200e-003	2.3000e-004	8.9400e-003		34.7413	34.7413	1.7400e-003		34.7778
Total	**0.0140**	**0.0164**	**0.1790**	**4.2000e-004**	**0.0329**	**2.5000e-004**	**0.0331**	**8.7200e-003**	**2.3000e-004**	**8.9400e-003**		**34.7413**	**34.7413**	**1.7400e-003**		**34.7778**

3.6 Dewatering Platform - 2016

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.5400	6.3987	2.2386	4.2300e-003		0.2904	0.2904		0.2671	0.2671	0.0000	439.6761	439.6761	0.1326		442.4611
Total	**0.5400**	**6.3987**	**2.2386**	**4.2300e-003**		**0.2904**	**0.2904**		**0.2671**	**0.2671**	**0.0000**	**439.6761**	**439.6761**	**0.1326**		**442.4611**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0140	0.0164	0.1790	4.2000e-004	0.0329	2.5000e-004	0.0331	8.7200e-003	2.3000e-004	8.9400e-003		34.7413	34.7413	1.7400e-003		34.7778
Total	**0.0140**	**0.0164**	**0.1790**	**4.2000e-004**	**0.0329**	**2.5000e-004**	**0.0331**	**8.7200e-003**	**2.3000e-004**	**8.9400e-003**		**34.7413**	**34.7413**	**1.7400e-003**		**34.7778**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
User Defined Industrial	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
User Defined Industrial	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.510118	0.073510	0.192396	0.133166	0.036737	0.005265	0.012605	0.021642	0.001847	0.002083	0.006548	0.000610	0.003471

4.4 Fleet Mix

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	1.9425	0.0000	1.7000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		3.5000e-004	3.5000e-004	0.0000		3.7000e-004
Unmitigated	1.9425	0.0000	1.7000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		3.5000e-004	3.5000e-004	0.0000		3.7000e-004

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.4445					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	1.4980					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	2.0000e-005	0.0000	1.7000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		3.5000e-004	3.5000e-004	0.0000		3.7000e-004
Total	**1.9425**	**0.0000**	**1.7000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**3.5000e-004**	**3.5000e-004**	**0.0000**		**3.7000e-004**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.4445					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	1.4980					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	2.0000e-005	0.0000	1.7000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		3.5000e-004	3.5000e-004	0.0000		3.7000e-004
Total	**1.9425**	**0.0000**	**1.7000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**3.5000e-004**	**3.5000e-004**	**0.0000**		**3.7000e-004**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

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

10.0 Vegetation

Spruce Street

San Diego Air Basin, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Industrial	1.60	User Defined Unit	1.60	70,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.6	**Precipitation Freq (Days)**	40
Climate Zone	13			**Operational Year**	2016
Utility Company	San Diego Gas & Electric				
CO2 Intensity (lb/MWhr)	720.49	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Acreage consistent with engineering report.

Construction Phase - Construction schedule consistent with the engineering report.

Off-road Equipment - Consistent with the engineering report.

Off-road Equipment - Consistent with the engineering report.

Off-road Equipment - Consistent with the engineering report.

Off-road Equipment - Consistent with the engineering report.

Off-road Equipment - Consistent with the engineering report.

Trips and VMT - Worker and haul trips consistent with engineering report. Assumes 2-mile roundtrip haul distance to the City's Corporate Public Works Yard.

Grading - Consistent with the engineering report.

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	200.00	1.00
tblConstructionPhase	NumDays	2.00	12.00
tblConstructionPhase	NumDays	2.00	3.00
tblConstructionPhase	NumDays	2.00	4.00
tblConstructionPhase	NumDays	2.00	45.00
tblGrading	AcresOfGrading	22.50	1.60
tblGrading	AcresOfGrading	1.50	1.60
tblGrading	AcresOfGrading	6.00	1.60
tblGrading	AcresOfGrading	2.00	1.60
tblGrading	MaterialExported	0.00	6,658.00
tblGrading	MaterialExported	0.00	259.00
tblGrading	MaterialExported	0.00	753.00
tblGrading	MaterialExported	0.00	495.00
tblLandUse	LandUseSquareFeet	0.00	70,000.00
tblLandUse	LotAcreage	0.00	1.60
tblOffRoadEquipment	OffRoadEquipmentType		Off-Highway Trucks
tblOffRoadEquipment	OffRoadEquipmentType		Off-Highway Trucks
tblOffRoadEquipment	OffRoadEquipmentType	Rubber Tired Dozers	Skid Steer Loaders
tblOffRoadEquipment	OffRoadEquipmentType	Rubber Tired Dozers	Skid Steer Loaders
tblOffRoadEquipment	OffRoadEquipmentType	Rubber Tired Dozers	Skid Steer Loaders
tblOffRoadEquipment	OffRoadEquipmentType	Rubber Tired Dozers	Skid Steer Loaders
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00

tblOffRoadEquipment	PhaseName		Concrete Channel
tblOffRoadEquipment	PhaseName		Spruce Street
tblOffRoadEquipment	PhaseName		Short Channel
tblOffRoadEquipment	PhaseName		Main Channel
tblOffRoadEquipment	PhaseName		Spruce Street
tblOffRoadEquipment	PhaseName		Concrete Channel
tblProjectCharacteristics	OperationalYear	2014	2016
tblTripsAndVMT	HaulingTripLength	20.00	2.00
tblTripsAndVMT	HaulingTripLength	20.00	2.00
tblTripsAndVMT	HaulingTripLength	20.00	2.00
tblTripsAndVMT	HaulingTripLength	20.00	2.00
tblTripsAndVMT	HaulingTripLength	20.00	2.00
tblTripsAndVMT	HaulingTripNumber	0.00	832.00
tblTripsAndVMT	HaulingTripNumber	0.00	32.00
tblTripsAndVMT	HaulingTripNumber	0.00	94.00
tblTripsAndVMT	HaulingTripNumber	0.00	62.00
tblTripsAndVMT	VendorTripNumber	11.00	0.00
tblTripsAndVMT	WorkerTripNumber	10.00	6.00
tblTripsAndVMT	WorkerTripNumber	10.00	4.00
tblTripsAndVMT	WorkerTripNumber	13.00	6.00
tblTripsAndVMT	WorkerTripNumber	13.00	6.00
tblTripsAndVMT	WorkerTripNumber	29.00	4.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2016	0.0287	0.2676	0.2631	3.4000e-004	0.1750	0.0143	0.1893	0.0938	0.0132	0.1070	0.0000	31.2919	31.2919	7.8600e-003	0.0000	31.4570
Total	**0.0287**	**0.2676**	**0.2631**	**3.4000e-004**	**0.1750**	**0.0143**	**0.1893**	**0.0938**	**0.0132**	**0.1070**	**0.0000**	**31.2919**	**31.2919**	**7.8600e-003**	**0.0000**	**31.4570**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2016	0.0287	0.2676	0.2631	3.4000e-004	0.1750	0.0143	0.1893	0.0938	0.0132	0.1070	0.0000	31.2919	31.2919	7.8600e-003	0.0000	31.4570
Total	**0.0287**	**0.2676**	**0.2631**	**3.4000e-004**	**0.1750**	**0.0143**	**0.1893**	**0.0938**	**0.0132**	**0.1070**	**0.0000**	**31.2919**	**31.2919**	**7.8600e-003**	**0.0000**	**31.4570**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.3545	0.0000	2.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	3.0000e-005	3.0000e-005	0.0000	0.0000	3.0000e-005
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.3545**	**0.0000**	**2.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**3.0000e-005**	**3.0000e-005**	**0.0000**	**0.0000**	**3.0000e-005**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.3545	0.0000	2.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	3.0000e-005	3.0000e-005	0.0000	0.0000	3.0000e-005
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.3545**	**0.0000**	**2.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**3.0000e-005**	**3.0000e-005**	**0.0000**	**0.0000**	**3.0000e-005**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Main Channel	Site Preparation	5/1/2016	7/1/2016	5	45	
2	Short Channel	Site Preparation	7/2/2016	7/6/2016	5	3	
3	Spruce Street	Site Preparation	7/7/2016	7/22/2016	5	12	
4	Concrete Channel	Site Preparation	7/23/2016	7/28/2016	5	4	
5	Dewatering Platform	Building Construction	7/29/2016	7/29/2016	5	1	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

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

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Dewatering Platform	Cranes	1	6.00	226	0.29
Concrete Channel	Off-Highway Trucks	1	8.00	400	0.38
Spruce Street	Off-Highway Trucks	1	8.00	400	0.38
Short Channel	Skid Steer Loaders	1	8.00	64	0.37
Spruce Street	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Short Channel	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Concrete Channel	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Main Channel	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Main Channel	Skid Steer Loaders	1	8.00	64	0.37
Spruce Street	Skid Steer Loaders	1	8.00	64	0.37
Concrete Channel	Skid Steer Loaders	1	8.00	64	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Main Channel	4	6.00	0.00	832.00	10.80	7.30	2.00	LD_Mix	HDT_Mix	HHDT
Short Channel	4	4.00	0.00	32.00	10.80	7.30	2.00	LD_Mix	HDT_Mix	HHDT
Spruce Street	5	6.00	0.00	94.00	10.80	7.30	2.00	LD_Mix	HDT_Mix	HHDT
Concrete Channel	5	6.00	0.00	62.00	10.80	7.30	2.00	LD_Mix	HDT_Mix	HHDT
Dewatering Platform	7	4.00	0.00	0.00	10.80	7.30	2.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Main Channel - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1199	0.0000	0.1199	0.0653	0.0000	0.0653	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0102	0.1065	0.0856	1.2000e-004		7.4900e-003	7.4900e-003		6.8900e-003	6.8900e-003	0.0000	10.9229	10.9229	3.2900e-003	0.0000	10.9921
Total	**0.0102**	**0.1065**	**0.0856**	**1.2000e-004**	**0.1199**	**7.4900e-003**	**0.1274**	**0.0653**	**6.8900e-003**	**0.0722**	**0.0000**	**10.9229**	**10.9229**	**3.2900e-003**	**0.0000**	**10.9921**

3.2 Main Channel - 2016

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	4.6000e-003	0.0206	0.0748	4.0000e-005	7.2000e-004	1.8000e-004	9.0000e-004	2.0000e-004	1.7000e-004	3.6000e-004	0.0000	3.4345	3.4345	4.0000e-005	0.0000	3.4353
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.6000e-004	6.1000e-004	5.8300e-003	1.0000e-005	1.0800e-003	1.0000e-005	1.0900e-003	2.9000e-004	1.0000e-005	3.0000e-004	0.0000	1.0089	1.0089	5.0000e-005	0.0000	1.0100
Total	**5.0600e-003**	**0.0213**	**0.0806**	**5.0000e-005**	**1.8000e-003**	**1.9000e-004**	**1.9900e-003**	**4.9000e-004**	**1.8000e-004**	**6.6000e-004**	**0.0000**	**4.4434**	**4.4434**	**9.0000e-005**	**0.0000**	**4.4453**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1199	0.0000	0.1199	0.0653	0.0000	0.0653	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0102	0.1065	0.0856	1.2000e-004		7.4900e-003	7.4900e-003		6.8900e-003	6.8900e-003	0.0000	10.9229	10.9229	3.2900e-003	0.0000	10.9921
Total	**0.0102**	**0.1065**	**0.0856**	**1.2000e-004**	**0.1199**	**7.4900e-003**	**0.1274**	**0.0653**	**6.8900e-003**	**0.0722**	**0.0000**	**10.9229**	**10.9229**	**3.2900e-003**	**0.0000**	**10.9921**

3.2 Main Channel - 2016

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	4.6000e-003	0.0206	0.0748	4.0000e-005	7.2000e-004	1.8000e-004	9.0000e-004	2.0000e-004	1.7000e-004	3.6000e-004	0.0000	3.4345	3.4345	4.0000e-005	0.0000	3.4353
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.6000e-004	6.1000e-004	5.8300e-003	1.0000e-005	1.0800e-003	1.0000e-005	1.0900e-003	2.9000e-004	1.0000e-005	3.0000e-004	0.0000	1.0089	1.0089	5.0000e-005	0.0000	1.0100
Total	**5.0600e-003**	**0.0213**	**0.0806**	**5.0000e-005**	**1.8000e-003**	**1.9000e-004**	**1.9900e-003**	**4.9000e-004**	**1.8000e-004**	**6.6000e-004**	**0.0000**	**4.4434**	**4.4434**	**9.0000e-005**	**0.0000**	**4.4453**

3.3 Short Channel - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					8.7700e-003	0.0000	8.7700e-003	4.4400e-003	0.0000	4.4400e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.8000e-004	7.1000e-003	5.7000e-003	1.0000e-005		5.0000e-004	5.0000e-004		4.6000e-004	4.6000e-004	0.0000	0.7282	0.7282	2.2000e-004	0.0000	0.7328
Total	**6.8000e-004**	**7.1000e-003**	**5.7000e-003**	**1.0000e-005**	**8.7700e-003**	**5.0000e-004**	**9.2700e-003**	**4.4400e-003**	**4.6000e-004**	**4.9000e-003**	**0.0000**	**0.7282**	**0.7282**	**2.2000e-004**	**0.0000**	**0.7328**

3.3 Short Channel - 2016

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.8000e-004	7.9000e-004	2.8800e-003	0.0000	3.0000e-005	1.0000e-005	3.0000e-005	1.0000e-005	1.0000e-005	1.0000e-005	0.0000	0.1321	0.1321	0.0000	0.0000	0.1321
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.0000e-005	3.0000e-005	2.6000e-004	0.0000	5.0000e-005	0.0000	5.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0448	0.0448	0.0000	0.0000	0.0449
Total	**2.0000e-004**	**8.2000e-004**	**3.1400e-003**	**0.0000**	**8.0000e-005**	**1.0000e-005**	**8.0000e-005**	**2.0000e-005**	**1.0000e-005**	**2.0000e-005**	**0.0000**	**0.1769**	**0.1769**	**0.0000**	**0.0000**	**0.1770**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					8.7700e-003	0.0000	8.7700e-003	4.4400e-003	0.0000	4.4400e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.8000e-004	7.1000e-003	5.7000e-003	1.0000e-005		5.0000e-004	5.0000e-004		4.6000e-004	4.6000e-004	0.0000	0.7282	0.7282	2.2000e-004	0.0000	0.7328
Total	**6.8000e-004**	**7.1000e-003**	**5.7000e-003**	**1.0000e-005**	**8.7700e-003**	**5.0000e-004**	**9.2700e-003**	**4.4400e-003**	**4.6000e-004**	**4.9000e-003**	**0.0000**	**0.7282**	**0.7282**	**2.2000e-004**	**0.0000**	**0.7328**

3.3 Short Channel - 2016

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.8000e-004	7.9000e-004	2.8800e-003	0.0000	3.0000e-005	1.0000e-005	3.0000e-005	1.0000e-005	1.0000e-005	1.0000e-005	0.0000	0.1321	0.1321	0.0000	0.0000	0.1321
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.0000e-005	3.0000e-005	2.6000e-004	0.0000	5.0000e-005	0.0000	5.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0448	0.0448	0.0000	0.0000	0.0449
Total	**2.0000e-004**	**8.2000e-004**	**3.1400e-003**	**0.0000**	**8.0000e-005**	**1.0000e-005**	**8.0000e-005**	**2.0000e-005**	**1.0000e-005**	**2.0000e-005**	**0.0000**	**0.1769**	**0.1769**	**0.0000**	**0.0000**	**0.1770**

3.4 Spruce Street - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0325	0.0000	0.0325	0.0175	0.0000	0.0175	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	8.3800e-003	0.0935	0.0531	1.1000e-004		4.4500e-003	4.4500e-003		4.1000e-003	4.1000e-003	0.0000	10.3527	10.3527	3.1200e-003	0.0000	10.4182
Total	**8.3800e-003**	**0.0935**	**0.0531**	**1.1000e-004**	**0.0325**	**4.4500e-003**	**0.0370**	**0.0175**	**4.1000e-003**	**0.0216**	**0.0000**	**10.3527**	**10.3527**	**3.1200e-003**	**0.0000**	**10.4182**

3.4 Spruce Street - 2016

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	5.2000e-004	2.3300e-003	8.4500e-003	0.0000	8.0000e-005	2.0000e-005	1.0000e-004	2.0000e-005	2.0000e-005	4.0000e-005	0.0000	0.3880	0.3880	0.0000	0.0000	0.3881
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.2000e-004	1.6000e-004	1.5500e-003	0.0000	2.9000e-004	0.0000	2.9000e-004	8.0000e-005	0.0000	8.0000e-005	0.0000	0.2690	0.2690	1.0000e-005	0.0000	0.2693
Total	**6.4000e-004**	**2.4900e-003**	**1.0000e-002**	**0.0000**	**3.7000e-004**	**2.0000e-005**	**3.9000e-004**	**1.0000e-004**	**2.0000e-005**	**1.2000e-004**	**0.0000**	**0.6571**	**0.6571**	**1.0000e-005**	**0.0000**	**0.6575**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0325	0.0000	0.0325	0.0175	0.0000	0.0175	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	8.3800e-003	0.0935	0.0531	1.1000e-004		4.4500e-003	4.4500e-003		4.1000e-003	4.1000e-003	0.0000	10.3526	10.3526	3.1200e-003	0.0000	10.4182
Total	**8.3800e-003**	**0.0935**	**0.0531**	**1.1000e-004**	**0.0325**	**4.4500e-003**	**0.0370**	**0.0175**	**4.1000e-003**	**0.0216**	**0.0000**	**10.3526**	**10.3526**	**3.1200e-003**	**0.0000**	**10.4182**

3.4 Spruce Street - 2016

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	5.2000e-004	2.3300e-003	8.4500e-003	0.0000	8.0000e-005	2.0000e-005	1.0000e-004	2.0000e-005	2.0000e-005	4.0000e-005	0.0000	0.3880	0.3880	0.0000	0.0000	0.3881
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.2000e-004	1.6000e-004	1.5500e-003	0.0000	2.9000e-004	0.0000	2.9000e-004	8.0000e-005	0.0000	8.0000e-005	0.0000	0.2690	0.2690	1.0000e-005	0.0000	0.2693
Total	**6.4000e-004**	**2.4900e-003**	**1.0000e-002**	**0.0000**	**3.7000e-004**	**2.0000e-005**	**3.9000e-004**	**1.0000e-004**	**2.0000e-005**	**1.2000e-004**	**0.0000**	**0.6571**	**0.6571**	**1.0000e-005**	**0.0000**	**0.6575**

3.5 Concrete Channel - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0114	0.0000	0.0114	5.8900e-003	0.0000	5.8900e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.7900e-003	0.0312	0.0177	4.0000e-005		1.4800e-003	1.4800e-003		1.3700e-003	1.3700e-003	0.0000	3.4509	3.4509	1.0400e-003	0.0000	3.4727
Total	**2.7900e-003**	**0.0312**	**0.0177**	**4.0000e-005**	**0.0114**	**1.4800e-003**	**0.0129**	**5.8900e-003**	**1.3700e-003**	**7.2600e-003**	**0.0000**	**3.4509**	**3.4509**	**1.0400e-003**	**0.0000**	**3.4727**

3.5 Concrete Channel - 2016

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	3.4000e-004	1.5400e-003	5.5700e-003	0.0000	5.0000e-005	1.0000e-005	7.0000e-005	1.0000e-005	1.0000e-005	3.0000e-005	0.0000	0.2559	0.2559	0.0000	0.0000	0.2560
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.0000e-005	5.0000e-005	5.2000e-004	0.0000	1.0000e-004	0.0000	1.0000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0897	0.0897	0.0000	0.0000	0.0898
Total	**3.8000e-004**	**1.5900e-003**	**6.0900e-003**	**0.0000**	**1.5000e-004**	**1.0000e-005**	**1.7000e-004**	**4.0000e-005**	**1.0000e-005**	**6.0000e-005**	**0.0000**	**0.3456**	**0.3456**	**0.0000**	**0.0000**	**0.3458**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0114	0.0000	0.0114	5.8900e-003	0.0000	5.8900e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.7900e-003	0.0312	0.0177	4.0000e-005		1.4800e-003	1.4800e-003		1.3700e-003	1.3700e-003	0.0000	3.4509	3.4509	1.0400e-003	0.0000	3.4727
Total	**2.7900e-003**	**0.0312**	**0.0177**	**4.0000e-005**	**0.0114**	**1.4800e-003**	**0.0129**	**5.8900e-003**	**1.3700e-003**	**7.2600e-003**	**0.0000**	**3.4509**	**3.4509**	**1.0400e-003**	**0.0000**	**3.4727**

3.5 Concrete Channel - 2016

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	3.4000e-004	1.5400e-003	5.5700e-003	0.0000	5.0000e-005	1.0000e-005	7.0000e-005	1.0000e-005	1.0000e-005	3.0000e-005	0.0000	0.2559	0.2559	0.0000	0.0000	0.2560
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.0000e-005	5.0000e-005	5.2000e-004	0.0000	1.0000e-004	0.0000	1.0000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0897	0.0897	0.0000	0.0000	0.0898
Total	**3.8000e-004**	**1.5900e-003**	**6.0900e-003**	**0.0000**	**1.5000e-004**	**1.0000e-005**	**1.7000e-004**	**4.0000e-005**	**1.0000e-005**	**6.0000e-005**	**0.0000**	**0.3456**	**0.3456**	**0.0000**	**0.0000**	**0.3458**

3.6 Dewatering Platform - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	2.7000e-004	3.2000e-003	1.1200e-003	0.0000		1.5000e-004	1.5000e-004		1.3000e-004	1.3000e-004	0.0000	0.1994	0.1994	6.0000e-005	0.0000	0.2007
Total	**2.7000e-004**	**3.2000e-003**	**1.1200e-003**	**0.0000**		**1.5000e-004**	**1.5000e-004**		**1.3000e-004**	**1.3000e-004**	**0.0000**	**0.1994**	**0.1994**	**6.0000e-005**	**0.0000**	**0.2007**

3.6 Dewatering Platform - 2016

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0000e-005	1.0000e-005	9.0000e-005	0.0000	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0150	0.0150	0.0000	0.0000	0.0150
Total	**1.0000e-005**	**1.0000e-005**	**9.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0150**	**0.0150**	**0.0000**	**0.0000**	**0.0150**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	2.7000e-004	3.2000e-003	1.1200e-003	0.0000		1.5000e-004	1.5000e-004		1.3000e-004	1.3000e-004	0.0000	0.1994	0.1994	6.0000e-005	0.0000	0.2007
Total	**2.7000e-004**	**3.2000e-003**	**1.1200e-003**	**0.0000**		**1.5000e-004**	**1.5000e-004**		**1.3000e-004**	**1.3000e-004**	**0.0000**	**0.1994**	**0.1994**	**6.0000e-005**	**0.0000**	**0.2007**

3.6 Dewatering Platform - 2016

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0000e-005	1.0000e-005	9.0000e-005	0.0000	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0150	0.0150	0.0000	0.0000	0.0150
Total	**1.0000e-005**	**1.0000e-005**	**9.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0150**	**0.0150**	**0.0000**	**0.0000**	**0.0150**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
User Defined Industrial	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
User Defined Industrial	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.510118	0.073510	0.192396	0.133166	0.036737	0.005265	0.012605	0.021642	0.001847	0.002083	0.006548	0.000610	0.003471

4.4 Fleet Mix

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.3545	0.0000	2.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	3.0000e-005	3.0000e-005	0.0000	0.0000	3.0000e-005
Unmitigated	0.3545	0.0000	2.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	3.0000e-005	3.0000e-005	0.0000	0.0000	3.0000e-005

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0811					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.2734					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	2.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	3.0000e-005	3.0000e-005	0.0000	0.0000	3.0000e-005
Total	**0.3545**	**0.0000**	**2.0000e-005**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**3.0000e-005**	**3.0000e-005**	**0.0000**	**0.0000**	**3.0000e-005**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0811					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.2734					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	2.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	3.0000e-005	3.0000e-005	0.0000	0.0000	3.0000e-005
Total	**0.3545**	**0.0000**	**2.0000e-005**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**3.0000e-005**	**3.0000e-005**	**0.0000**	**0.0000**	**3.0000e-005**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
User Defined Industrial	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
User Defined Industrial	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

9.0 Operational Offroad

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

10.0 Vegetation

APPENDIX C

TRIBAL CORRESPONDENCE

AECOM
401 West A Street
Suite 1200
San Diego, CA 92101
www.aecom.com

619.610.7600 tel
619.610.7601 fax

Memorandum

To	Katy Sanchez	Page	1
Fax	916-657-5390		
Subject	Spruce Street Drainage Improvements Project		
From	Rachel Droessler		
Date	July 19, 2015		

We are contacting you to request a Sacred Lands file check for a one-mile radius around a 1.6-acre project area associated with the Spruce Street Drainage Improvements Project. This project is located in the City of Escondido. Attached is a map showing the project area and the one-mile sacred lands file check buffer. This project requires a cultural resources records search to be used to support preliminary design decisions. This NAHC letter is in support of an initial study/mitigated negative declaration report for proposed drainage improvements including vegetation removal and modifying structural components for improved hydraulic performance and reduced sedimentation fallout . The records search, submitted to the SCIC on June 30, 2015, includes a one-mile buffer around the project area and a response was received on July 19, 2015. Ten archaeological resources are located within the one-mile records search buffer and consist of bedrock milling sites and historic artifact scatters. A single metavolcanic flake was recorded within 200' of the project area in 1996. The remaining nine resources are all located more than one-half mile from the project site. Fifty-eight reports intersect the project area.

Escondido USGS 7.5' Map	Unsectioned Rincon Del Diablo Land Grant Zone 11S NAD83 491341mE / 3664397 mN

If you have any questions, please do not hesitate to call me at (619) 610-7638.

Sincerely,

Rachel Droessler
Archaeologist

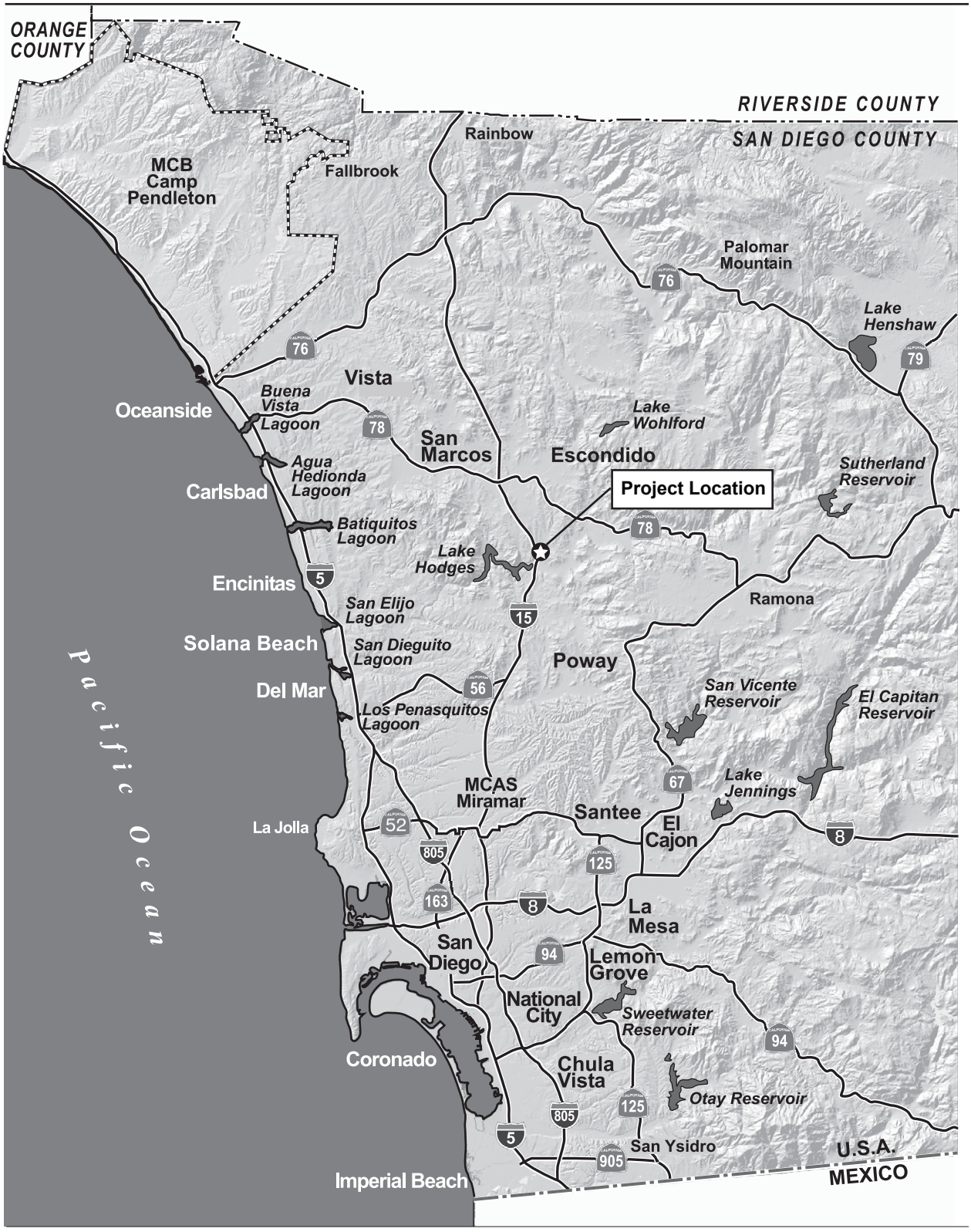
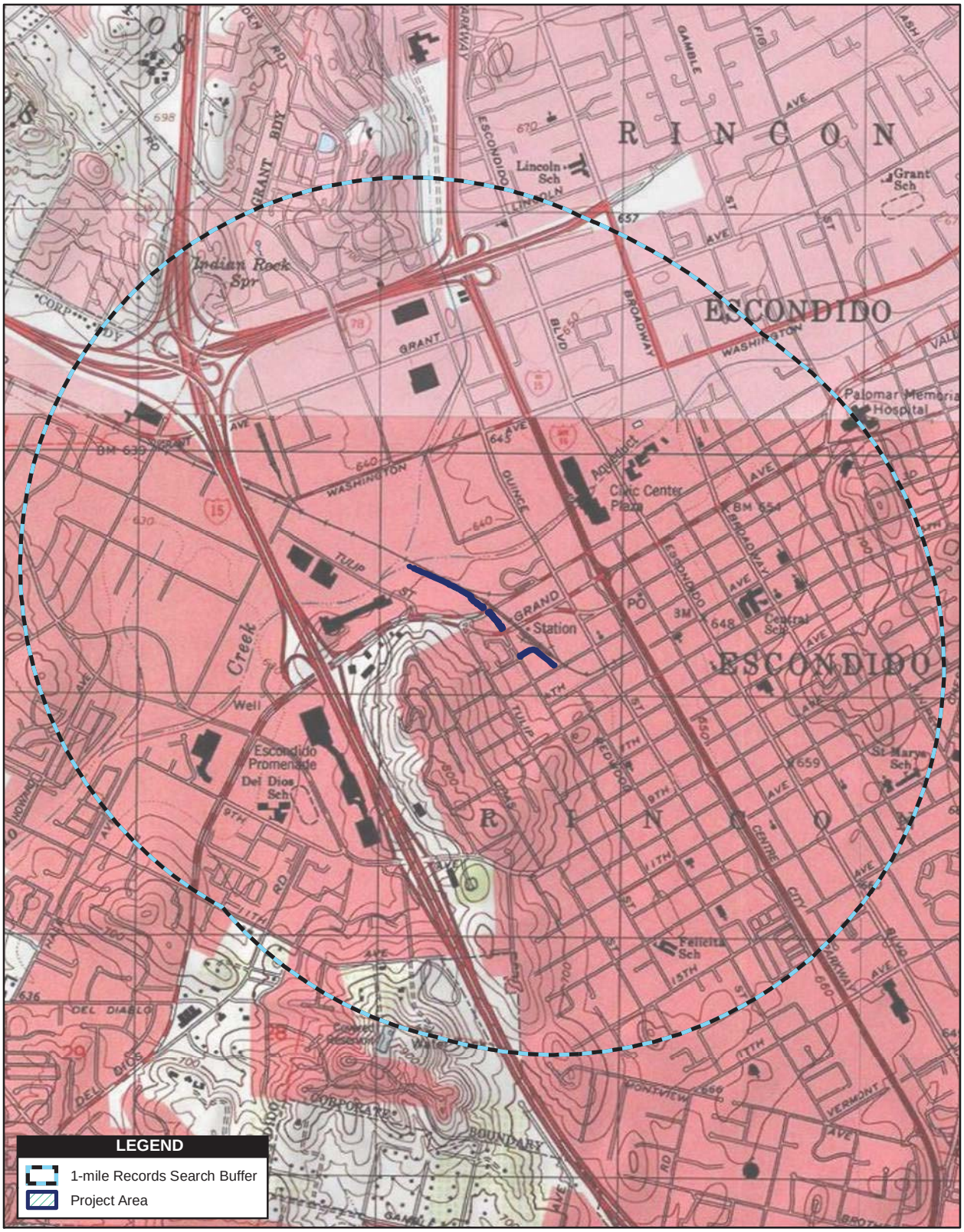


Figure 1
Regional Map



Source: SanGIS 2012, 2014; City of Escondido 2010

0 2,000 4,000 Feet

Scale - 1:24,000 ; 1 inch = 2,000 feet

Figure 2
Records Search

Path: P:\2014\60313771_Esc_MissionP\900-CAD-GIS\920 GIS\922_Maps\Cultural\Cultural_RS20150630.mxd, 6/30/2015, droesslerr

NATIVE AMERICAN HERITAGE COMMISSION
1550 Harbor Blvd., ROOM 100
West SACRAMENTO, CA 95691
(916) 373-3710
Fax (916) 373-5471

October 2, 2015

Rachel Droessler
AECOM
401 West A Street, Suite 1200
San Diego, CA 92101

Email to: aecom.com

Re: Spruce Street Drainage Improvements Project, San Diego County.

Dear Ms. Droessler,

A record search of the Native American Heritage Commission (NAHC) *Sacred Lands File* was completed for the area of potential project effect (APE) for the project referenced above. The search indicates the potential of Native American cultural resources in the Escondido Quadrangle that may be impacted. For specific information regarding this site, please contact the San Luis Rey Band of Mission Indians on the San Diego County list.

The absence of specific site information in the *Sacred Lands File* does not indicate the absence of Native American cultural resources in any APE. Other sources of cultural resources information should be contacted regarding known and recorded sites. Please contact all of the people on the attached *Native American Contact List.* The list should provide a starting place to locate areas of potential adverse impact within the APE. I suggest you contact all of those listed, if they cannot supply information, they might recommend others with specific knowledge. By contacting all those on the list, your organization will be better able to respond to claims of failure to consult. If a response has not been received within two weeks of notification, the NAHC requests that you follow-up with a telephone call to ensure that the project information has been received

If you receive notification of change of addresses and phone numbers from any of these individuals or groups, please notify me. With your assistance we are able to assure that our lists contain current information. If you have any questions or need additional information, please contact me at my email address: Katy.Sanchez@nahc.ca.gov.

Sincerely,

Katy Sanchez

Katy Sanchez
Associate Government Program Analyst

Native American Contact List
San Diego County
October 1, 2015

Pala Band of Mission Indians
Shasta Gaughen, PhD, THPO
PMB 50, 35008 Pala-Temecula Luiseno
Pala , CA 92059 Cupeno
sgaughen@palatribe.com
(760) 891-3515

(760) 742-3189 Fax

Pauma & Yuima Reservation
Temet Aguilar, Chairperson
P.O. Box 369 Luiseno
Pauma Valley, CA 92061
(760) 742-1289

(760) 742-3422 Fax

Pechanga Band of Mission Indians
Paul Macarro, Cultural Resources Manager
P.O. Box 1477 Luiseno
Temecula , CA 92593
pmacarro@pechanga-nsn.gov
(951) 770-8100

(951) 506-9491 Fax

Rincon Band of Mission Indians
Jim McPherson, Tribal Historic Pres. Officer
1 West Tribal Road Luiseno
Valley Center, CA 92082
vwhipple@rincontribe.org
(760) 297-2635

(760) 297-2639 Fax

Soboba Band of Mission Indians
Rosemary Morillo, Chairperson; Attn: Carrie Garcia
P.O. Box 487 Luiseno
San Jacinto , CA 92581 Cahuilla
carrieg@soboba-nsn.gov
(951) 654-2765

(951) 654-4198 Fax

Pauma Valley Band of Luiseño Indians
Bennae Calac
P.O. Box 369 Luiseno
Pauma Valley, CA 92061
bennaecalac@aol.com
(760) 617-2872

(760) 742-3422 Fax

Rincon Band of Mission Indians
Bo Mazzetti, Chairperson
1 West Tribal Road Luiseno
Valley Center, CA 92082
bomazzetti@aol.com
(760) 749-1051

(760) 749-8901 Fax

San Luis Rey Band of Mission Indians
Tribal Council
1889 Sunset Drive Luiseno
Vista , CA 92081
cjmojado@slrmissionindians.org
(760) 724-8505

(760) 724-2172 Fax

This list is current only as of the date of this document.

Distribution of this list does not relieve any person of the statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code and Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans with regard to cultural resources for the proposed Spruce Street Drainage Improvements Project, San Diego County.

Native American Contact List
San Diego County
October 1, 2015

San Luis Rey Band of Mission Indians
Cultural Department
1889 Sunset Drive — Luiseno
Vista , CA 92081 — Cupeno
cjmojado@slrmissionindians.org
(760) 724-8505

(760) 724-2172 Fax

Pechanga Band of Mission Indians
Mark Macarro, Chairperson
P.O. Box 1477 — Luiseno
Temecula , CA 92593
mgoodhart@pechanga-nsn.
(951) 770-6100

(951) 695-1778 Fax

La Jolla Band of Mission Indians
Lavonne Peck, Chairwoman
22000 Highway 76 — Luiseno
Pauma Valley CA 92061
Rob.roy@lajolla-nsn.gov
(760) 742-3771

(760) 742-1704 Fax

Pauma & Yuima Reservation
Charles Devers, Cultural Committee
P.O. Box 369 — Luiseno
Pauma Valley CA 92061
(760) 742-1289

(760) 742-3422 Fax

Soboba Band of Luiseno Indians
Joseph Ontiveros, Cultural Resource Department
P.O. BOX 487 — Luiseno
San Jacinto , CA 92581 — Cahuilla
jontiveros@soboba-nsn.gov
(951) 663-5279
(951) 654-5544, ext 4137
(951) 654-4198 Fax

This list is current only as of the date of this document.

Distribution of this list does not relieve any person of the statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code and Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans with regard to cultural resources for the proposed Spruce Street Drainage Improvements Project, San Diego County.

ESCONDIDO
City of Choice

Barbara J. Redlitz, AICP
Director of Community Development
Housing Division
201 North Broadway, Escondido, CA 92025
Phone: 760-839-4671 Fax: 760-839-4313

August 18, 2015

BY EMAIL AND U. S. MAIL

Rincon Band of Luiseno Indians
Jim McPherson
Cultural Resources
1 West Tribal Road
Valley Center, CA 92082
jmcpherson@rincontribe.org

RE: Assembly Bill 52 Notification
Spruce Street Drainage Improvement - Escondido
City Case Number: ENV15-0010

Dear Mr. McPherson:

We have received a written request from your tribal band for notification regarding proposed projects within the City of Escondido. In accordance with the provisions of California Assembly Bill 52, the purpose of this letter is to provide notification of the proposed development project described below. The City of Escondido will serve as the lead agency under the California Environmental Quality Act (CEQA) for the project.

Project Description:

The project proposes to make improvements to the existing Spruce Street storm water conveyance channel in order to address existing flooding and vector control issues.

The proposed project includes:

- clearing excessive vegetation overgrowth (including invasive, non-native species) and accumulated sediment within the storm water conveyance network;
- integrating new slope and bottom configuration designs for the earthen channels to increase conveyance capacity while integrating appropriate plantings for slope stability;
- modifying structural components within culverts for improved hydraulic performance and reduced sedimentation fallout;
- constructing manhole openings for improved access for maintenance of the portion of the channel underneath Spruce Street; and
- minor erosion control measures.

Improvements within the channel are not expected to extend beyond the original limits of the channel.

Location:
See the attached reference map. The project site begins at West 3rd Avenue east of Spruce Street, with the channel continuing along and under Spruce Street until the project portion of the channel connects with the City's existing flood control channel.

Pursuant to Government Code Section 21080.3.1, subdivision (d), please respond in writing within 30 days of the date of this notice if your tribe requests a formal consultation with the City regarding this matter. Please contact Jay Paul, Associate Planner, at 760-839-4537 or jpaul@escondido.org for more information.

Sincerely,

Elisa Marrone, AICP
Environmental Programs Specialist

RINCON BAND OF LUISEÑO INDIANS

Culture Committee

1 W. Tribal Road · Valley Center, California 92082 ·
(760) 297-2621 or·(760) 297-2622 & Fax:(760) 749-8901

October 23, 2015

Cheryl Bowden-Renna
AECOM
401 west A Street, Suite 1200
San Diego, CA 92101

Re: S. Spruce Street Drainage Improvements

Dear Ms. Bowden-Renna:

This letter is written on behalf of the Rincon Band of Luiseño Indians. We received your notification and we thank you for the consultation on S. Spruce Street Drainage Improvements Project. The location you have identified is within the Aboriginal Territory of the Luiseño people, and is also within Rincon's historic boundaries.

Due to the nature and location of this project no further consultation is necessary at this time.

If there are any questions or concerns please do not hesitate to contact the Rincon Cultural Resources Department at (760) 297-2635 and they will be happy to assist you.

Thank you for the consideration and the opportunity to protect and preserve our cultural assets.

Sincerely,

Jim McPherson
Manager
Rincon Cultural Resources Department

ESCONDIDO
City of Choice

Barbara J. Redlitz, AICP
Director of Community Development
Housing Division
201 North Broadway, Escondido, CA 92025
Phone: 760-839-4671 Fax: 760-839-4313

August 18, 2015

BY EMAIL AND U. S. MAIL

San Luis Rey Band of Mission Indians
Cami Mojado, Cultural Resources Manager
1889 Sunset Drive
Vista, CA 92081
cjmojado@slrmissionindians.org

RE: Assembly Bill 52 Notification
Spruce Street Drainage Improvement - Escondido
City Case Number: ENV15-0010

Dear Ms. Mojado:

We have received a written request from your tribal band for notification regarding proposed projects within the City of Escondido. In accordance with the provisions of California Assembly Bill 52, the purpose of this letter is to provide notification of the proposed development project described below. The City of Escondido will serve as the lead agency under the California Environmental Quality Act (CEQA) for the project.

Project Description:

The project proposes to make improvements to the existing Spruce Street storm water conveyance channel in order to address existing flooding and vector control issues.

The proposed project includes:

- clearing excessive vegetation overgrowth (including invasive, non-native species) and accumulated sediment within the storm water conveyance network;
- integrating new slope and bottom configuration designs for the earthen channels to increase conveyance capacity while integrating appropriate plantings for slope stability;
- modifying structural components within culverts for improved hydraulic performance and reduced sedimentation fallout;
- constructing manhole openings for improved access for maintenance of the portion of the channel underneath Spruce Street; and
- minor erosion control measures.

Improvements within the channel are not expected to extend beyond the original limits of the channel.

Location:
See the attached reference map. The project site begins at West 3rd Avenue east of Spruce Street, with the channel continuing along and under Spruce Street until the project portion of the channel connects with the City's existing flood control channel.

Pursuant to Government Code Section 21080.3.1, subdivision (d), please respond in writing within 30 days of the date of this notice if your tribe requests a formal consultation with the City regarding this matter. Please contact Jay Paul, Associate Planner, at 760-839-4537 or jpaul@escondido.org for more information.

Sincerely,

Elisa Marrone, AICP
Environmental Programs Specialist

ESCONDIDO
City of Choice

Barbara J. Redlitz, AICP
Director of Community Development
Housing Division
201 North Broadway, Escondido, CA 92025
Phone: 760-839-4671 Fax: 760-839-4313

August 18, 2015

BY EMAIL AND U. S. MAIL

Soboba Band Luiseno Indians
Joseph Ontiveros, Cultural Resource Director
PO Box 487
San Jacinto, CA 92581
jontiveros@soboba-nsn.gov

RE: Assembly Bill 52 Notification
Spruce Street Drainage Improvement - Escondido
City Case Number: ENV15-0010

Dear Mr. Ontiveros:

We have received a written request from your tribal band for notification regarding proposed projects within the City of Escondido. In accordance with the provisions of California Assembly Bill 52, the purpose of this letter is to provide notification of the proposed development project described below. The City of Escondido will serve as the lead agency under the California Environmental Quality Act (CEQA) for the project.

Project Description:

The project proposes to make improvements to the existing Spruce Street storm water conveyance channel in order to address existing flooding and vector control issues.

The proposed project includes:

- clearing excessive vegetation overgrowth (including invasive, non-native species) and accumulated sediment within the storm water conveyance network;
- integrating new slope and bottom configuration designs for the earthen channels to increase conveyance capacity while integrating appropriate plantings for slope stability;
- modifying structural components within culverts for improved hydraulic performance and reduced sedimentation fallout;
- constructing manhole openings for improved access for maintenance of the portion of the channel underneath Spruce Street; and
- minor erosion control measures.

Improvements within the channel are not expected to extend beyond the original limits of the channel.

Location:
See the attached reference map. The project site begins at West 3rd Avenue east of Spruce Street, with the channel continuing along and under Spruce Street until the project portion of the channel connects with the City's existing flood control channel.

Pursuant to Government Code Section 21080.3.1, subdivision (d), please respond in writing within 30 days of the date of this notice if your tribe requests a formal consultation with the City regarding this matter. Please contact Jay Paul, Associate Planner, at 760-839-4537 or jpaul@escondido.org for more information.

Sincerely,

Elisa Marrone

Elisa Marrone, AICP
Environmental Programs Specialist

SOBOBA BAND OF LUISEÑO INDIANS
EST. JUNE 19, 1883

September 14, 2015

Attn: Elisa Marrone, AICP, Environmental Programs Specialist
City of Escondido
Planning Division
201 North Broadway
Escondido, CA 92025

Re: AB 52 Consultation; Spruce Street Drainage Improvement – Escondido
City Case Number: ENV 15-0010

The Soboba Band of Luiseño Indians has received your notification pursuant under Assembly Bill 52.

The Soboba Band of Luiseño Indians appreciates your observance of Tribal Cultural Resources and their preservation in your project. The information provided to us on said project(s) has been assessed through our Cultural Resource Department. At this time the Soboba Band does not have any specific concerns regarding known cultural resources in the specified areas that the project encompasses, but does request that the appropriate consultation continue to take place between concerned tribes, project proponents, and local agencies.

Also, working in and around traditional use areas intensifies the possibility of encountering cultural resources during any future construction/excavation phases that may take place. For this reason, the Soboba Band wishes to defer to the Pauma Band of Luiseño Indians and the Rincon Band of Luiseño Indians, who are in closer proximity to the project. Please feel free to contact me with any additional questions or concerns.

Sincerely,

Joseph Ontiveros
Cultural Resource Director
Soboba Band of Luiseño Indians
P.O. Box 487
San Jacinto, CA 92581
Phone (951) 654-5544 ext. 4137
Cell (951) 663-5279
jontiveros@soboba-nsn.gov

AECOM
401 West A Street
Suite 1200
San Diego, CA 92101
www.aecom.com

619.610.7600 tel
619.610.7601 fax

October 16, 2015

Ternet Aguilar, Chairperson
Pauma & Yuima Reservation
P.O. Box 369
Pauma Valley, California 92061

Dear Mr. Aguilar:

The City of Escondido is proposing drainage improvements along the channelized portion of Escondido Creek, along South Spruce Street (see map - attached). The channel (the proposed project area) begins north of the intersection of South Spruce Street and West 3rd Avenue as a concrete-lined channel and conveys drainage west (downstream) before going underground at South Spruce Street. The channel re-immerges west of the intersection of West Grand Avenue and South Spruce Street as an earthen channel and flows west through a short culvert under West Valley Parkway, and continues until it drains into Escondido Creek (a concrete-lined flood-control channel). The proposed project area is bounded to the west by the Escondido Creek flood channel, on the east by West 3rd Avenue, on the north by the North County Transit District railroad (primarily the Escondido Transit Center) and various commercial properties, and to the south by an existing small commercial strip mall and various industrial buildings.

The proposed project includes a combination of construction activities that are scheduled to begin in May of 2016. Drainage improvement activities are described below and include repairs and improvements such as removing silt and vegetation through the following measures:

- concrete and earthen channel dredging;
- culvert clean-out;
- installation of permanent manholes, concrete wingwalls, and sediment traps;
- vegetation clearing and trimming;
- access road clearing; and
- revegetation using drought-tolerant native plants.

The purpose of this letter is to notify you of this project and to solicit your input. We would like to know if you have any questions, comments, or concerns regarding this project A project map, a reply form, and a self-addressed stamped envelope have been included for your convenience. Providing comments now does not limit your ability to comment at a later time. Please write or call by October 30, 2015 so that we may include your views in our report.

Sincerely,

Cheryl Bowden-Renna
Archaeologist
cheryl.bowden-renna@aecom.com
619-610-7625

Enclosure: Map
Response form
Stamped reply envelope

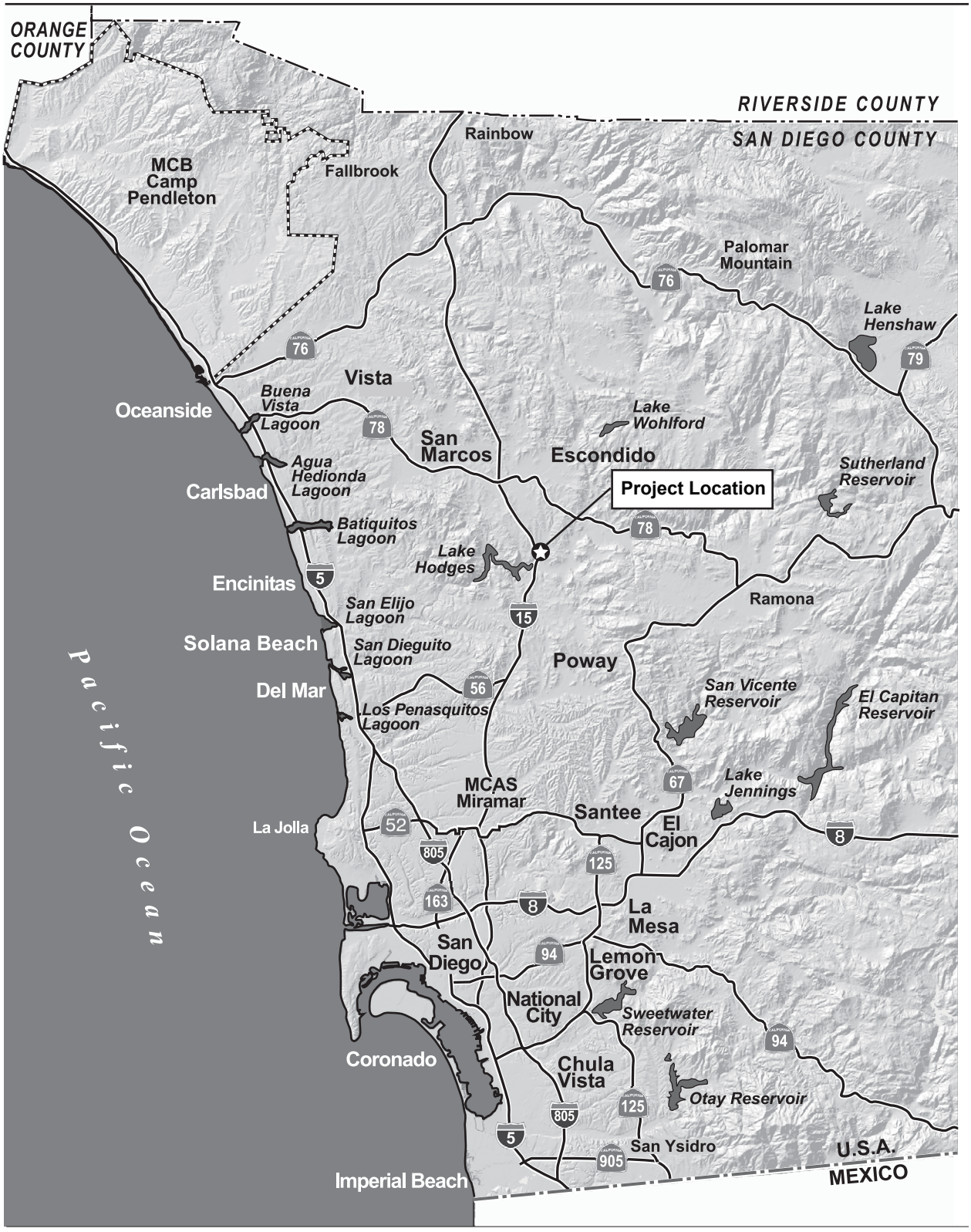
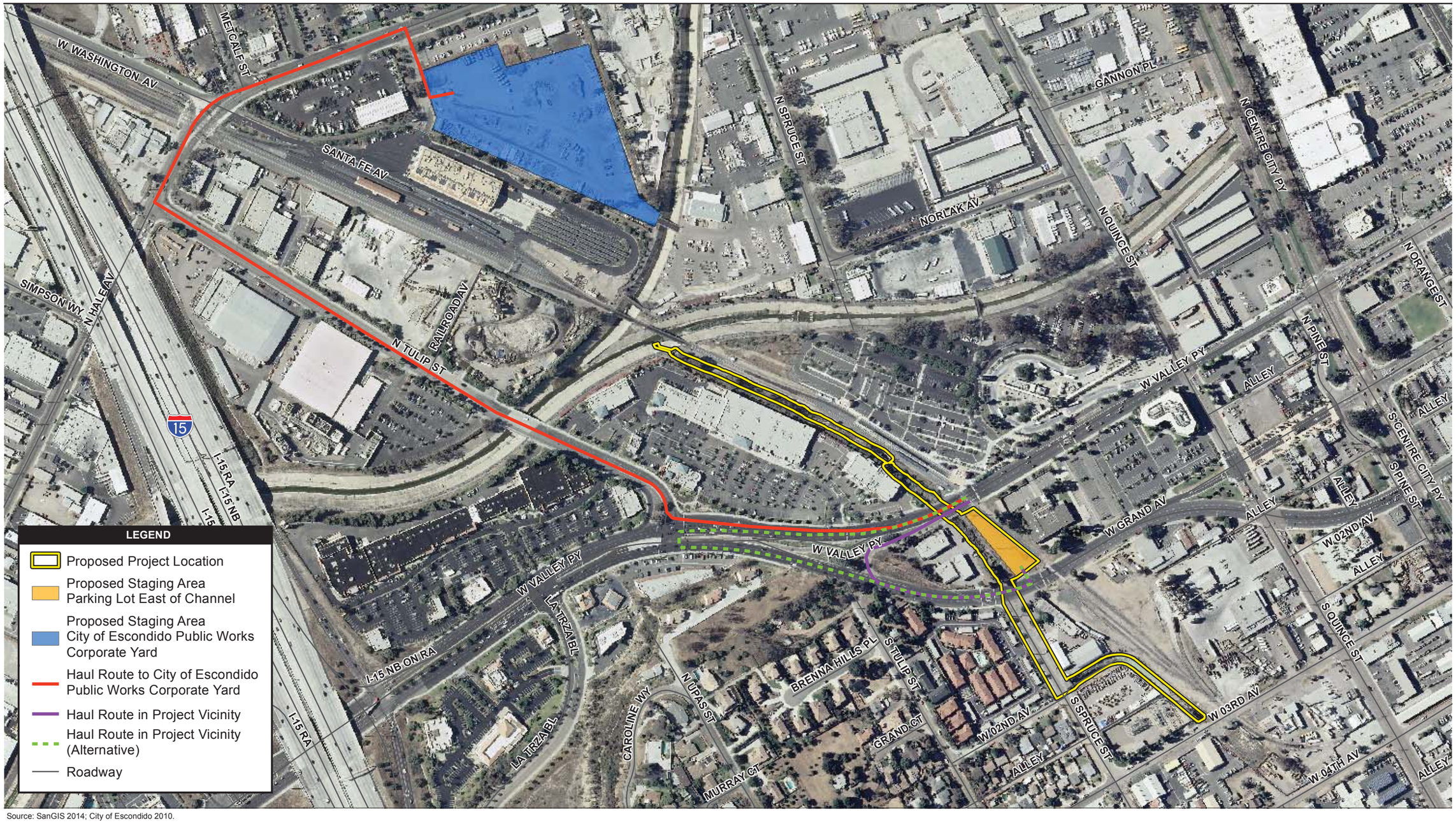


Figure 1
Regional Map



Source: SanGIS 2014; City of Escondido 2010.

350 175 0 350 Feet

Scale: 1:4,200; 1 inch = 350 feet

Figure 2
Proposed Project Location

Path: P:\2014\60313771_Esc_MissionP\900-CAD-GIS\920 GIS\922_Maps\SpruceStreet_IS_MND\Project_Location.mxd, 8/10/2015, Daniel_Arellano

CONTACT PROGRAM RESPONSE FORM
CITY OF ESCONDIDO SPRUCE STREET DRAINAGE IMPROVEMENTS (60313771)

Ternet Aguilar, Chairperson
Pauma & Yuima Reservation
P.O. Box 369
Pauma Valley, California 92061

Please check all that apply:

- ❑ Please call me to discuss the project further; my day-time phone number is (_____)_____

  or my evening phone number is (_____)_____

- ❑ I have further comments as provided below

- ❑ I do not have any comments

Comments:

_____

_____

_____

_____

_____

_____

_____

_____

_____

Signature:

_____ _____
Ternet Aguilar, Chairperson Date

AECOM
401 West A Street
Suite 1200
San Diego, CA 92101
www.aecom.com

619.610.7600 tel
619.610.7601 fax

October 16, 2015

Bennae Calac
Pauma Valley Band of Luiseño Indians
P.O. Box 369
Pauma Valley, California 92061

Dear Ms. Calac:

The City of Escondido is proposing drainage improvements along the channelized portion of Escondido Creek, along South Spruce Street (see map - attached). The channel (the proposed project area) begins north of the intersection of South Spruce Street and West 3rd Avenue as a concrete-lined channel and conveys drainage west (downstream) before going underground at South Spruce Street. The channel re-immerges west of the intersection of West Grand Avenue and South Spruce Street as an earthen channel and flows west through a short culvert under West Valley Parkway, and continues until it drains into Escondido Creek (a concrete-lined flood-control channel). The proposed project area is bounded to the west by the Escondido Creek flood channel, on the east by West 3rd Avenue, on the north by the North County Transit District railroad (primarily the Escondido Transit Center) and various commercial properties, and to the south by an existing small commercial strip mall and various industrial buildings.

The proposed project includes a combination of construction activities that are scheduled to begin in May of 2016. Drainage improvement activities are described below and include repairs and improvements such as removing silt and vegetation through the following measures:

- concrete and earthen channel dredging;
- culvert clean-out;
- installation of permanent manholes, concrete wingwalls, and sediment traps;
- vegetation clearing and trimming;
- access road clearing; and
- revegetation using drought-tolerant native plants.

The purpose of this letter is to notify you of this project and to solicit your input. We would like to know if you have any questions, comments, or concerns regarding this project A project map, a reply form, and a self-addressed stamped envelope have been included for your convenience. Providing comments now does not limit your ability to comment at a later time. Please write or call by October 30, 2015 so that we may include your views in our report.

Sincerely,

Cheryl Bowden-Renna
Archaeologist
cheryl.bowden-renna@aecom.com
619-610-7625

Enclosure: Map
Response form
Stamped reply envelope

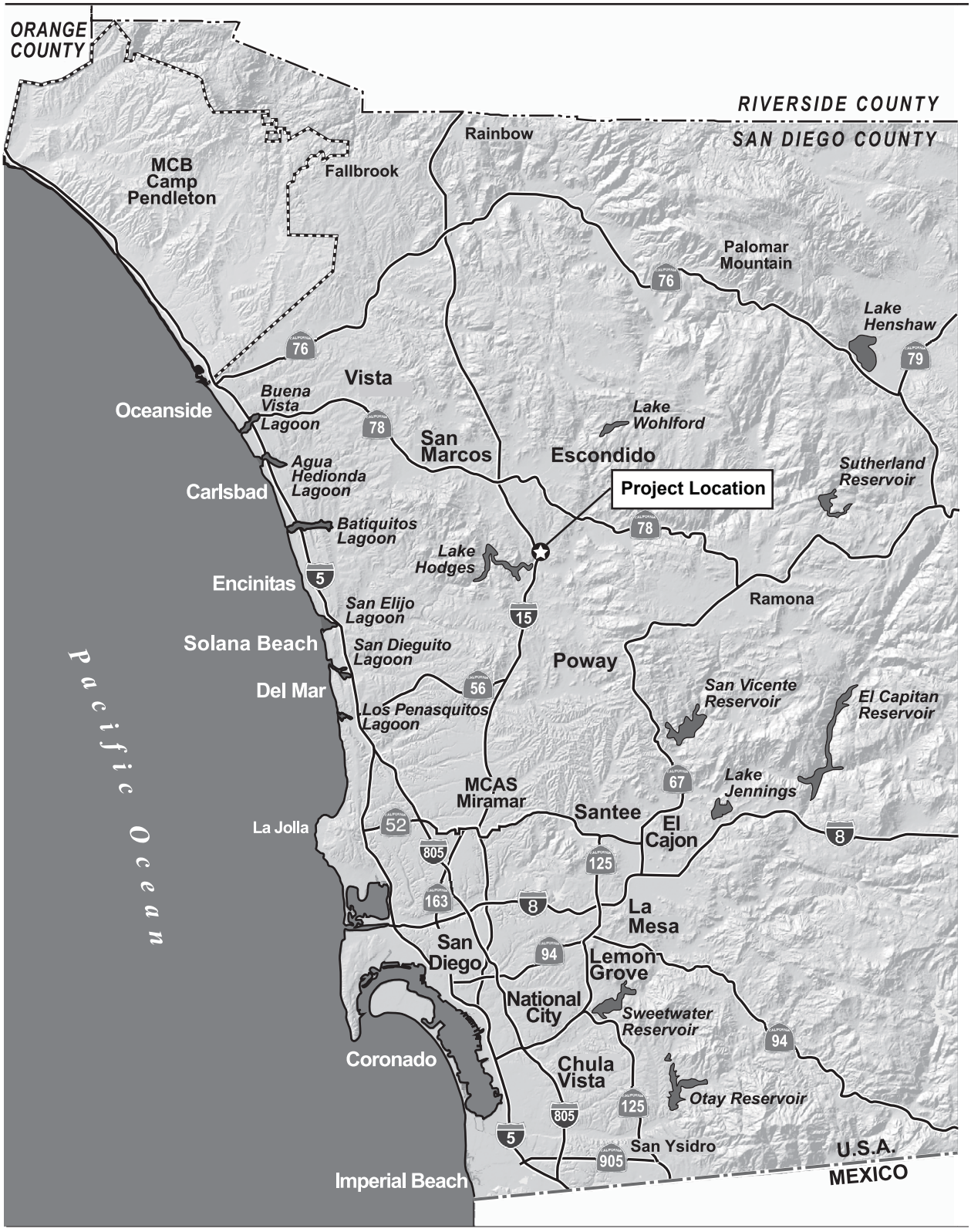
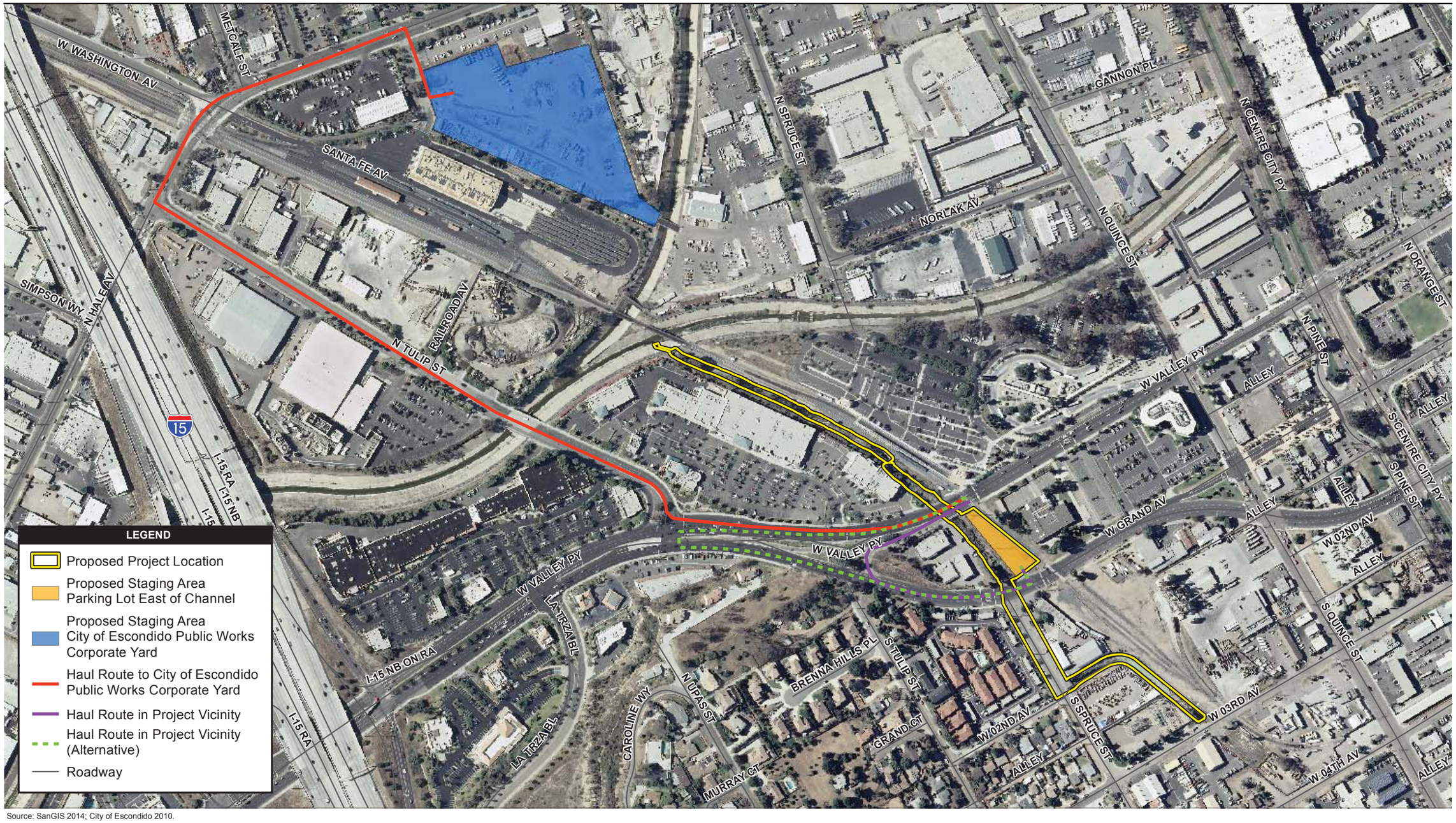


Figure 1
Regional Map



Source: SanGIS 2014; City of Escondido 2010.

350 175 0 350 Feet

Scale: 1:4,200; 1 inch = 350 feet

Figure 2
Proposed Project Location

Path: P:\2014\60313771_Esc_MissionP\900-CAD-GIS\920 GIS\922_Maps\SpruceStreet_IS_MND\Project_Location.mxd, 8/10/2015, Daniel_Arellano

CONTACT PROGRAM RESPONSE FORM
CITY OF ESCONDIDO SPRUCE STREET DRAINAGE IMPROVEMENTS (60313771)

Bennae Calac
Pauma Valley Band of Luiseño Indians
P.O. Box 369
Pauma Valley, California 92061

Please check all that apply:

- ❑ Please call me to discuss the project further; my day-time phone number is (_____)_____

  or my evening phone number is (_____)_____

- ❑ I have further comments as provided below

- ❑ I do not have any comments

Comments:

_____

_____

_____

_____

_____

_____

_____

_____

_____

Signature:

_____ _____
Bennae Calac Date

AECOM
401 West A Street
Suite 1200
San Diego, CA 92101
www.aecom.com

619.610.7600 tel
619.610.7601 fax

October 16, 2015

Charles Devers, Cultural Committee
Pauma & Yuima Reservation
P.O. Box 369
Pauma Valley, California 92061

Dear Mr. Devers:

The City of Escondido is proposing drainage improvements along the channelized portion of Escondido Creek, along South Spruce Street (see map - attached). The channel (the proposed project area) begins north of the intersection of South Spruce Street and West 3rd Avenue as a concrete-lined channel and conveys drainage west (downstream) before going underground at South Spruce Street. The channel re-immerges west of the intersection of West Grand Avenue and South Spruce Street as an earthen channel and flows west through a short culvert under West Valley Parkway, and continues until it drains into Escondido Creek (a concrete-lined flood-control channel). The proposed project area is bounded to the west by the Escondido Creek flood channel, on the east by West 3rd Avenue, on the north by the North County Transit District railroad (primarily the Escondido Transit Center) and various commercial properties, and to the south by an existing small commercial strip mall and various industrial buildings.

The proposed project includes a combination of construction activities that are scheduled to begin in May of 2016. Drainage improvement activities are described below and include repairs and improvements such as removing silt and vegetation through the following measures:

- concrete and earthen channel dredging;
- culvert clean-out;
- installation of permanent manholes, concrete wingwalls, and sediment traps;
- vegetation clearing and trimming;
- access road clearing; and
- revegetation using drought-tolerant native plants.

The purpose of this letter is to notify you of this project and to solicit your input. We would like to know if you have any questions, comments, or concerns regarding this project A project map, a reply form, and a self-addressed stamped envelope have been included for your convenience. Providing comments now does not limit your ability to comment at a later time. Please write or call by October 30, 2015 so that we may include your views in our report.

Sincerely,

Cheryl Bowden-Renna
Archaeologist
cheryl.bowden-renna@aecom.com
619-610-7625

Enclosure: Map
Response form
Stamped reply envelope

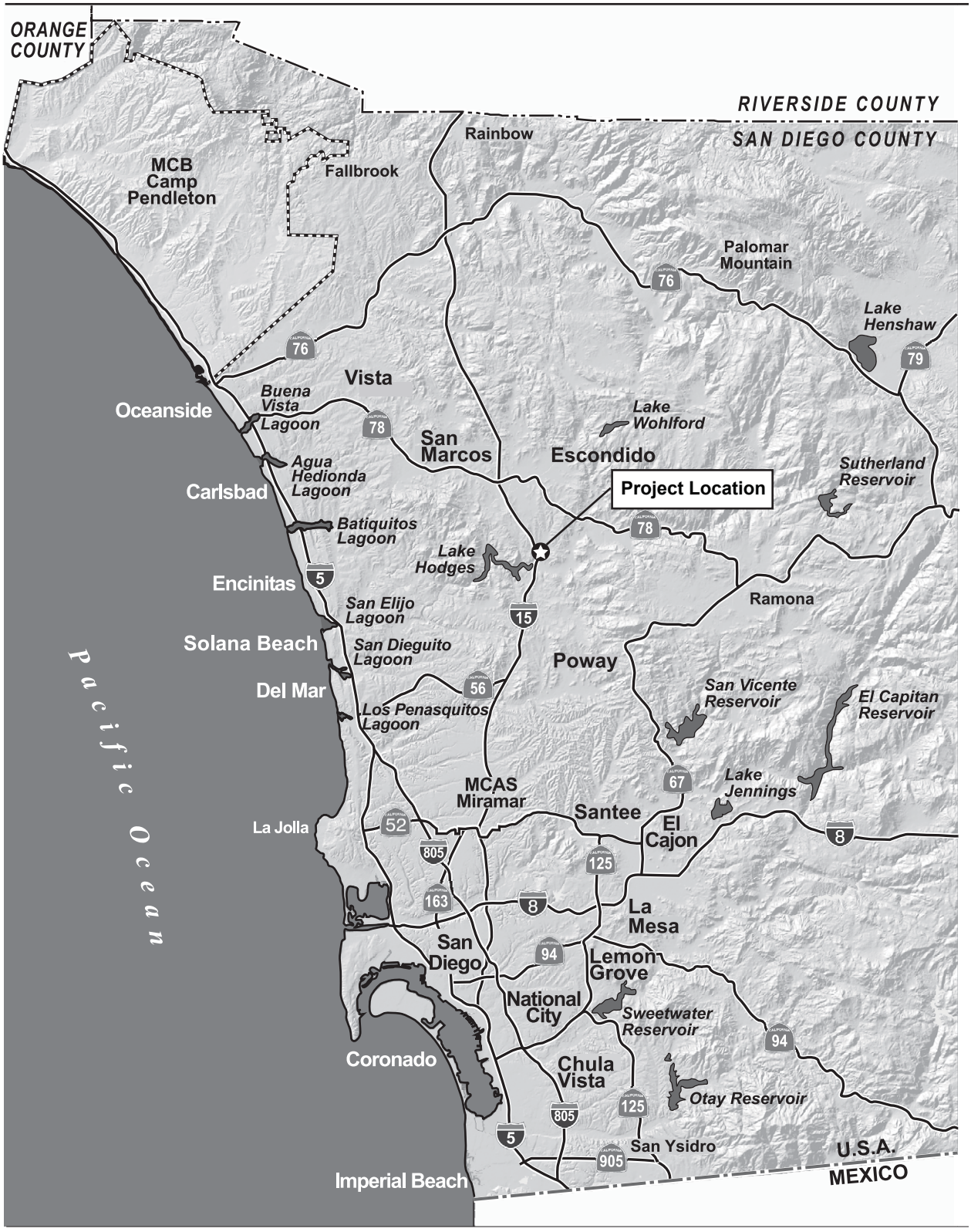
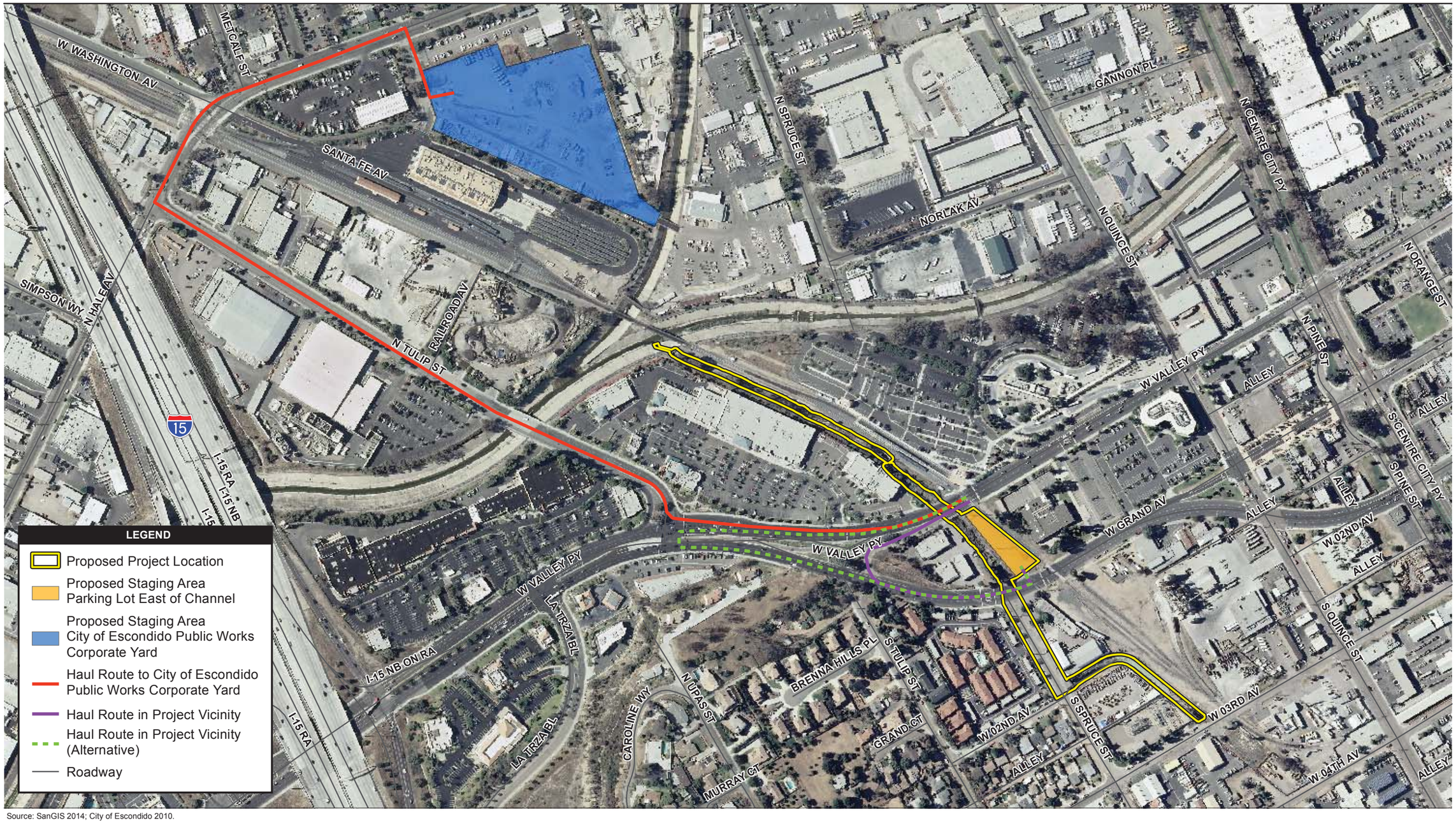


Figure 1
Regional Map



Source: SanGIS 2014; City of Escondido 2010.

350 175 0 350 Feet

Scale: 1:4,200; 1 inch = 350 feet

Figure 2
Proposed Project Location

Path: P:\2014\60313771_Esc_MissionP\900-CAD-GIS\920 GIS\922_Maps\SpruceStreet_IS_MND\Project_Location.mxd, 8/10/2015, Daniel_Arellano

CONTACT PROGRAM RESPONSE FORM
CITY OF ESCONDIDO SPRUCE STREET DRAINAGE IMPROVEMENTS (60313771)

Charles Devers, Cultural Committee
Pauma & Yuima Reservation
P.O. Box 369
Pauma Valley, California 92061

Please check all that apply:

- ❑ Please call me to discuss the project further; my day-time phone number is (_____)_____

  or my evening phone number is (_____)_____

- ❑ I have further comments as provided below

- ❑ I do not have any comments

Comments:

_____

_____

_____

_____

_____

_____

_____

_____

_____

Signature:

_____ _____
Charles Devers, Cultural Committee Date

AECOM
401 West A Street
Suite 1200
San Diego, CA 92101
www.aecom.com

619.610.7600 tel
619.610.7601 fax

October 16, 2015

Shasta Gaughen, Ph.D., THPO
Pala Band of Mission Indians
PMB 50, 35008 Pala Temecula
Pala, California 92059

Dear Dr. Gaughen:

The City of Escondido is proposing drainage improvements along the channelized portion of Escondido Creek, along South Spruce Street (see map - attached). The channel (the proposed project area) begins north of the intersection of South Spruce Street and West 3rd Avenue as a concrete-lined channel and conveys drainage west (downstream) before going underground at South Spruce Street. The channel re-immerges west of the intersection of West Grand Avenue and South Spruce Street as an earthen channel and flows west through a short culvert under West Valley Parkway, and continues until it drains into Escondido Creek (a concrete-lined flood-control channel). The proposed project area is bounded to the west by the Escondido Creek flood channel, on the east by West 3rd Avenue, on the north by the North County Transit District railroad (primarily the Escondido Transit Center) and various commercial properties, and to the south by an existing small commercial strip mall and various industrial buildings.

The proposed project includes a combination of construction activities that are scheduled to begin in May of 2016. Drainage improvement activities are described below and include repairs and improvements such as removing silt and vegetation through the following measures:

- concrete and earthen channel dredging;
- culvert clean-out;
- installation of permanent manholes, concrete wingwalls, and sediment traps;
- vegetation clearing and trimming;
- access road clearing; and
- revegetation using drought-tolerant native plants.

The purpose of this letter is to notify you of this project and to solicit your input. We would like to know if you have any questions, comments, or concerns regarding this project A project map, a reply form, and a self-addressed stamped envelope have been included for your convenience. Providing comments now does not limit your ability to comment at a later time. Please write or call by October 30, 2015 so that we may include your views in our report.

Sincerely,

Cheryl Bowden-Renna
Archaeologist
cheryl.bowden-renna@aecom.com
619-610-7625

Enclosure: Map
Response form
Stamped reply envelope

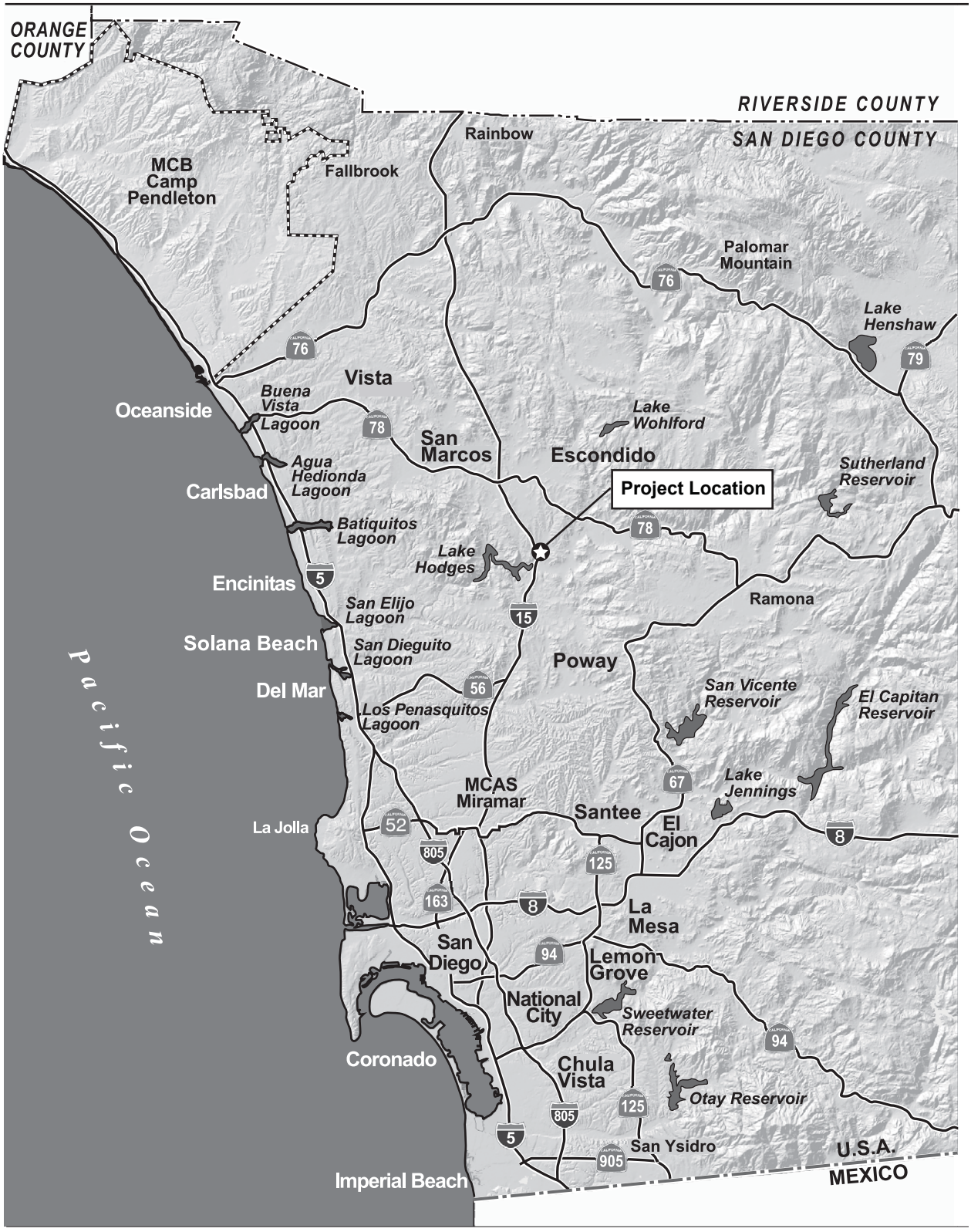
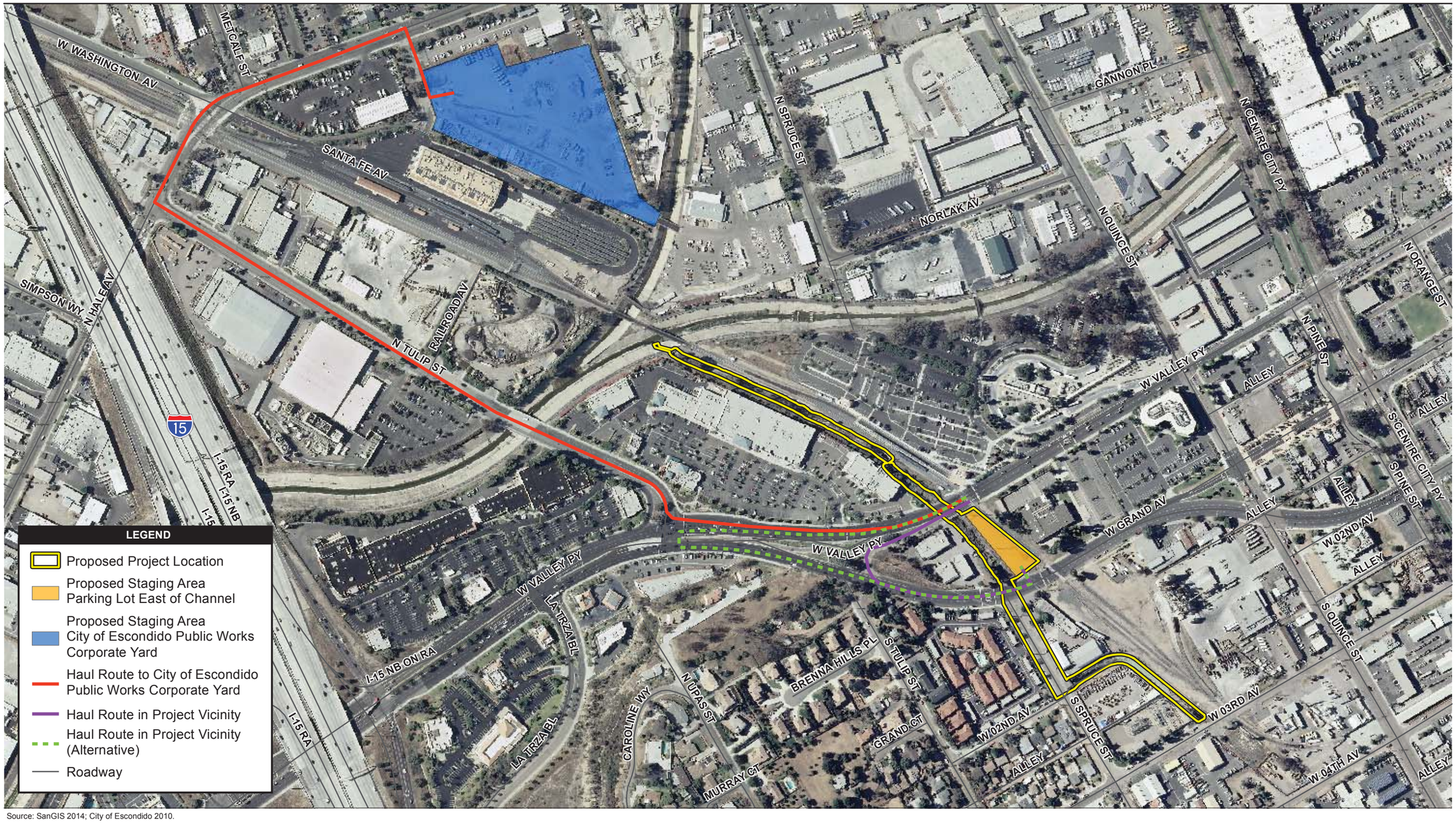


Figure 1
Regional Map



Source: SanGIS 2014; City of Escondido 2010.

350 175 0 350 Feet

Scale: 1:4,200; 1 inch = 350 feet

Figure 2
Proposed Project Location

Path: P:\2014\60313771_Esc_MissionP\900-CAD-GIS\920 GIS\922_Maps\SpruceStreet_IS_MND\Project_Location.mxd, 8/10/2015, Daniel_Arellano

CONTACT PROGRAM RESPONSE FORM
CITY OF ESCONDIDO SPRUCE STREET DRAINAGE IMPROVEMENTS (60313771)

Shasta Gaughen, Ph.D., THPO
Pala Band of Mission Indians
PMB 50, 35008 Pala Temecula
Pala, California 92059

Please check all that apply:

- ❑ Please call me to discuss the project further; my day-time phone number is (_____)_____

  or my evening phone number is (_____)_____

- ❑ I have further comments as provided below

- ❑ I do not have any comments

Comments:

_____

_____

_____

_____

_____

_____

_____

_____

_____

Signature:

_____ _____
Shasta Gaughen, Ph.D., THPO Date

AECOM
401 West A Street
Suite 1200
San Diego, CA 92101
www.aecom.com

619.610.7600 tel
619.610.7601 fax

October 16, 2015

Mark Macarro, Chairperson
Pechanga Band of Mission Indians
P.O. Box 1477
Temecula, California 92593

Dear Mr. Macarro:

The City of Escondido is proposing drainage improvements along the channelized portion of Escondido Creek, along South Spruce Street (see map - attached). The channel (the proposed project area) begins north of the intersection of South Spruce Street and West 3rd Avenue as a concrete-lined channel and conveys drainage west (downstream) before going underground at South Spruce Street. The channel re-immerges west of the intersection of West Grand Avenue and South Spruce Street as an earthen channel and flows west through a short culvert under West Valley Parkway, and continues until it drains into Escondido Creek (a concrete-lined flood-control channel). The proposed project area is bounded to the west by the Escondido Creek flood channel, on the east by West 3rd Avenue, on the north by the North County Transit District railroad (primarily the Escondido Transit Center) and various commercial properties, and to the south by an existing small commercial strip mall and various industrial buildings.

The proposed project includes a combination of construction activities that are scheduled to begin in May of 2016. Drainage improvement activities are described below and include repairs and improvements such as removing silt and vegetation through the following measures:

- concrete and earthen channel dredging;
- culvert clean-out;
- installation of permanent manholes, concrete wingwalls, and sediment traps;
- vegetation clearing and trimming;
- access road clearing; and
- revegetation using drought-tolerant native plants.

The purpose of this letter is to notify you of this project and to solicit your input. We would like to know if you have any questions, comments, or concerns regarding this project A project map, a reply form, and a self-addressed stamped envelope have been included for your convenience. Providing comments now does not limit your ability to comment at a later time. Please write or call by October 30, 2015 so that we may include your views in our report.

Sincerely,

Cheryl Bowden-Renna
Archaeologist
cheryl.bowden-renna@aecom.com
619-610-7625

Enclosure: Map
Response form
Stamped reply envelope

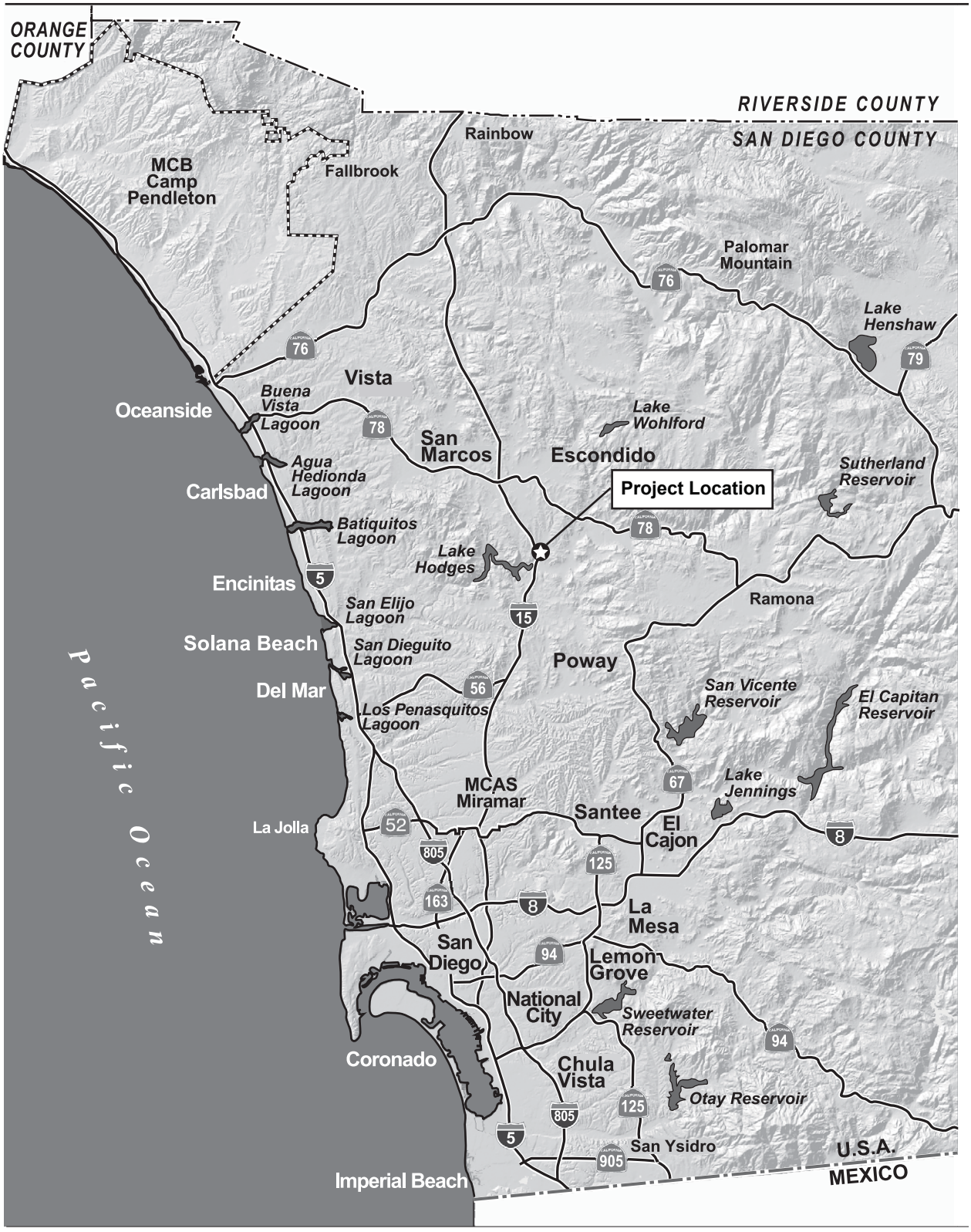
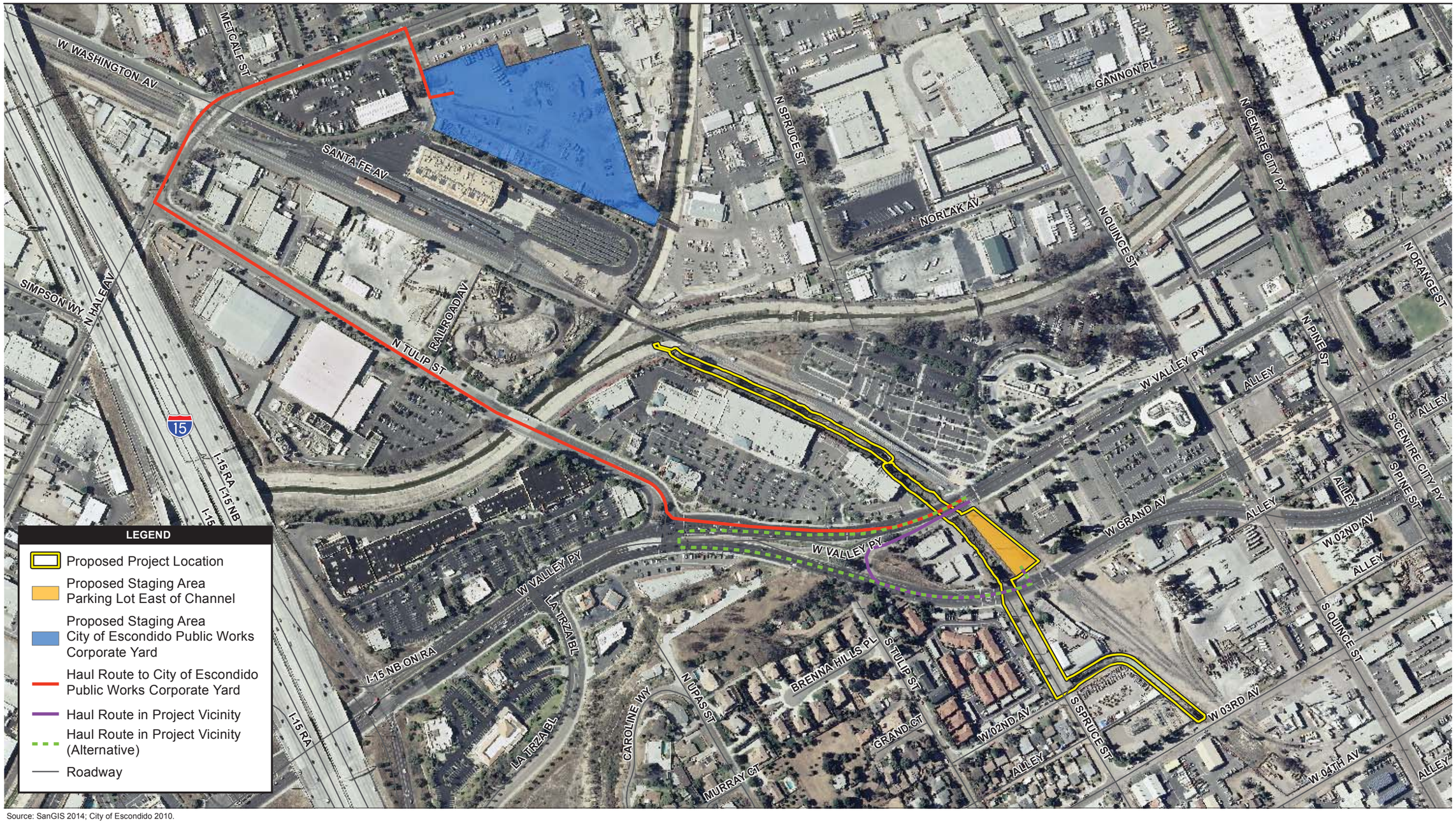


Figure 1
Regional Map



Source: SanGIS 2014; City of Escondido 2010.

350 175 0 350 Feet

Scale: 1:4,200; 1 inch = 350 feet

Figure 2
Proposed Project Location

Path: P:\2014\60313771_Esc_MissionP\900-CAD-GIS\920 GIS\922_Maps\SpruceStreet_IS_MND\Project_Location.mxd, 8/10/2015, Daniel_Arellano

CONTACT PROGRAM RESPONSE FORM
CITY OF ESCONDIDO SPRUCE STREET DRAINAGE IMPROVEMENTS (60313771)

Paul Macarro, Cultural Resources Manager
Pechanga Band of Mission Indians
P.O. Box 1477
Temecula, California 92593

Please check all that apply:

- ❑ Please call me to discuss the project further; my day-time phone number is (_____)_____
  or my evening phone number is (_____)_____
- ❑ I have further comments as provided below
- ❑ I do not have any comments

Comments:

_____

_____

_____

_____

_____

_____

_____

_____

_____

Signature:

_____ _____
Paul Macarro, Cultural Resources Manager Date

AECOM
401 West A Street
Suite 1200
San Diego, CA 92101
www.aecom.com

619.610.7600 tel
619.610.7601 fax

October 16, 2015

Lavonne Peck, Chairwoman
La Jolla Band of Mission Indians
22000 Highway 76
Pauma Valley, California 92061

Dear Ms. Peck:

The City of Escondido is proposing drainage improvements along the channelized portion of Escondido Creek, along South Spruce Street (see map - attached). The channel (the proposed project area) begins north of the intersection of South Spruce Street and West 3rd Avenue as a concrete-lined channel and conveys drainage west (downstream) before going underground at South Spruce Street. The channel re-immerges west of the intersection of West Grand Avenue and South Spruce Street as an earthen channel and flows west through a short culvert under West Valley Parkway, and continues until it drains into Escondido Creek (a concrete-lined flood-control channel). The proposed project area is bounded to the west by the Escondido Creek flood channel, on the east by West 3rd Avenue, on the north by the North County Transit District railroad (primarily the Escondido Transit Center) and various commercial properties, and to the south by an existing small commercial strip mall and various industrial buildings.

The proposed project includes a combination of construction activities that are scheduled to begin in May of 2016. Drainage improvement activities are described below and include repairs and improvements such as removing silt and vegetation through the following measures:

- concrete and earthen channel dredging;
- culvert clean-out;
- installation of permanent manholes, concrete wingwalls, and sediment traps;
- vegetation clearing and trimming;
- access road clearing; and
- revegetation using drought-tolerant native plants.

The purpose of this letter is to notify you of this project and to solicit your input. We would like to know if you have any questions, comments, or concerns regarding this project A project map, a reply form, and a self-addressed stamped envelope have been included for your convenience. Providing comments now does not limit your ability to comment at a later time. Please write or call by October 30, 2015 so that we may include your views in our report.

Sincerely,

Cheryl Bowden-Renna
Archaeologist
cheryl.bowden-renna@aecom.com
619-610-7625

Enclosure: Map
Response form
Stamped reply envelope

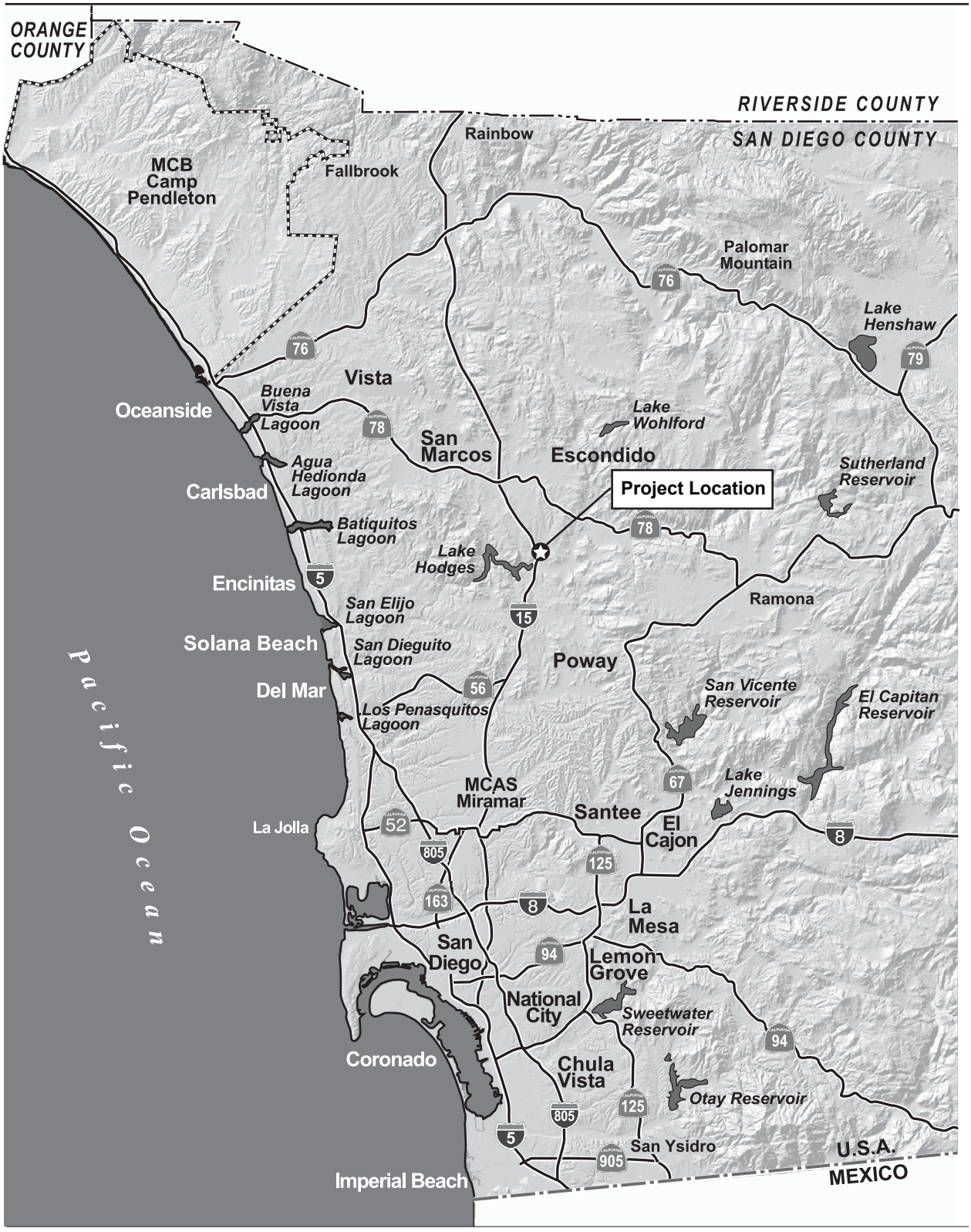
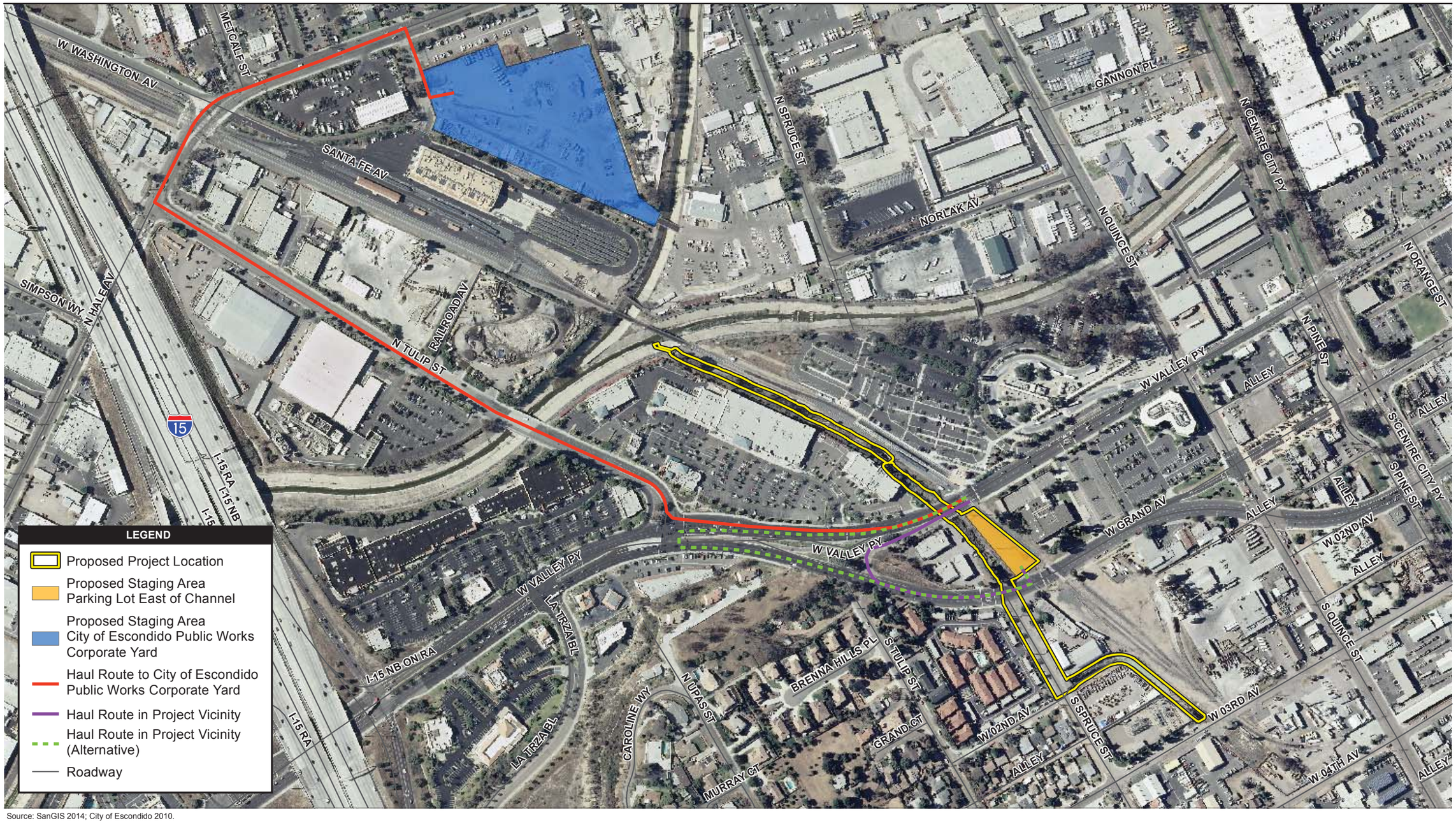


Figure 1
Regional Map



Source: SanGIS 2014; City of Escondido 2010.

350 175 0 350 Feet

Scale: 1:4,200; 1 inch = 350 feet

Figure 2
Proposed Project Location

Path: P:\2014\60313771_Esc_MissionP\900-CAD-GIS\920 GIS\922_Maps\SpruceStreet_IS_MND\Project_Location.mxd, 8/10/2015, Daniel_Arellano

CONTACT PROGRAM RESPONSE FORM
CITY OF ESCONDIDO SPRUCE STREET DRAINAGE IMPROVEMENTS (60313771)

Lavonne Peck, Chairwoman
La Jolla Band of Mission Indians
22000 Highway 76
Pauma Valley, California 92061

Please check all that apply:

- ❑ Please call me to discuss the project further; my day-time phone number is (_____)_____

  or my evening phone number is (_____)_____

- ❑ I have further comments as provided below

- ❑ I do not have any comments

Comments:

_____

_____

_____

_____

_____

_____

_____

_____

_____

Signature:

_____ _____
Lavonne Peck, Chairwoman Date

PALA TRIBAL HISTORIC PRESERVATION OFFICE

PMB 50, 35008 Pala Temecula Road
Pala, CA 92059
760-891-3510 Office | 760-742-3189 Fax

PALA THPO

November 3, 2015

Cheryl Bowden- Renna
AECOM
401 West A Street Suite 1200
San Diego, Ca 92101

Re: Proposed drainage improvements along Escondido Creek

Dear Mr. Bowden- Renna:

The Pala Band of Mission Indians Tribal Historic Preservation Office has received your notification of the project referenced above. This letter constitutes our response on behalf of Robert Smith, Tribal Chairman.

We have consulted our maps and determined that the project as described is not within the boundaries of the recognized Pala Indian Reservation. The project is also beyond the boundaries of the territory that the tribe considers its Traditional Use Area (TUA). Therefore, we have no objection to the continuation of project activities as currently planned and we defer to the wishes of Tribes in closer proximity to the project area.

We appreciate involvement with your initiative and look forward to working with you on future efforts. If you have questions or need additional information, please do not hesitate to contact me by telephone at 760-891-3515 or by e-mail at sgaughen@palatribe.com.

Sincerely,

Shasta C. Gaughen, PhD
Tribal Historic Preservation Officer
Pala Band of Mission Indians

ATTENTION: THE PALA TRIBAL HISTORIC PRESERVATION OFFICE IS RESPONSIBLE FOR ALL REQUESTS FOR CONSULTATION. PLEASE ADDRESS CORRESPONDENCE TO **SHASTA C. GAUGHEN** AT THE ABOVE ADDRESS. IT IS NOT NECESSARY TO ALSO SEND NOTICES TO PALA TRIBAL CHAIRMAN ROBERT SMITH.

Attachment 1

Final Engineering Plan

30% Design
Engineering Plan

SPRUCE STREET DRAINAGE IMPROVEMENTS

Prepared for:

ESCONDIDO
City of Choice

Escondido Public Works

201 North Broadway, Escondido 92025-2798

Prepared by:

AECOM

401 West A Street, Suite 1200, San Diego, 92101

March 26, 2015

TABLE OF CONTENTS

ATTACHMENTS

LIST OF FIGURES

LIST OF TABLES

This page intentionally left blank.

SPRUCE STREET DRAINAGE IMPROVEMENT ENGINEERING PLAN

In response to long-standing drainage problems between 3rd Avenue and the flood control channel of Escondido Creek, the City of Escondido is implementing a variety of drainage improvements to eliminate vector-breeding and nuisance water issues that have existed for over a decade by:

- Clearing excessive vegetation overgrowth and accumulated sediment within the drainage;
- Integrating new slope and bottom configuration designs for the soft-bottom channels to safely convey the 100-year flood event; and
- Offering optional considerations for capturing sediment at a location that allows for maintenance access and provides for future opportunities to incorporate sustainable design features that will complement similar improvements currently occurring throughout the local community.

In implementing the proposed drainage improvements, the City has integrated design characteristics that strive to offset or minimize environmental impacts through a variety of beneficial improvements to the earthen drainage features that provide habitat, water quality, and aesthetic value.

This Engineering Plan outlines a proposed approach to the restoration design for improving the Spruce Street stormwater drainage and is part of the 30% draft design Plans, Specifications, and Estimates provided under Enclosure 1. The original design of the channels, culverts, and other engineering characteristic features within the project footprint are shown in the historical engineering drawing excerpts (i.e., Construction of Storm Drainage System – 1960 Program) provided in Attachment 1.

This plan addresses the following:

- General overview of the proposed drainage improvements
- Applicable regulations for permitting and constructing the project
- Site access to channels, culverts, and other project features during construction and maintenance

- Sediment dredging and equipment options for clearing vegetation and sediment
- Soil analysis plan guidelines for sediment handling, storage, and disposal of contaminated and uncontaminated spoils per local regulations
- Estimated cost of project implementation based on the current level of design

Each of these is described further below.

1. OVERVIEW

The Spruce Street Drainage Improvement Project is intended to provide the following:

- Conveyance of the 100-year flood event and improved drainage to eliminate current vector-breeding issues and backwatering
- Removal of exotic and invasive vegetation and improvement of bank stabilization with native vegetation
- Improved pedestrian access across West Valley Parkway
- Strategic sediment capture prior to Escondido Creek
    - Sediment baffles
    - Sediment basin (project option)
- Additional stormwater runoff treatment (rock infiltration swale)

The Spruce Street drainage system evaluated under this project extends downstream from the 3rd Avenue culvert to Escondido Creek.

1.1 Flood and Vector Control

The City of Escondido applied for and was awarded a funding grant by the County of San Diego Department of Environmental Health (DEH) under the Vector Habitat Remediation Program Funding (Fiscal Year 2011/2012). This funding has been principal to implementing this project after many years of flooding and vector control issues. The project site is chronically wet with standing water and has a long history of creating breeding habitat for mosquitoes, particularly in the upstream portion that is concrete-lined. The County of San Diego has been providing

mosquito fish for treatment form several years, yet property owners and residents continue to complain to the City Council about the vector issues and standing water.

1.2 Vegetation

The existing vegetation within the earthen portions of the Spruce Street drainage system includes a significant presence of nonnative species. The structure and composition of species within the drainage lack diversity and are negatively affecting adjacent and downstream habitats, as well as floodwater conveyance. The project offers an opportunity to replace the existing vegetation with a native habitat composition that would provide significant benefits to this urbanized channel including a more structurally diverse habitat, improved wildlife habitat, aesthetic improvements, improved floodwater conveyance, public education opportunities, and an improved effect on adjacent and downstream habitats.

1.2.1 Existing Habitat Conditions

Most of the existing vegetation occurs within earthen portions of the channel and channel banks, although some vegetation temporarily establishes in concrete-lined sections of the channel where sediment accumulates.

Currently, the predominant habitat within the channel and lower channel banks is freshwater marsh, which includes the native species of southern cattail and American tule, but also nonnatives such as Mexican fan palm, broadleaf annuals, and grasses. The channel zone also includes some nonvegetated areas and open water. The higher channel banks and other upland areas within the site include disturbed habitat and urban/developed areas and are dominated by nonnative species including, but not limited to, castor-bean, short-pod mustard, Russian thistle, periwinkle, hottentot-fig, and Mexican fan palm. Hottentot-fig is a high threat to California wildlands, and short-pod mustard, periwinkle, and Mexican fan palm are moderate threats to California wildlands as designated by the California Invasive Plant Council.

The dense, monotypic stands of cattail and tule (bulrush) reduce floodwater water conveyance and cause accumulation of sediment and trash. Additionally, the marsh habitat and nonnative species within the drainage do not provide a habitat composition and structure with defined understory, midstory and overstory layers (strata) that are beneficial to wildlife and aesthetically desirable. Also, propagules (i.e., seed and vegetative portions of plants) of nonnative plants on-site, which can be transported by wind, water, or animals, can have a negative effect on adjacent habitats by the unwanted spread and colonization of these nonnatives. The status of vegetative

cover within the project drainage is characterized in Attachment 2. In summary, the earthen channels are extensively clogged with nonnative species within irregular and unstable bank formations. The concrete-lined section at the upstream end of the project has chronic standing water issues due to sedimentation and vegetation fouling. Figure 1 presents example photographs for perspective.

Downstream area of the main channel

Upstream area of concrete-lined channel

Figure 1. Downstream and Upstream Perspectives of Existing Stream Degradation

1.2.2 Candidate Restoration Species

Potential species for improving sustainable native planting, long-term bank stabilization, and habitat value may include those presented in Table 1.

Ultimate plant and groundcover selection will be contingent on future design, temporary irrigation, and considerations for railroad constraints as the project moves into final design.

1.3 Pedestrian Access

Improvements for pedestrian access along West Valley Parkway are proposed by extending the overpass culvert northwestward to create a contiguous sidewalk separated from the travelway. Figure 2 illustrates the current configuration. The 30% design drawings for this area are provided on Sheet 5.

Table 1
Candidate Restoration Species, Spruce Street Drainage Improvements

Scientific Name	Common Name
In-stream (freshwater marsh) palette	
Anemopsis californica	Yerba mansa
Carex spissa	San Diego sedge
Iva hayesiana	San Diego marsh elder
Juncus acutus ssp. *leopoldii*	Southwestern spiny rush
Pluchea sericea	Arrow weed
Triglochin concinna	Arrowgrass
Mid-terrace and Upland palette	
Baccharis salicifolia	Mule fat
Hymenoclea monogyra	Leafy burrowbush
Juncus acutus ssp. leopoldii	Southwestern spiny rush
Encilia californica	California bush sunflower
Eriogonum fasciculatum	California buckwheat
Pluchea sericea	Arrow weed
Rosa californica	California rose
Platanus racemosa	Western sycamore
Populus fremontii	Fremont cottonwood
Salix gooddingii	Black willow
Sambucus mexicana	Blue elderberry
Artemisia californica	California sagebrush
Hymenoclea monogyra	Leafy burrobush
Isomeris arborea	Bladderpod
Nassella pulchra	Purple needlegrass
Simmondsia chinesis	Jojoba

Improved pedestrian access between West Valley Parkway (e.g., the Sprinter Station) and West Grand Avenue may also be realized under a proposed project option that will convert the vacant parking lot adjacent to the North County Transit District (NCTD) train tracks into a water quality enhancement feature with integrated community amenities (see Sheet 9 of the 30% design drawing set).

1.4 Sediment Capture

A proposed sediment trapping basin has been designed as a project option (Figure 3), which provides an opportunity to divert low channel flow off the main channel drainage, allows for a reduction in velocity to promote sediment fallout, and integrates a natural rock screen at the outflow point to capture trash and debris. Integrated into the design are a maintenance ramp and various public amenities that include:

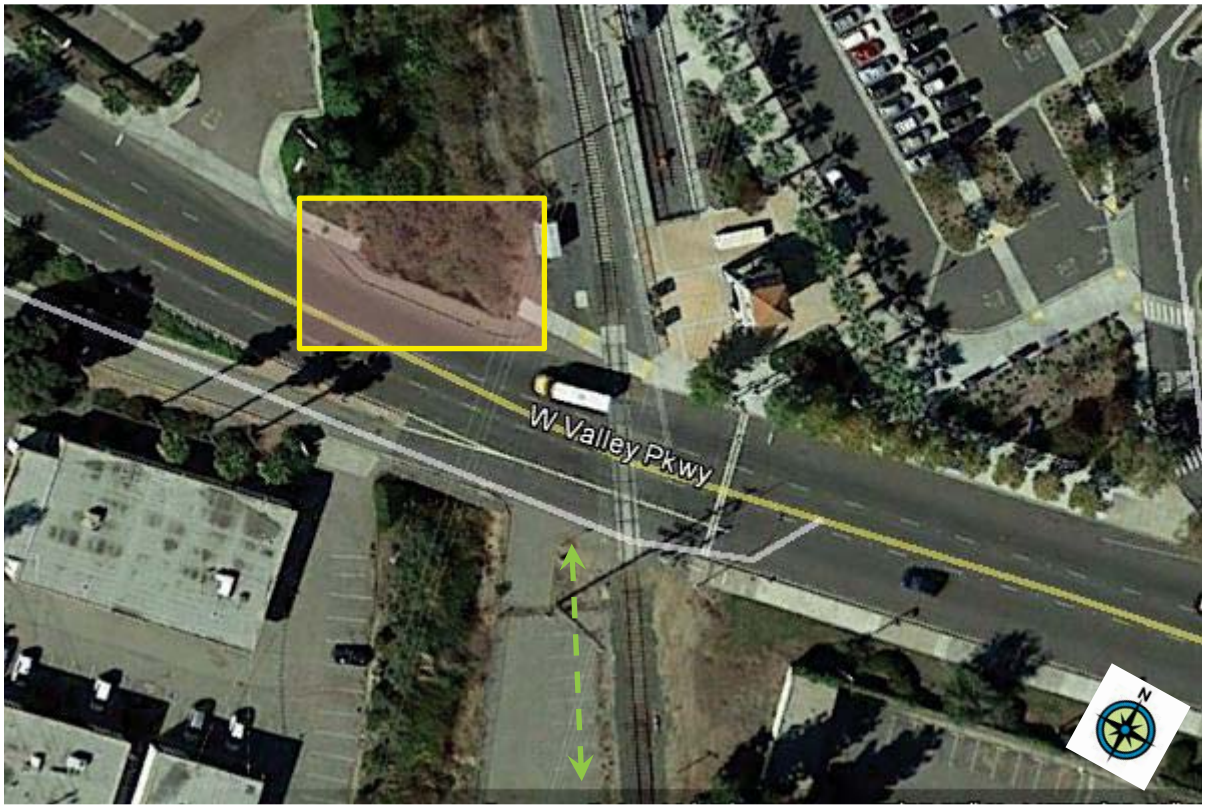


Figure 2. Current Disconnect in Valley Parkway Sidewalk and Proposed Pedestrian Improvement

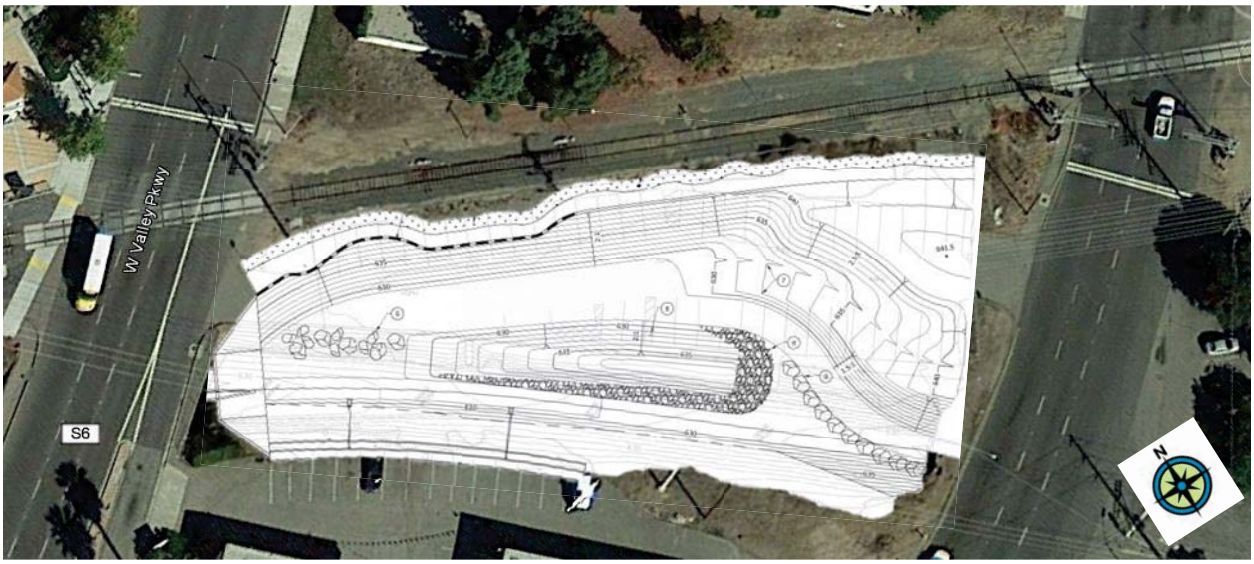


Figure 3. Sediment Trapping Basin Option and Pedestrian Amenities

- A permeable pedestrian pathway between West Grand Avenue and West Valley Parkway that incorporates a vegetated separation (with potential vertical screening [e.g., bougainvillea fence lattice]) from the adjacent railroad,
- Undulating keystone-block retaining wall for the existing utility pole on the northwest end of the site and a new picnic bench terrace area,
- a knoll area for open sitting, and
- a rock infiltration swale across the channel to treat commercial parking lot runoff and incorporate tree plantings along the bank.

Implementing this feature will require relocating a major utility pole that currently exists within the parking lot. Should this amenity move forward in subsequent design refinement, tree and landscape planting schemes would strive to provide continuity with the NCTD Sprinter Station architecture across West Valley Parkway to progress the incorporation of sustainable features between the Sprinter Station and the West Grand Mercado improvements as illustrated in Figure 4 below.

Figure 4. Proposed and Existing Sustainable Streetscapes in Project Vicinity

1.5 Stormwater Treatment

The sediment trap described above will capture and reduce sediment contribution to Escondido Creek, and ultimately San Elijo Lagoon, which is currently listed on the Clean Water Act (CWA) Section 303(d) list of impaired waters as being impaired for sediment. The sediment trap will also have an ability to capture floating trash and debris within the naturalized rock screen at its outlet.

Complementing the water quality treatment at this location, a rock infiltration swale is proposed on the opposite side of the channel to filter and regulate stormwater runoff from the commercial parking lot. Currently, a design similar to that shown in the new San Diego County low-impact development handbook (County of San Diego 2014) is being considered, which is illustrated by Figure 5. Drainage from the parking lot and surrounding paved area would be allowed to infiltrate the rock swale; infiltrate through rock, soil, and gravel layers for treatment and infiltration; and then discharge to the adjacent earthen channel via stabilized outfalls. See Sheet 8 of the 30% design drawing set for a perspective.

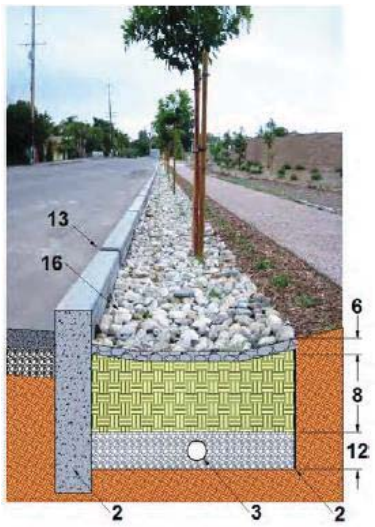


Figure 5. Rock Infiltration Swale Concept (County of San Diego 2014).

2. REGULATORY FRAMEWORK

Applicable regulations for the implementing the drainage restoration are outlined below. Suggested methods for compliance are provided in a subsequent section based on a permitting pre-application meeting held with the resource agencies.

2.1 Federal Regulations

Federal regulations that pertain to the project are relative to those enforced by the U.S. Army Corps of Engineers (USACE) and the U.S. Fish and Wildlife Service.

2.1.1 U.S. Army Corps of Engineers—Clean Water Act Section 404

Pursuant to CWA Section 404, the USACE regulates the discharge of dredged or fill material into "waters of the U.S." The Spruce Street drainage system is a tributary to Escondido Creek. As a water of the U.S., this drainage improvement project will require a CWA Section 404

permit (§404 Permit) from the USACE. A wetland delineation was conducted in July 2010 to delineate wetland boundaries based on the presence of hydrophytic vegetation, hydric soils, and wetland hydrology. An additional survey, conducted in June 2014 under the scope of this project, confirmed that jurisdictional wetland characteristics had not changed since the initial survey (Attachment 2).

2.1.2 U.S. Fish and Wildlife Service—Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) restricts the killing, taking, collecting, and selling or purchasing of native bird species or their parts, nests, or eggs. Although no permit would be issued under the MBTA for the purposes of this project, if vegetation removal within the Spruce Street drainage system occurs during the breeding season for raptors and migratory birds (February 15 through September 15), surveys should be conducted to locate active nests within the construction area. If active raptor or migratory bird nests are detected, project activities could be temporarily curtailed or halted.

The MBTA applies to this project because migratory bird species, such as small migratory and resident birds, including raptors (e.g., Cooper's hawk, and red-shouldered hawk) are known to occur in within the project area (e.g., cattails, eucalyptus trees).

2.2 State Regulations

2.2.1 State Water Resources Control Board

2.2.1.1 Section 401 of the Clean Water Act

The San Diego Regional Water Quality Control Board (RWQCB) has primary authority for permit and enforcement activities for this project under the Porter-Cologne Water Quality Control Act (California Water Code 13000-13999.10 and the CWA) on behalf of the State Water Resources Control Board. Given the nature of the project, the RWQCB will require a CWA Section 401 Water Quality Certification (§401 Certification) to ensure compliance with established water quality standards (and possibly other project-specific requirements) because of the potential to discharge pollutants into regulated receiving waters. Water quality standards, according to the CWA (40 CFR 131), include beneficial uses, water quality objectives, and the antidegradation policy.

Under the CWA, USACE cannot issue the project an individual or nationwide §404 Permit until the RWQCB grants the Water Quality Certification. For the §401 Certification process, the

RWQCB typically uses the delineation verified by USACE as the basis for determining impacts to waters of the U.S.

The Spruce Street drainage improvement project will require a §401 Certification because of the water quality impact potential and its indirect effects to sensitive biological species. Based on pre-application meetings held with resource agency staff in July 2014 (Attachment 3), the §401 Certification and the §404 Permit authorization process will be conducted concurrently once permit applications are submitted to agency satisfaction.

2.2.2 California Department of Fish and Wildlife

2.2.2.1 Section 1600 of the California Fish and Game Code

Under Sections 1600–1607 of the California Fish and Game Code (CFGC), the California Department of Fish and Wildlife (CDFW) will regulate the drainage improvement activities that would alter the flow, bed, channels, or banks of the project. In practice, CDFW usually extends its jurisdictional limit to the top of the stream bank or outer edge of the riparian vegetation, whichever is wider. Because riparian habitats do not always have identifiable hydric soils, or clear evidence of wetland hydrology as defined by USACE, CDFW wetland boundaries often extend beyond USACE wetland boundaries.

For CFGC compliance, the Spruce Street drainage improvements will need a CDFW Streambed Alteration Agreement to cover any activities that alter the flow, bed, or bank of the project limits.

2.2.2.2 Natural Community Conservation Planning Act of 1991

The Natural Community Conservation Planning Act is designed to conserve natural communities at the ecosystem scale while accommodating compatible land use. CDFW is the principal state agency implementing the Natural Community Conservation Planning Act Program. Conservation plans developed in accordance with the act (i.e., Natural Communities Conservation Plans) provide for comprehensive management and conservation of multiple wildlife species and identify and provide for the regional or areawide protection and perpetuation of natural wildlife diversity while allowing compatible and appropriate development and growth. Project-specific permits under the Natural Community Conservation Planning Act are not issued; however, proposed City-authorized projects (i.e., this project) must comply with California's Natural Community Conservation Planning Act Program.

The project has been designed to be consistent with the intent of this Act, as well as a variety of the local policies and ordinances discussed below.

2.3 Local Policies

Elements of the City of Escondido's General Plan Open Space/Conservation that could apply to the Spruce Street drainage improvements are briefly described below. See Attachment 2 for resource inventory survey results and supporting details; impact avoidance or mitigation measures are expected to be identified in project-related permits issued by resource agencies.

2.3.1 Policies Regarding Biological Resources

- **Biological Policy K1.1**: Development shall be sensitive to significant biological resources within the Planning Area (including any flora or fauna of rare and/or endangered status, depleted or declining species, species and habitat types of unique or limited distribution, and/or visually prominent vegetation), and appropriate measures shall be implemented to minimize potential adverse impacts. Development proposals for projects in such areas identified as environmentally sensitive must include a detailed inventory of these resources conducted by an independent and professionally qualified wildlife biologist. The proposal shall include appropriate mitigation measures, such as buffering and setbacks and revegetation plans, to protect sensitive habitat areas to the extent feasible. In the event habitat is adversely affected, adequate replacement shall be proposed.
- **Biological Policy K1.2**: Escondido's significant riparian habitat areas shall be identified by survey and/or the environmental review process, and measures must be taken to ensure their proper management and protection.
- **Biological Policy K1.3**: Development proposals for sites containing riparian habitat areas shall include a survey of the riparian resources as well as appropriate methods for mitigating any adverse impacts of development in these resource areas. This includes mitigation of impacts associated with flood control measures. Appropriate mitigations shall be determined in consultation with the State Department of Fish and Game (U.S. Fish and Wildlife Service, if applicable) and at a minimum include buffering and/or setback requirements.
- **Biological Policy K1.4**: If the presence of humans and domestic animals will be detrimental to riparian habitat, appropriate barriers shall be constructed and maintained by the property owner or homeowners' association to restrict access to the sensitive area.

- **Biological Policy K1.5**: The following uses shall be prohibited in riparian areas: confinement of livestock, dumping or disposal of refuse, and any structural improvement other than those permitted by appropriate agencies.
- **Biological Policy K1.6**: Significant stands of trees shall not be removed unless needed to protect public safety. Removal shall be limited to the minimum amount necessary. At a minimum, the replacement value shall be equal to the vegetation removed. Replacement could occur on- and/or off-site, subject to City approval.

2.3.2 Policies Regarding Natural Resources

- **Natural Resources Policy G1.1:** A system of open space corridors, easement and acquisition programs, and trails shall be established. Sensitive lands including permanent bodies of water, floodways, and slopes over 35% inclination shall be preserved. Significant wetlands, riparian or woodland, and habitat for rare or endangered species shall be protected in coordination with state and/or federal agencies having jurisdiction over such areas. Density transfers shall be permitted to preserve such lands as established in the land use designation.
- **Natural Resources Policy G1.2:** The City shall establish environmental protection policies to protect sensitive habitat areas such as wetlands and oak woodlands, including coordination with state and federal agencies having jurisdiction over such areas.
- **Natural Resources Policy G1.3:** The City of Escondido shall strive to develop and implement community-wide resource conservation programs, as well as consider resource preservation areas for open space and habitat protection and enhancement.

2.4 Local Ordinances

The City of Escondido's local stormwater management regulations are briefly described below.

2.4.1 Stormwater Management and Discharge Control — Chapter 22, Article 2

Under this article, it is unlawful for any person to discharge non-stormwater to the municipal separate storm sewer system (MS4), except as provided in Municipal Code §22-23 (which lists exceptions to discharge prohibitions). Although there are several non-stormwater discharges the City allows to be discharged to the MS4 in accordance with state allowances, the City identifies the following as illicit discharges to the MS4 that are strictly prohibited:

- Sewage;
- Discharges of wash water resulting from the hosing or cleaning of gas stations, auto repair garages, or other types of automotive services facilities;
- Discharges resulting from the cleaning, repair, or maintenance of any type of equipment, machinery, or facility including motor vehicles, cement-related equipment, and port-a-potty servicing, etc.;
- Discharges of wash water from mobile operations such as mobile automobile washing, steam cleaning, power washing, and carpet cleaning, etc.;
- Discharges of wash water from the cleaning or hosing of impervious surfaces in municipal, industrial, commercial, and residential areas including parking lots, streets, sidewalks, driveways, patios, plazas, work yards, and outdoor eating or drinking areas, etc.;
- Discharges of runoff from material storage areas containing chemicals, fuels, grease, oil, or other hazardous materials;
- Discharges of pool or fountain water containing chlorine, biocides, or other chemicals; discharges of pool or fountain filter backwash water;
- Discharges of sediment, pet waste, vegetation clippings, or other landscape or construction-related wastes; and
- Discharges of food-related wastes (e.g., grease, fish processing, and restaurant kitchen mat and trash bin wash water, etc.).

2.4.2 Excavations and Grading — Chapter 33, Article 55

This article was drafted to ensure that excavation and grading activities for development projects occur in a manner that protects the

- Natural and topographic character and identity of the environment;
- Visual integrity of hillsides and ridgelines;
- Sensitive species and unique geologic/geographic features; and
- Health, safety, and welfare of the general public.

These environmental quality elements are protected by regulating grading activities on private and public property and by providing standards and design criteria for implementing BMPs to control stormwater and erosion during all construction activities for all development.

Specifically, §33-1062 (Ordinance 2001-21) provides requirements for erosion and sediment control by mandating that all construction projects implement BMPs (as stated in the City of Escondido's Stormwater Management Requirements) and various erosion and sediment control systems as part of the project authorization process (i.e., prior to construction).

2.4.3 Section 33-1066 – Design Criteria

This article addresses the preparation of grading designs for private and public development projects. These criteria are intended to reflect and implement the goals and policies of the Escondido General Plan relating to the protection of the critical landforms and natural resources of the city. Pertinent criteria that apply to this drainage restoration project include the following:

(a) Sensitivity to surrounding areas. All graded areas shall be protected from wind and water erosion through acceptable measures as described in the City's stormwater management requirements. All grading designs must demonstrate visual sensitivity to surrounding properties and neighborhoods. Grading designs should have these characteristics:

(c) Grading exemption discretionary permit required. Planning commission approval will be required for the following slopes:

(4) Any cut slope steeper than two to one (2:1) determined by the director to impact adjacent properties.

(e) Slope ratios. Grading designs should use a mix of different slope ratios—particularly where slope surfaces are easily visible from public streets.

A mixture of two to one (2:1), two and a half to one (2-1/2:1), three to one (3:1), and flatter slope ratios should be used to provide variety throughout the development. Depending upon the recommendation of the soils engineer, steeper slopes to a maximum of one and a half to one (1-1/2:1) may be approved by the director for cut slopes of limited heights. Concurrent with development plan submittal, some reasonable justification (such as to avoid blasting rock or to preserve mature trees) must be given for any cut slope proposed to be steeper than two to one (2:1).

(f) Contoured grading. Slopes should be designed and constructed so as to conform to the

natural contours of the landscape. Creative landforms using contoured grading should be utilized in all cases, except when such approach requires substantial increase in grading and slope heights, or is not deemed appropriate by the director. When utilized, contour grading should conform to the following guidelines:

(1) Grading should follow the natural topographic contours as much as possible;

(2) Manufactured slopes should be rounded and shaped to simulate the natural terrain;

(3) The toe and crest of any slope in excess of ten (10) feet vertical height should be rounded with vertical curves of radii no less than five (5) feet, designed in proportion to the total height of the slope, when space and proper drainage requirements can be met with an approval by the city engineer. When slopes cannot be rounded, vegetation shall be used to alleviate a sharp, angular appearance;

(4) Manufactured slopes should blend with naturally occurring slopes at a radius compatible with the existing natural terrain;

(5) Manufactured slopes should be screened from view under or behind buildings or by intervening landscaping or natural topographic features. Where possible, grading areas should be designed with manufactured slopes located on the uphill side of structures, thereby hiding the slope behind the structure;

(g) Preservation of natural and cultural features. Grading designs should be sensitive to natural topographic, cultural, or environmental features, as well as mature and protected trees, and sensitive biological species and habitat, pursuant to sections 33-1068 through 33-1069. The following features should be preserved in permanent open space easements, or such other means which will assure their preservation:

(1) Undisturbed steep slopes (over thirty-five percent (35%));

(2) Riparian areas, mitigation areas, and areas with sensitive vegetation or habitat;

(3) Unusual rock outcroppings;

(4) Other unique or unusual geographic features;

(5) Significant cultural or historical features.

(h) Public safety. More extreme grading measures may be approved if necessary to construct street systems conforming to minimum design standards or to provide reliable maintenance access to public utilities or drainage systems.

(i) Landscaping of manufactured slopes. All manufactured slopes shall be protected and landscaped to the satisfaction of the engineering and planning departments.

(2) Drought-tolerant and native species should be utilized wherever possible to minimize water usage. Refer to the fire department's "Wildland/Urban Interface Standards" for planting requirements on slopes adjacent to high fire zone areas.

(j) Dissimilar land uses. Where dissimilar land uses are located adjacent to one another, grading should be designed so as to buffer or screen one use from the other. In this regard, the location, height, and extent of proposed grading should be compatible with adjacent uses and screening measures including fences, walls, mounding, and extensive landscaping should be utilized wherever needed.

(k) Erosion and sediment control. A sound grading approach must include measures to contain sediment and prevent erosion. Developers of projects which propose grading shall prepare erosion and sediment control plans in conjunction with grading plans utilizing measures described in the City's stormwater management requirements. Containment of sediment and control of erosion is the responsibility of the property owner and developer.

2.5 Pre-project Permit Coordination

In July 2014, a meeting was held with USACE, RWQCB, and CDFW permitting staff to discuss the project concepts and permitting strategies prior to submitting permit applications (Attachment 3). Resource agency staff were encouraged about the level of restoration being considered. By demonstrating an ability to offset negative impacts through beneficial improvements, the project will gain more regulatory support as a self-mitigating project and reduce (or possibly eliminate) the need for additional off-site compensatory mitigation. Annual post-construction monitoring of the project site will be required to demonstrate the success of these objectives.

Other pertinent aspects of this meeting are summarized below.

2.5.1 USACE Section 404 Permit

Given the large size of the project, an application for a Standard Individual Permit (SIP) is planned. Although project design features that offer biological enhancements are anticipated, pursuing a permit under Regional General Permit 70 (Bioengineered Bank Stabilization

Activities) would not meet permit requirements because headwall modifications and other hardscape designs are proposed (i.e., fill material).

Under an SIP, the project would need to comply with CWA §404(b)(1) guidelines, which involves an Alternatives Analysis. At this 30% design juncture, project alternatives proposed for assessment in the California Environmental Quality Act (CEQA) impact documentation for the USACE permit application include:

1) Removing vegetation and sediment within concrete-lined channels/culverts, restoring the short soft-bottom channel section to its original line-of-grade, slightly deepening the main channel for improved flood protection, and stabilizing earth channel slopes with sustainable features; or

2) Implementing Alternative 1 while also converting the existing vacant asphalt parking lot between West Valley Parkway and West Grand Avenue into an offline earth-based sediment trap; or

3) Line the entire channel with concrete; or

4) No action.

The preparation of the 30% design package incorporates Alternatives 1 and 2. Alternatives 3 and 4 would be expected to be assessed in CEQA documentation without design drawings.

USACE stressed the importance of the restoration aspect of the project, particularly through the use of bioengineering and avoidance of hardscape. The permit application (i.e., project design) should emphasize how the project's negative effects are offset by the environmental benefits gained by its implementation. This will assist in demonstrating self-mitigation and avoiding additional off-site compensatory mitigation.

2.5.2 RWQCB Section 401 Certification

An Individual §401 Certification will be required from the San Diego RWQCB.

The approach to routine maintenance should be included in the application's project description to get coverage for these activities under the §401 Certification.

2.5.3 CFGC Section 1600

CDFW encouraged the design to include as much plantable hardscapes as possible (e.g., articulated concrete or similar to allow partial vegetation when armoring is needed) while maximizing natural channel attributes with bioengineering designs incorporated as much as practicable. This would also support demonstrating self-mitigation.

3. ACCESS LAYOUT PLAN

The following section outlines the approach to accessing the project's drainage system for construction and post-construction activities.

3.1 NCTD Right-of-Way

The Record of Survey that was produced and filed with the County of San Diego (Attachment 4) to identify property ownership along the project's footprint illustrates the significant right-of-way ownership by NCTD (nearly 100%). In response to this information, the City met with NCTD to discuss project attributes and constraints before moving the initial design forward. As yet, a response from NCTD regarding the project implementation and potential constraints has not been received. Accordingly, the access layout proposed in the 30% design package remains tentative. Encroachment on NCTD property is unavoidable and will require advance coordination and permitting for proper clearance for establishing mobilization laydown areas, sediment staging areas, and areas needed to support project construction and operation.

According to NCTD's real estate department, the following encroachment agreements would need to be acquired by the City:

- License (for improvements or facilities on NCTD real estate)
- Right of Entry Permit (issued once all license requirements are satisfied)

3.2 Proposed Access

The proposed approach to site access for construction and maintenance are discussed in the following sections.

3.2.1 Construction

The main construction activities on this project can be divided into five categories:

1. Clearing, excavation deepening, and bank stabilization of the earth-lined channel between Escondido Creek and West Valley Parkway. This will include removal of the existing pedestrian pathway crossing to the north of West Valley Parkway (Station 21+50).

2. Vegetation clearing and sediment excavation in the earth-lined channel between West Valley Parkway and West Grand Avenue.

3. Removal of deposited sediment from the reinforced-concrete box culvert (6'H X 10'W) under South Spruce Street. This will include the retrofit of four access manholes (36-inch) into the existing box culvert.

4. Removal of deposited sediment in the concrete-lined trapezoidal channel between South Spruce Street and West 3rd Avenue.

5. Construction of new concrete wingwall structures at the Escondido Creek outfall point and at the upstream end of the double 96-inch reinforced-concrete pipes (RCPs) under West Valley Parkway. The work under West Valley Parkway would also include a new parallel 5-foot reinforced-concrete box, a pier nose between the double RCPs, and an extension of the existing RCPs on the downstream end of the West Valley Parkway overcrossing.

3.2.1.1 Main Channel

Access to the main earthen channel between Escondido Creek and West Valley Parkway will be accomplished by the following:

- Northwest end (Escondido Creek): an existing maintenance access ramp to the Escondido Creek flood channel nearest the project site will be used to provide equipment access through the main channel outfall culvert (Station 11+00).

- Southeast end (West Valley Parkway): a temporary dirt ramp will be constructed along the north bank of the main channel on the northwest side of West Valley Parkway (adjacent to the NCTD Sprinter station; see Sheet 5 of the 30% design drawing set). It will be the contractor's prerogative to use in-channel material for this purpose or import

soil. Following the completion of dredging, the temporary ramp will be removed and material hauled off-site.

3.2.1.2 West Valley Parkway/West Grand Avenue Channel

The short earthen channel may be accessed by one of the following:

- Northwest end (West Valley Parkway): remove the asphalt curb on the south side of the parking lot driveway at the southwest bank, construct a minor dirt ramp to allow equipment to drive directly down the bank (~Station 23+50). This location would avoid impacting the existing chainlink fence around the vacant parking lot. The bank would be stabilized after dredging is completed and the access pathway returned to its original state.
- Southeast end (West Grand Avenue): at the southwest bank, a triangular unpaved area exists that would provide suitable access to the channel. Create a minor dirt ramp on the bank to allow equipment access to the channel (~Station 26+40). This location would have the least impact on commercial parking along the south-bank businesses. The bank and access pathway would be returned to a stabilized condition after dredging is completed.
- Vacant parking lot: remove a portion of the existing chainlink fence, remove asphalt curbing, and construct a small dirt ramp or have equipment hoisted/lowered into the channel. This parking lot is proposed as a laydown/dewatering area.

3.2.1.3 South Spruce Street Culvert

The reinforced-concrete culvert under the bare-earth parkway along the northeast side of South Spruce Street currently has no access other than entry from the northwest or southeast openings. It is recommended that the concrete-lined portion of the project (Station 31+00 to 37+00) be cleared and dredged prior to servicing this culvert. Upstream water occupying the underground culvert will likely be an issue during sediment removal and later manhole installation. Once the upstream area is sufficiently cleared for dredging the South Spruce Street culvert, entry from the upstream end (Station 31+00) is recommended to avoid any sudden discharge of drainage water or saturated sediment (which would be anticipated if work commenced at the downstream opening).

During underground dredging and subsequent hauling, traffic-management measures would be employed around the upstream and downstream culvert openings. This work would not be

expected to affect traffic except the arrival and departure of trucks hauling sediment. However, as the construction of the four new 36-inch manhole access points are constructed (see Sheets 6 and 7 of the 30% design drawing set), traffic mobility and parking in the immediate construction area would be affected. Additional parking is available on the west side of South Spruce Street.

3.2.1.4 Concrete Trapezoidal Channel

Access for vegetation removal, water extraction, and sediment dredging in the reinforced concrete trapezoidal channel between South Spruce Street and West 3rd Avenue is available from either end of the channel. However, it is recommended that the northeast bank of the channel between Station 33+00 and 37+00 may be restricted due to NCTD railway operations. Reasonable footprint is available for Bobcat access along the southwest bank of the channel.

Temporary dirt ramps could be built at either (or both) ends of this concrete channel for access/egress. Because the existing channel bottom is only 5 feet wide, excavation would be accomplished using smaller equipment such as backhoes and Bobcats. Alternatively, to avoid the cost of constructing and removing the dirt access ramp(s), equipment could be lowered into the channel and hoisted out once the cleanout is complete.

No significant traffic implications would be expected during the maintenance servicing of this channel section.

3.2.1.5 Concrete Structure Construction

The outlet structure at Escondido Creek will be removed and the invert lowered. A new reinforced-concrete box culvert/wingwall connection will be constructed away from public streets but will impact pedestrian and bicycle traffic on the existing bike path along Escondido Creek. This path will have to be closed for the duration of the structure construction. Work in this area is not expected to have a measureable impact on vehicular traffic.

The existing 96-inch RCPs under West Valley Parkway will be extended, along with a parallel 5-foot box culvert for improved flood protection. The extension will be provided via a box culvert that provides an east/west sidewalk connection for safer pedestrian traffic on the north side of West Valley Parkway (see Sheet 5 of the 30% design drawing set) and will also improve right-turning safety for vehicle traffic entering the Playa Las Palmas shopping center. This work will require alternating closure of the outside lanes on westbound West Valley Parkway. The alternating construction phasing will require that only one travel lane is closed at a time.

However, the new 5-foot box culvert across West Valley Parkway will require a staggered closure of West Valley Parkway, including the center lane.

3.2.1.6 Haul Routes

The vegetation removal, dredging, and recontouring of the earthen channel between Escondido Creek and West 3rd Avenue will involve waste hauling around the immediate area to access the vacant parking lot on the northeast side of the short earthen channel. Depending on work location, the routes illustrated in Figure 6 are anticipated:

- West Valley Parkway to South Tulip Street to West Grand Avenue and into the southeast entrance of the vacant parking lot (solid line)
- West Valley Parkway to North Tulip Street with a U-turn onto West Grand Avenue and into the southeast entrance of the vacant parking lot (dashed line alternative)

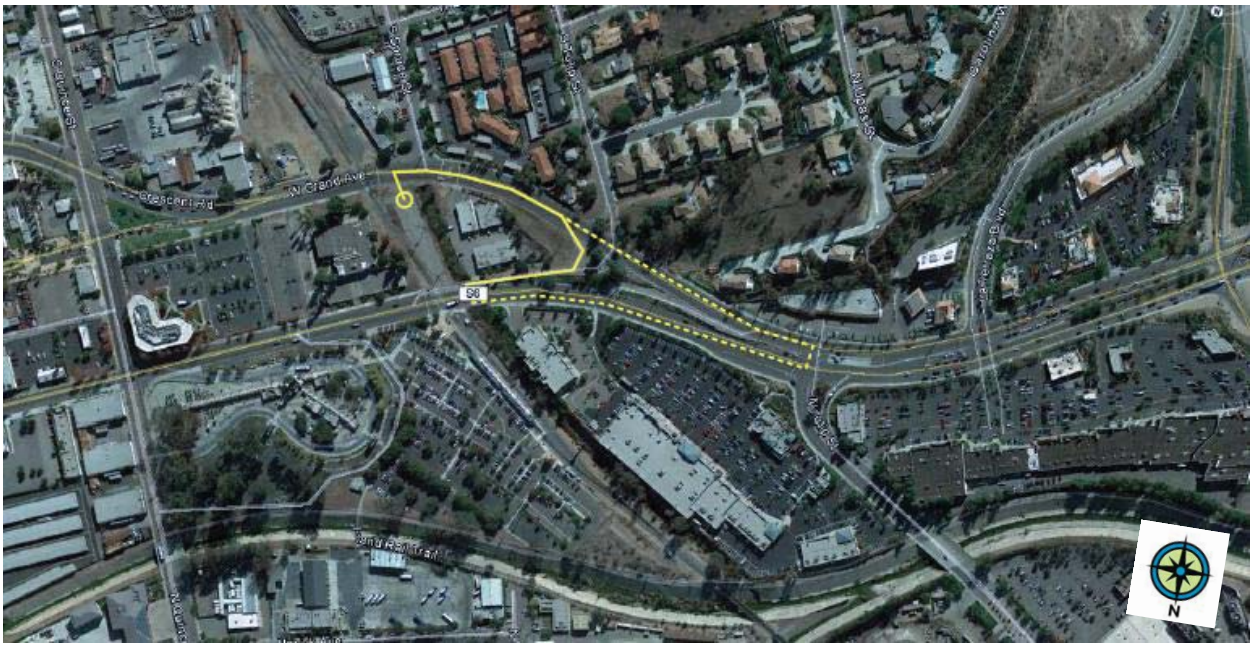


Figure 6. Tentative Hauling Routes in Project Vicinity

The amount of vegetation and sediment waste will need to be continually managed within the dewatering area in the vacant parking lot. It is expected that additional space will be required for waste staging. It is recommended that the unpaved portion of the City's Corporate Public Works Yard off of Washington Avenue be considered for waste management. This lot is approximately

1 mile from the West Valley Parkway overcrossing of the project. Should the Corporate Yard prove feasible, the following haul route in Figure 7 would be anticipated:

- West Valley Parkway to North Tulip Street (north) to North Hale Avenue/Washington Avenue and into the Corporate Yard

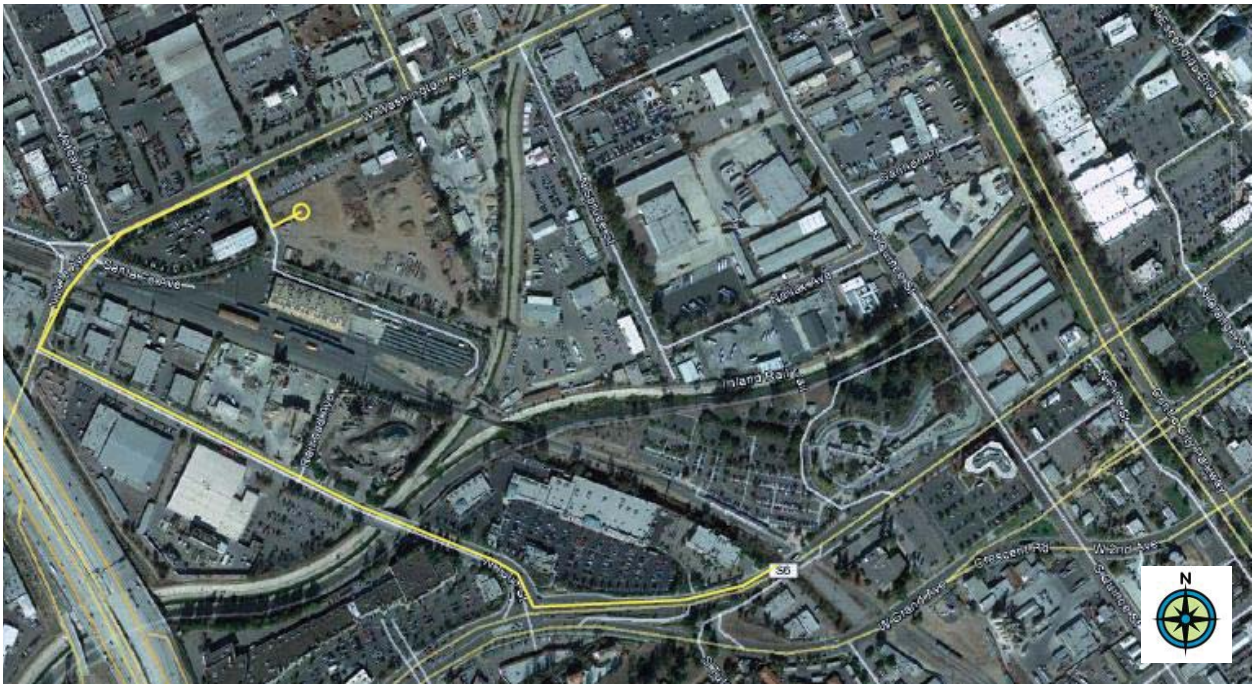


Figure 7. Suggested Hauling Route to Corporate Public Work's Yard

The actual hauling routes would be expected to be proposed by the construction contractor and would likely involve some allocation for potential reuse of the waste material. Actual disposal locations would be contingent on waste characterization and the prerogative of the contractor.

3.2.2 Maintenance

Access for maintenance needs is summarized in the following sections.

3.2.2.1 Main Channel

Access to the main channel for routine maintenance would be via Escondido Creek and through the new outfall culvert as described above. Waste material could be staged at the upstream end

near West Valley Parkway and transferred to dump trucks via an excavator, or via the downstream end if a viable pathway/method is identified that minimizes the potential for water quality impacts to Escondido Creek. A conveyor system to offload directly into the Corporate Yard may warrant investigation but the ultimate feasibility of managing maintenance waste material management would need to be evaluated collectively among City interdepartmental staff.

3.2.2.2 Other Channel Locations

Management of maintenance waste products removed from other sections of the project footprint would similarly use the vacant parking lot or the Corporate Yard for temporary dewatering, recycling, and/or disposal. However, ongoing development advances in Escondido may preclude the use of the vacant parking lot and require alternative methods in the future.

The four new manhole access points along South Spruce Street are proposed on approximate 90-foot spacing to provide adequate reach for vactor trucks and greatly improve ventilation during maintenance.

4. SEDIMENT DREDGING APPROACH

The dredging within the Spruce Street drainage system will fundamentally include the following:

- Installing best management practices (BMPs), including adjustment and repositioning as work progresses
- Sediment excavation and transfer to hauling vehicles
- Dewatering and managing dredged spoils
- Disposing of/reusing spoil materials off-site

The estimated project duration is 3 to 4 months, depending on weather and site conditions.

Although, the actual dredging approach, the type of equipment used, and waste management methods will depend on the construction contractor's preferred choices, options are provided below for developing order-of-magnitude cost estimates and to give the City a perspective of options. Actual construction approach (and cost) may vary. Special precautions would be required if any part of the project construction schedule occurs during the wet season.

4.1 Open Channels

The project has both concrete-lined and natural, soft-bottom open channels. Concrete-lined channel will be dredged to its invert elevation as indicated in the original circa-1960s design drawings are provided in Attachment 1. Soft-bottom channels will be dredged to a new design depth as indicated in the PS&E design drawings in Enclosure 1. Earthen channel deepening is proposed to promote improved drainage under low-flow conditions and accommodate the 100-year flood event. Removal and lowering of the concrete culvert at the Escondido Creek outfall in the main channel are proposed for this purpose. This new design profile will establish the "original line of grade" maintenance depth for future permitting.

Given the soft-bottom design of the natural channel sections (and their dense vegetation overgrowth), a combination of excavators, small bulldozers (e.g., Bobcats or similar), and other ancillary equipment is recommended for sediment and vegetation removal. Raking attachments and various bucket sizes are recommended for clearing brush and sediment depending on the equipment and type/volume of waste to be removed/handled.

4.2 South Spruce Street

The underground section of South Spruce Street will require some variation of the following but will ultimately be based on availability and construction contractor preference:

- Mechanical dredging via the following:
    - "Mining cart" (previous City method)
    - Excavator extraction/Bobcat collection/skiploader transfer
- Vacuum dredging (water jet soil dislodgement and vactor collection/removal)
- Hydraulic dredging

The City may want to consider phasing the installation of the new manhole access points along Spruce Street with the dredging process. The holes for installing manholes could be staged as dredging progresses through the culvert, allowing flow-through air circulation and opportunity to vactor or otherwise remove material from the opening prior to constructing the formal manhole.

4.2.1 Mechanical Dredging

Regardless of the method, mechanical dredging would involve respiratory protection and/or supplied-air for maintenance staff working underground in this confined space culvert. Forced-air circulation into the culvert would also be mandatory. Access is only provided at the upstream and downstream ends of the 6-foot by 10-foot box culvert, and circulation during the dredging work will require safety precautions. Confined space work requires two outside support staff (tenders) for the confined worker. Supplied-air service for workers may involve more tenders.

4.2.1.1 Mining Cart

This method was used several years ago to clean the South Spruce Street culvert. The owner/operator of this equipment is known to the City's Public Works staff and may be consulted for implementing this portion of the project, if feasible. Based on City staff discussion, the cart was used to excavate and move the accumulated material outside of the underground culvert for transfer to hauling vehicles. It is assumed that the cart would substitute for a typical Bobcat as described below. The transfer to hauling vehicles would occur via backhoe excavators or skip loaders.

4.2.1.2 Bobcat

Bobcat earthmovers are small and appropriate for excavating the culvert. With a 10-foot width, a Bobcat would likely be able to spin on center to excavate sediment and push it out of the culvert for transfer. Standing water at the upstream end would require removal prior to excavation, and a diversion or dam would be needed to maintain an adequately dry working environment in the culvert. Bobcats could excavate from both culvert ends simultaneously. Sediment transfer to hauling vehicles would occur via backhoe excavators or skip loaders.

4.2.2 Vactor Dredging

The ample amount of standing water upstream of the culvert could provide a resource using this method. Supply water from the upstream side of the culvert could be filtered and used for water jetting sediment removal at the downstream end. The slurry would be picked up via a vactor truck. This method is less desirable due to the hazard of working downstream while the hydraulic load continues on the sediment plug during removal. At approximately halfway through the downstream-to-upstream excavation process, the approach would need to shift to the upstream end. Suitable BMPs would need to be placed downstream to contain the sediment plug as

hydraulic forces overcome the static load of the sediment. This process is water intensive, high maintenance and high volume for waste management, and a greater hazard to employ.

4.2.3 Hydraulic Dredging

Hydraulic dredging for the South Spruce Street section is not recommended because there is no viable dewatering site in proximity. The vacant parking lot approximately 650 feet from the downstream end of the culvert is too far away to make pumping slurry feasible. A slurry management system would be complex and difficult to house within the confines of the vacant parking lot if pumping were viable.

4.2.4 Safety

There will be special safety needs for removing sediment from the South Spruce Street underground culvert. Regardless of the approach to remove the sediment, construction access under South Spruce Street will be a confined-space entry (and likely use of supplied air for workers) requiring strict safety protocols. The confined space work protocols would need to adhere to the requirements of Occupational Safety and Health Administration (OSHA) Standard 1910.146, which include:

- Procedures for atmospheric testing
- Maintaining positive air circulation for combustion and exhaust air (machinery) and hourly air volume turnover to maintain a breathable environment in the confined space. Filtration masks will likely be required regardless of the level of positive circulation.
- Confined space pre-entry check list
- Location and phone numbers of nearest ambulance and medical facilities

Although the identification and evaluation of these factors will be integrated into the proposed construction methodology for OSHA compliance, it will be the ultimate responsibility of the construction contractor to understand, develop a suitable Health and Safety Plan, and appropriately implement safety measures during construction. The requirements of a Health and Safety Plan would be expected to include, but not be limited to, the following:

- Site Description and Planned Work Operations
- Hazard Assessment

- Health and Safety Requirements
    - Site-Specific Safety Training
    - Competent Person Training Requirements
    - Tailgate Meetings
    - Hazard Communication
    - Confined Space Entry
- Hazardous, Solid, or Municipal Waste
- General Safety Rules
- Personal Protective Equipment
- Buddy System
- Stop Work Authority
- City-specific Safety Requirements

The construction contractor will be responsible for testing waste materials to the satisfaction (and authorization) of the City Engineer, the San Diego County DEH, and/or the San Diego RWQCB prior to moving dredge spoils off-site. Testing procedures are outlined below.

4.2.5 Dewatering

Regardless of the dredge options used above, a dewatering platform would be needed for managing dredge spoils. The requirements for temporary waste pile specified below (Section 4.3.1) would constitute minimum requirements, and extra allowance for supplemental dewatering equipment would be expected.

There are many methods of dewatering, which are largely contingent on the method of dredging. Mechanically removed sediment would require collection and pumping of supernatant to some suitable type of holding tank (e.g., Baker tanks), vactor trucks, or similar equipment. Hydraulic dredging may use dewatering bags or centrifuge equipment for spoils processing. The nature and design of the dewatering system should be proposed through the contractor bidding process and evaluated by the City to determine the most suitable and economical approach that will comply with regulatory requirements.

It is anticipated that the dredge spoils would be separated into the following basic grades:

1. Dewatering sediment
2. Reusable (dry) sediment (dewatered)
3. Dry, poor-quality sediment (usually includes a combination of organic materials [plant debris], rock, gravel, and trash)
4. Supernatant (free liquids that settle above solid residues)

Because the vacant parking lot between West Valley Parkway and West Grand Avenue is less than 100 feet from a receiving water, dewatering and supernatant management will require close attention to BMP integrity and could require on-site tanks for collection and settling prior to off-site disposal.

4.3 Soil Analysis Plan

Proper management of the dredge spoils will be crucial to prevent stormwater runoff and receiving water quality impacts. The following discussion has been developed from RWQCB guidance and local landfill acceptance criteria. The contractor will need to assume all responsibility for spoils reuse and/or landfill disposal. Depending on the quality of the dredged material excavated, soil and sediment may qualify for construction site fill material, which will offer the contractor a source of revenue. The City may consider conducting some pre-project sampling to provide a screening level characterization such that the nonhazardous/hazardous nature of the material to be removed can be divulged and assist in refining contractor bids.

4.3.1 Temporary Waste Pile Management

San Diego RWQCB amended the San Diego Basin Plan in 2007 to incorporate revised conditional waivers of waste discharge requirements for a variety of low-threat discharge types. For discharges that are not expected to pose a threat to water quality, minimum requirements for waiver enrollment were developed so measures can be implemented to allow the discharge to be conditionally waived without filing a notice of intent. Waivers specify minimum requirements that must be implemented to minimize or eliminate that discharge, or potential discharge of pollutants to waters of the State in the San Diego Region.

The City would benefit from RWQCB Resolution R9-2007-0104, Conditional Waiver Number 8.II.C (Specific Waiver Conditions for the Discharge of Soils Containing Wastes to Temporary

Waste Piles) by avoiding the filing of a report of waste discharge. Conditional waivers allowed under this resolution streamline the RWQCB processing efforts and give the City the benefit of having to satisfy fewer RWQCB Waste Discharge Requirements when discharging in compliance with a conditional waiver.

In accordance with RWQCB Resolution R9-2007-0104, Conditional Waiver Number 8.II.D (Specific Waiver Conditions for the Discharge of Soils Containing Wastes to Temporary Waste Piles), any spoils containing wastes temporarily stored in stockpiles would need to comply with the following conditions:

- The discharger (i.e., City) must submit a signed/completed Section A of the Temporary Waste Pile Certification form [see Attachment 5] within 30 days of the initial discharge of any waste piles to be eligible for this waiver. The property owner (i.e., NCTD) must acknowledge and approve of the placement of the waste at the site.
- The discharger must submit a signed/completed Section B of the Temporary Waste Pile Certification form within 10 working days of completing removal of all waste and restoring the site to its original condition.
- Unless otherwise specified in the applicable conditions, no temporary waste piles may remain on a site for longer than 6 months or 180 days.
- The temporary discharge of waste must not (a) cause the occurrence of coliform or pathogenic organisms in waters pumped from the basin; (b) cause the occurrence of objectionable tastes and odors in water pumped from basin; (c) cause waters pumped from the basin to foam; (d) cause the presence of toxic materials in waters pumped from the basin; (e) cause the pH of waters pumped from the basin to fall below 6.0 or rise above 9.0; (f) cause pollution, contamination, or nuisance, or adversely affect the quality or beneficial uses of groundwater or surface waters of the hydrologic subareas established in the Water Quality Control Board Plan for the San Diego Basin (Basin Plan); and/or (g) cause a violation of any discharge prohibitions in the Basin Plan.
- The discharger must conduct regular inspections of temporary waste piles and associated BMPs at least once per week. Corrective actions must be taken as necessary to ensure compliance with the conditions of this waiver.
- Surface drainage must be diverted away from the temporary waste piles. For all temporary waste piles, the discharger must implement effective mitigation measures/BMPs to prevent surface water run-on and run-off from contacting wastes, and to prevent erosion and transport of wastes by surface run-off.

- Temporary waste piles must be placed at least 5 feet above the highest historically known or anticipated level of groundwater, and more than 100 feet from any surface water of the state, unless sufficient information is provided to demonstrate that a proposed alternative is protective of water quality. (***Important aspect of this project.**)
- Temporary waste piles must be protected against 100-year peak stream flows as defined by the county flood control agency. (***Important aspect of this project.**)
- Temporary waste piles must be covered by plastic sheeting (not less than 10 millimeters thick, unless otherwise specified under the applicable Special Conditions) to adequately prevent rainwater infiltration, control fugitive dust, and control other nuisances.
- Temporary waste piles must be underlain by either plastic sheeting (not less than 10 millimeters thick, unless otherwise specified under the applicable conditions) or a liner of low permeability that will prevent leachate from infiltrating to groundwater.
- Solid wastes discharged to temporary waste piles, together with any containment materials used at the temporary waste pile, and any underlying geologic materials impacted by the discharge, will be removed within 180 days, unless otherwise specified under the applicable Special Conditions. Subsequently, the discharger must remove all wastes, treatment facilities, and related equipment, and dispose of those items in accordance with applicable regulations. The site must be restored to its original state within 30 days after the temporary waste pile is removed, unless otherwise specified under the applicable Special Conditions.
- The discharger must post at least one clearly visible sign listing the following minimum information: (a) project name, (b) name and address of discharger, (c) brief project description, and (d) 24-hour contact information (name, address, fax number, and telephone number) for the project for as long as the temporary waste pile remains on the site.

If the temporarily stored dredging spoils are found to contain petroleum hydrocarbons, the following conditions apply:

- Soils and associated solid waste containing petroleum hydrocarbons discharged into temporary waste piles will be limited to a maximum time period of 3 months or 90 days on a site.

- Soils and associated solid waste containing petroleum hydrocarbons discharged into temporary waste piles under an initial certification report must be derived from only one source (e.g., one unauthorized release site).
- Temporary waste piles must be covered by plastic sheeting (not less than 10 millimeters thick) to adequately prevent rainwater infiltration, control fugitive dust, and control other nuisances.
- Temporary waste piles must be underlain by either plastic sheeting (not less than 10 millimeters thick) or a liner of low permeability that will prevent leachate from infiltrating to groundwater.
- In addition to the conditions stated herein, temporary waste piles must conform to applicable provisions in the state's local oversight program for Orange, Riverside, or San Diego County.
- The site must be restored to its original state within 30 days after removal of the temporary waste pile from the site.

If the temporarily stored dredging spoils are found to contain heavy metals, the following conditions apply:

- Dredged spoils and associated solid waste containing heavy metals discharged into temporary waste piles will be limited to a maximum time period of 9 months or 270 days on a site.
- Temporary waste piles must be covered by a plastic sheeting to adequately prevent rainwater infiltration, control fugitive dust, and control other nuisances. Alternative control methods may be used if sufficient information is provided to demonstrate that the proposed alternative is protective of water quality and human health.
- Temporary waste piles must be underlain by plastic sheeting (not less than 20 millimeters thick) or a liner of lower permeability that will prevent leachate from infiltrating to groundwater. Sufficient information must be provided to the San Diego RWQCB to demonstrate that the liner and containment facility is designed to contain all solid wastes and fluids.
- Materials used in containment structures must have the appropriate chemical and physical properties to ensure that such structures do not fail to contain waste because of the stress of installation, pressure gradients, physical contact with the waste or leachate, or chemical reactions with soil and rock.

- The site must be restored to its original state within 60 days after removal of the temporary waste pile from the site.

4.3.2 Soil Characterization

For proper disposal or reuse, project-related dredge spoils will be tested for potential contaminants that may have accumulated in sediments. All stockpiled spoils will be sampled and analyzed in accordance with the protocols specified below. These procedures and tests provide a uniform approach for demonstrating the contaminant level (or absence thereof) within the dredge spoils. Although hazardous levels of contaminants could be found, the storm drainage waste materials generated from the project construction are expected to be nonhazardous. However, the contractor should take appropriate precaution in managing and transporting waste materials. The contractor's project-specific health and safety plan (or equivalent) should address appropriate precaution in this regard. Because polychlorinated biphenyls (PCBs) are a required analysis of dredge sediment, some pre-project sampling to screen for PCBs may be warranted in light of the San Diego Gas & Electric substation at the upstream end of the project.

4.3.2.1 Sampling Protocol for Stockpiled Soil

Stockpiled soil (or sediment) designated for disposal to a permitted hazardous waste or specified waste facility, or to a treatment/recycling facility, must be sampled and analyzed in accordance with the receiving facility's requirements (San Diego area examples in Attachment 5).

4.3.2.2 Sampling Collection Precautions

Though not specified in the landfill disposal characterization guidance in Attachment 5, the contractor or City staff are advised to adhere to the following steps when collecting sediment samples, and also conform to applicable health and safety protocols when conducting sampling. These methods are paraphrased from the San Diego County Site Assessment Manual (County of San Diego 2004):

1. Don appropriate personal protective equipment.
2. Locate the sample point in the stockpile.
    a. Select random sample points from locations on a three-dimensional grid. The presence of materials such as boulders, debris, etc., may make strict application of this requirement impractical. In such cases, it is appropriate to obtain the sample as close as possible to the randomly selected point without altering the

spirit of the random selection process. For hydrocarbon contaminants, sample collection in either metal tubes or glass jars is acceptable, provided every effort is made to minimize the loss of volatile constituents. Metal tubes are preferred, since they will minimize aeration of the samples. Containers should be completely filled, capped, and placed on ice immediately.

b. Stockpiled soil is assumed to have a non-homogeneous distribution of contaminants. If a stockpile previously characterized by this protocol is split for any reason (such as to excise a portion expected to be highly contaminated from a non- or lesser-contaminated portion), the remaining mass must be re-sampled as a new stockpile per the previously described protocol to establish its mean contaminant concentration. Note that it is not necessary to consider each individual stockpile separately. At the discretion of the contractor (and authorization of the City), stockpiles expected to contain similar contaminant conditions can be considered part of the same soil mass for the purpose of SW-846 sampling.

3. Collect the sample using a clean instrument, soil probe, or equivalent (preferably expendable after each composite sample collection). Ensure that the sample is collected at the correct depth and location that was randomly selected.

4. Fill one 8-ounce glass jar with a portion of the sample and close the container with the cap, using care not to aerate (volatilize) the sample. This jar will be labeled and analyzed for total recoverable petroleum hydrocarbons and volatile organic compounds (VOCs).

5. Homogenize the other portion of the sample in a disposable bowl using a disposable spatula or spoon. Fill a second 8-ounce glass jar with this portion of the sample and close the container with the cap. This sample will be labeled and analyzed for metals.

6. Wipe the outside of each sample container with a clean paper towel.

7. Record the sampler's initials, date, and time on the pre-labeled sample bottle.

8. Place the sample containers in individual zip-top plastic bags and seal the bags.

9. Immediately pack the samples into a chilled cooler.

10. Record the required information on the Chain-Of-Custody (COC) Form.

11. Document the sampling event, recording information in the designated field logbook.

Repeat the above steps until the minimum number of samples has been collected per the guidance in Attachment 5 (if those landfills are applicable).

4.3.3 Soil Reuse Guidance

Should the contractor or the City desire to recycle suitable dredge spoil material for land application, the requirements of Conditional Waiver Number 8.I.A (RWQCB Resolution R9-2007-0104) would apply, which include:

- The direct or indirect discharge of solid wastes to any surface waters of the state (including ephemeral streams and vernal pools) will be prevented.
- Operations or facilities that accept and/or discharge solid wastes to land will comply with local, state, and federal ordinances and regulations, and obtain any required permits, certifications, and/or licenses.
- Solid wastes will not cause or threaten to cause a condition of contamination, pollution, or nuisance.
- The discharge of any pollutants that could adversely affect the quality or beneficial uses of waters of the state will be minimized or eliminated.
- The San Diego RWQCB and/or other local regulatory agencies will be allowed reasonable access to the site for inspections and monitoring.
- A Notice of Intent or technical and/or monitoring program report will be submitted when directed by the San Diego RWQCB.
- Soil potentially contaminated with constituents other than Title 22 metals must be below DEH-approved laboratory reporting limits and must not be impacted as determined by visual inspection or odor detection.
- Soil potentially contaminated with hydrocarbons must not contain hydrocarbon concentrations more than a laboratory reporting limit of 10 milligrams per kilogram, as identified by U.S. Environmental Protection Agency (EPA) Method 8015 – Extended Range. Reporting limits for VOCs, chlorinated hydrocarbons, and other compound-specific contaminants must be approved by DEH in advance of soil excavation and export.

4.3.4 Sediment Disposal

Disposal requirements for the Sycamore Landfill and the Otay Landfill are provided in Attachment 5 are provided in Attachment 5, including a sample chain-of-custody form. Prior to hauling project-related spoils, the material must pass the paint filter test, which confirms it to be free of liquids. For non-hazardous spoils, passing all the required landfill tests needed, the disposal rate per ton is $36 (minimum cost per load is $330). The following haulers were provided by the landfill management staff and may be useful to the contractor, if needed:

- Jim Burns, Burns & Sons/Owner – 619-933-2003
- Dan Shea, Mountain Materials/Owner – 619-778-5280

5. ENGINEER'S COST ESTIMATE

Based on the current design and its level of refinement, the overall cost for project construction is approximately $2.56 million, which includes a 25% contingency. The optional sediment deposition basin and its amenities are estimated to require an additional cost of $520,000. The overall cost would approximate $3 million. Detailed breakdown of the estimate is provided in Attachment 6.

Because maintenance activity within the underground culvert along Spruce Street is particularly challenging due to its length and limited accessibility, and the amount of material to be removed, a second order-of-magnitude cost estimate has been provided (Attachment 7) to give a perspective on alternative approaches to this section of the project. Based on discussion with City maintenance staff, it may prove reasonable to contract with the previous cleaning contractor that utilized the mining cart technology. Sediment removal by Bobcat and transfer by backhoe is the second-least expensive and likely the most expeditious method due to the simple equipment involved.

Regardless of the dredging approach to the Spruce Street culvert, significant and persistent attention to health and safety is warranted due to the confined space and potential gas releases from anoxic sediments once unearthed.

REFERENCES

County of San Diego. 2014. Final Low Impact Development Handbook, Stormwater Management Strategies. Prepared by the Department of Public Works, July.

_____. 2004. Site Assessment and Mitigation Manual. Currently under revision. Available at http://www.sdcounty.ca.gov/deh/water/sam_manual.html. Accessed on September 18, 2013.

Attachment 1

CIRCA 1960 ENGINEERING PLANS

SPRUCE STREET DRAINAGE IMPROVEMENTS

CONSTRUCTION OF STORM DRAINAGE SYSTEM

1960 PROGRAM

ESTIMATED QUANTITIES

ITEM NO.	DESCRIPTION			QUANTITY	UNIT
1	ALTERNATE 72" R.C.P.	1000-D	IN PLACE	2510	LIN.FT.
2	" 72" R.C.P.	2500-D	IN PLACE	26	LIN.FT.
ITEM NO. 1 & 2	72" R.C.P. 1000-D IN PLACE			330	LIN. FT.
ALTERNATE "B"	6'x5' CONCRETE BOX CULVERT IN PLACE			2206	LIN. FT.
3	54" R.C.P.	1000-D	IN PLACE	2174	LIN.FT.
4	54" R.C.P.	1350-D	IN PLACE	190	LIN.FT.
5	JACKING 54" R.C.P. UNDER RR			84	LIN.FT.
6	51" R.C.P.	1000-D	IN PLACE	445	LIN.FT.
7	48" R.C.P.	1000-D	IN PLACE	788	LIN.FT.
8	42" R.C.P.	1000-D	IN PLACE	1237	LIN.FT.
9	39" R.C.P.	1000-D	IN PLACE	1696	LIN.FT.
10	36" R.C.P.	1000-D	IN PLACE	456	LIN.FT.
11	33" R.C.P.	1000-D	IN PLACE	963	LIN.FT.
12	30" R.C.P.	1000-D	IN PLACE	786	LIN.FT.
13	27" R.C.P.	1000-D	IN PLACE	965	LIN.FT.
14	24" R.C.P.	1500-D	IN PLACE	2378	LIN.FT.
15	21" R.C.P.	1500-D	IN PLACE	82	LIN.FT.
16	18" R.C.P.	2500-D	IN PLACE	1492	LIN.FT.
17	18" R.C.P.	2500-D	IN PLACE	528	LIN.FT.
18	12" C.I.P.	SANITARY	SEWER	26	LIN.FT.
19	10" C.I.P.	SANITARY	SEWER	184	LIN.FT.
20	8" C.I.P.	SANITARY	SEWER	20	LIN.FT.
21	16" C.I.P.	SANITARY	SEWER	48	LIN.FT.
22	18" V.C.P.	SANITARY	SEWER	1939	LIN.FT.
23	15" V.C.P.	SANITARY	SEWER	2538	LIN.FT.
24	12" V.C.P.	SANITARY	SEWER	48	LIN.FT.
25	10'x5' CONCRETE BOX CULVERT			442	LIN.FT.
26	9'x5' CONCRETE BOX CULVERT			603	LIN.FT.
27	P.C.C. CHANNEL			564	LIN.FT.
28	R.R. TRESTLE BOX AND HEADWALLS			109	C.Y.
29	TYPE "A" CURB INLET	MODIFIED	24' OPENING	1	EA.
30	TYPE "A" CURB INLET	MODIFIED	15' OPENING	9	EA.
31	TYPE "A" CURB INLET	MODIFIED	10' OPENING	2	EA.
32	TYPE "K" CURB INLET	STANDARD	7' OPENING	26	EA.
33	TYPE "K" CURB INLET	STANDARD	4' OPENING	13	EA.
34	TYPE "K" CURB INLET	MODIFIED	7' OPENING	6	EA.
35	TYPE "K" CURB INLET	MODIFIED	4' OPENING	6	EA.
36	TYPE "D" CATCH BASIN	MODIFIED		2	EA.
37	L.A. TYPE CURB INLET			3	EA.
38	TYPE "B" CLEANOUT	STANDARD		2	EA.
39	TYPE "D" CLEANOUT	MODIFIED		1	EA.
40	TYPE "F" CLEANOUT	STANDARD		4	EA.
41	TYPE "F" CLEANOUT	MODIFIED		4	EA.
42	TYPE "G" CLEANOUT	STANDARD		7	EA.
43	TYPE "H" CLEANOUT	STANDARD		4	EA.
44	TYPE "A" MANHOLE	SANITARY	SEWER	4	EA.
45	TYPE "B" MANHOLE	SANITARY	SEWER	1	EA.
46	TYPE "C" MANHOLE	SANITARY	SEWER	9	EA.
47	TYPE "D" MANHOLE	SANITARY	SEWER	8	EA.
48	TYPE "G" CONCRETE CURB AND GUTTER 8"-10"			750	LIN.FT.
49	PLANT MIX PAVING, VARIABLE THICKNESS			4391	S.Y.
50	CHANNEL EXCAVATION			14,942	C.Y.
51	SEEDING SLOPES OF CHANNEL, BARLEY, 10# per 1000 ft^2			7858	S.Y.
52	6' CHAIN LINK FENCE AND GATE			1,041	L.F.
53	MISCELLANEOUS CONCRETE STRUCTURES INC. TRANSITIONS, HEADWALLS AND APRONS			58	C.Y.
54	CLEARING AND GRUBBING, ALL OTHER ITEMS NECESSARY TO COMPLETE THE WORK SUCH AS CONCRETE AND ASPHALT REPAIRS, REMOVAL AND REPACEMENT OF DRIVEWAYS, SHRUBS, LAWN, MAILBOXES, STREET SIGNS, CLOTHES LINES, BUILDINGS AND CULVERTS.				L.S.

SHEET INDEX

REFERENCE DRAWINGS

DRAWING NO.	DESCRIPTION
ST-109	TYPE "G" CONC. CURB & GUTTER
ST-115	CUTTING FOR REMOVAL OF EXIST CURB, GUTTER, WALK & PAVT.
ST-300	TYPE "A" M.H.
ST-301	TYPE "B" M.H.
ST-303	STANDARD M.H. FRAME & COVER
ST-304	TYPE "C" M.H.
ST-305	TYPE "D" M.H.
ST-402	GRAVITY TYPE HEADWALL
ST-404	TYPE "A" CURB INLET.
ST-405	TYPE "K" CURB INLET.
ST-406	TYPE "D" CATCH BASIN
ST-407	TYPES F,G & H STORM DRAIN CLEANOUT
ST-408	TYPES A,B,C & D STORM DRAIN CLEANOUT
ST-409	INLET FRAME & COVER
ST-410	STD. STRUCTURE FRAME & GRATE
ST-411	ROUNDED PIPE ENDS.
ST-500	TRENCH EXCAVATION AND BACKFILL
ST-501	CONCRETE ENCASEMENT

CITY OF SAN DIEGO STD. DWGS.
504-505 E B CHAIN LINK FENCE.

LOCATION MAP

LEGEND:
STORM DRAINS 42"
SANITARY SEWER 18"

BASIS OF DESIGN

DESIGN STORM - 5 YEAR STORM, INTENSITY = 0.75 IPH FOR ONE HOUR DURATION.
RUNOFF DETERMINED BY LOS ANGELES METHODS, MODIFIED AS FOLLOWS: TIME OF CONCENTRATION FOR ANY INLET IS THE TIME OF CONCENTRATION OF PRECEDING INLET PLUS TIME OF FLOW IN CONDUIT TO THE INLET UNDER CONSIDERATION.

LEGEND

NEW WORK
- 30" REINFORCED CONCRETE PIPE
- 8-10" CONCRETE. CURB AND GUTTER
- ℄
- ℔
- CURB INLET
- CLEANOUT
- PLANT MIX PAVING
- MANHOLE
- 18" V.C. PIPE
- C.I. PIPE
- CONCRETE HEAD WALL & GUARD POST & REFLECTOR BY OTHERS.

EXISTING
- S SANITARY SEWER
- W WATER LINE
- G GAS LINE
- B U.G. TELEPHONE DUCT
- E U.G. ELECTRIC
- EDGE-PAVT-DRIVE OR WALK
- P.C.C. CURB AND GUTTER
- CULVERT
- FENCE
- POLE, POWER OR TELE.
- POLE AND GUY
- FIRE HYDRANT
- MANHOLE
- WATER VALVE
- METER
- STREET SIGN
- TREE
- HEDGE

BENCH MARKS

NUMBER	ELEVATION	DESCRIPTION
	644.09	BRASS PLUG
	641.77	BRASS PLUG IN CONC.
75	648.47	" " " "

LOCATION
N.W. COR. CONC. TANK SEWERAGE PLANT.
N.W. COR. NORLAK & QUINCE.
S.E. COR. ESCONDIDO & 4th.

GENERAL NOTES

1. ALL CURB INLETS TO HAVE ONE #6 BAR HORIZ. ACROSS OPENING.
2. WHERE INLETS ARE CONSTRUCTED, DITCHES TO BE GRADED TO MEET SAME.

5/21/62

DESIGNED BY
SHOLDERS, TANNER, MARQUARDT & ASSOCIATES INC.
CIVIL ENGINEERS
650 S. ESCONDIDO BLVD, ESCONDIDO, CALIFORNIA.

ENGINEER OF WORK: CITY ENGINEER OF ESCONDIDO.

REVISIONS			
NO	CHANGE	BY	DATE APPROVED
1	CHANGE ALIGNMENT & CLEAN		8-1-61
2	TRAFFIC CONTROL (4)		8-1-61
3	CENTER ALIGN & CLEAN		8-1-61
4	CORRECTIONS		10-2-61

SHEET 1 | CITY OF ESCONDIDO | #1.6 SHEETS

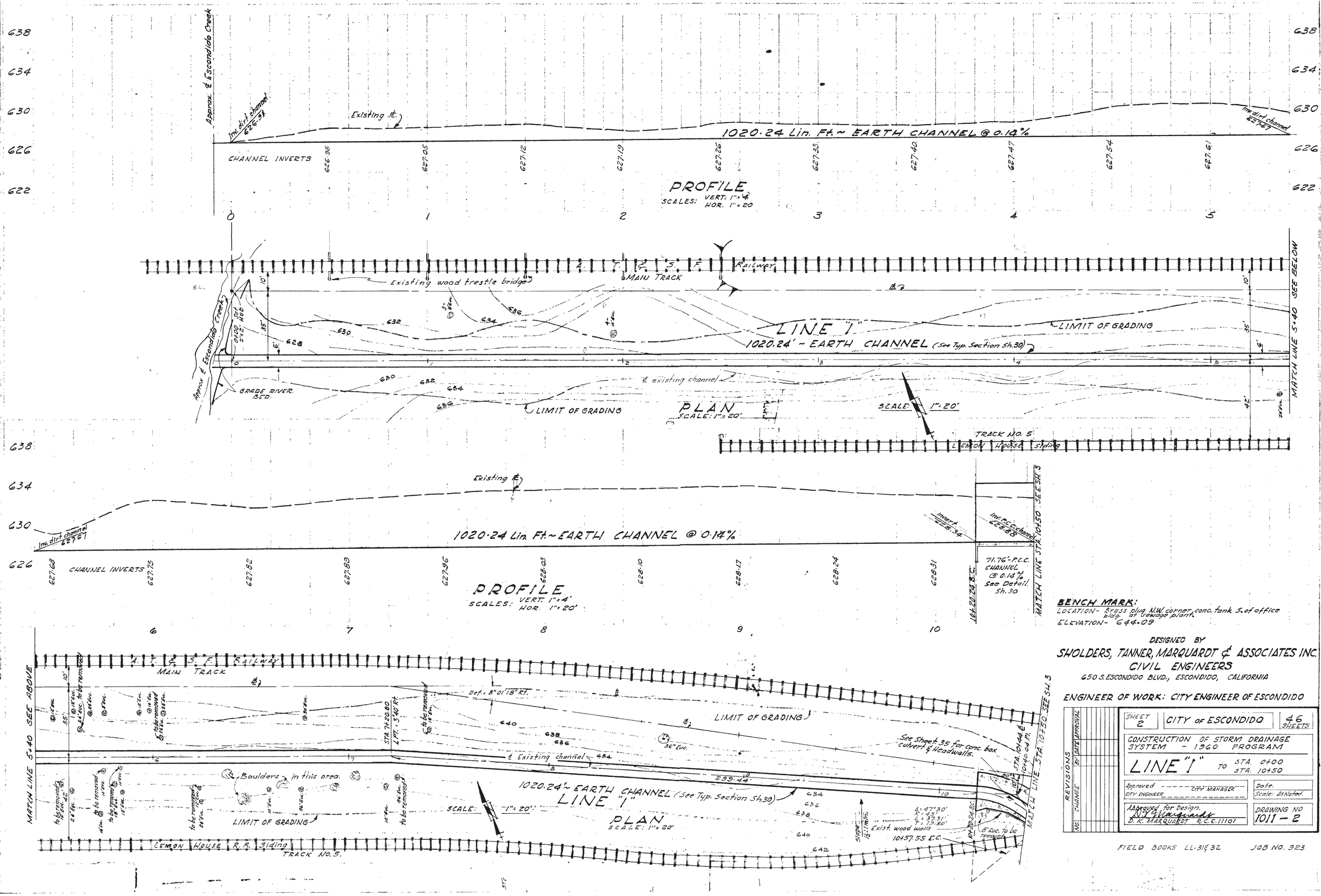
CONSTRUCTION OF STORM DRAINAGE SYSTEM ~ 1960 PROGRAM
LOCATION PLAN AND ESTIMATED QUANTITIES

Approved ——— CITY MANAGER
CITY ENGINEER
Date:
Scale: as noted.

Approved for Design.
D.K. MARQUARDT
D.K. MARQUARDT R.C.E. 11101.

DRAWING NO. 1011-1

FIELD BOOKS: LL, 31 & 32, JOB NO. 923.



BENCH MARK:
LOCATION- Brass plug N.W. corner conc. tank S. of office bldg. at sewage plant.
ELEVATION- 644.09

DESIGNED BY
SHOLDERS, TANNER, MARQUARDT & ASSOCIATES INC.
CIVIL ENGINEERS
650 S. ESCONDIDO BLVD., ESCONDIDO, CALIFORNIA

ENGINEER OF WORK: CITY ENGINEER OF ESCONDIDO

REVISIONS				SHEET 2	CITY of ESCONDIDO	46 SHEETS
NO.	CHANGE	BY	DATE	CONSTRUCTION OF STORM DRAINAGE SYSTEM - 1960 PROGRAM		
				LINE "1"	TO STA. 0400 STA. 10+50	
				Approved ----- CITY MANAGER CITY ENGINEER		Date. Scale: As Noted.
				Approved for Design. D. K. MARQUARDT R.C.E. 11101		DRAWING NO 1011 – 2

FIELD BOOKS LL-314, 32 JOB NO. 923

Top of Rail 643.18

Existing gr. on ℄

Elev. top of wall 642.50

Exist B.T.Co. Duct

Existing ℄

Inv. P.C.C. channel 628.58

Inv. 628.44

587.42 Lin. Ft. ~ EARTH CHANNEL @ 0.14%

Inv. 629.26

626 P.C.C. BOX CULVERT & CHANNEL @ 0.14% SEE SH. 35.

CHANNEL INVERT

628.45 628.52 628.59 628.66 628.73 628.80 628.87 628.94 629.01 629.08 629.15 629.22

638 634 630 626

PROFILE

SCALES: VERT. 1"=4'
HOR. 1"=20'

STA. 16+79.42 CONST. CONC. HEADWALL SEE SH. 39
EQ = 16+87.42 BK.
= 16+86.28 AH.

A. T. & S. F. RAILWAY MAIN TRACK

LEMON HOUSE Siding

TRACK ℄ NO. 5

MATCH LINE 10+50 SEE SHEET NO 2

10+57.55 E.C.

CONST. CONC. BOX CULVERT & HEADWALLS. SEE SHEET 35 SEE NOTE THIS SH.

Exist. Wood trestle

LIMIT OF GRADING

STA. 12+78.45
Def. ∠ 27°18' Rt.

Total Δ = 41°39'07"
R = 45'
L = 32.71'
T = 17.12'

10+95.10 CONST. CONC.

11+13.34 E.C.

℄ Existing creek

10+80.63 B.C.

Δ = 42°39'36"
R = 45'
L = 31.97

LINE "1"
587.42' ~ EARTH CHANNEL (See Typ. Section Sh. 30)

137.65'

5-24" Dia. exc. trees to be removed.

Bush.

LIMIT OF GRADING

PLAN
SCALE: 1"=20'

Δ = 17°53'02"
R = 750'
L = 234.10'
T = 118.01'

12+50.39 E.C.

SCALE: 1"=20'

P.P.

℄ 13+78.45 P.I.

MATCH LINE STA. 14+00

MATCH LINE STA. 14+00

14+87.64 = 14+87.21 ℄ INTERS. W/ ℄

642 640 638 636

℄ Existing creek

LINE "1"
587.42' ~ EARTH CHANNEL (See Typ. Section Sh. 30)

194.53'

7°20'01"

EQ = 16+87.42 BK.
= 16+86.28 AH.

Exist. B.T.Co. U.G. Duct self supporting 18'-30' ℄ at channel - d/c Iron duct to be removed during excavation.

STA. 16+79.42 CONST. CONC. HEADWALL SEE DETAIL 39

LIMIT OF GRADING

Proposed sewer

℄ ℄ ℄ SPRUCE ST. (Extended)

LIMIT OF GRADING

14+65.09 E.C.

2.12'

SCALE: 1"=20'

PLAN
SCALE: 1"=20'

Δ = 17°53'02"
R = 750'
L = 234.10'
T = 118.01'

MATCH LINE 16+90 SEE BELOW

M.E. GRAND AVE.

642 640 638 636

Exist. 6" P. invert.

Sta. 17+36.28 ℄ GRAND

Exist. 5'x5' Conc. culvert to be removed.

Existing ℄

Inv. 10'x5' Conc. box 629.27

Inv. 18" Cul. 632.75

5'-0"

Future ℄ 639.80.

Inv. 18" R.C.P. 633.08

Curb Inlets

Elev. top of headwall 641.00

CONST. CONC. HEADWALL

Inv. 10'x5' Conc. box 630.12

BREAK LINE STA. 21+71.00 Ah.

564.42' PAVED CHANNEL @ 0.20%

SEE SH. 4

BREAK LINE STA. 21+22.21 BK.

MATCH LINE STA. 21+90 SEE SH. 4

630

443.93' Lin. Ft. ~ 10'x5' CONC. BOX @ 0.20%

PROFILE

SCALES: VERT. 1"=4'
HOR. 1"=20'

17 18 19 20 21 22

CONST. 6' HIGH CHAIN LINK FENCE CITY OF SAN DIEGO STD. DWGS. 304-5 EB

SHEET METAL STORAGE BUILDING

MATCH LINE STA. 21+90 SEE SH. 4

15'

10' TRANSITION

45°

CONST. CONC. HEADWALL SEE DETAIL SH. 39

EQ = 21+22.21 BK.
21+71.00 Ah.

Sta. 21+01.00 ℄ Pt. See Detail Sh. 38

Remove exist. headwall & connect to conc. box

443.93' ~ 10'x5' CONC. BOX CULVERT (SEE TYP. SECTION SH. 34)

LINE "1"

Exist. 6" M. pav't.

Exist. E.O.M. pav't.

Exist. 6" C.I.P.

5'x5' Con. Box Culvert to be removed

Fd. ℄ pin

Proposed Sewer

Exist. 6" H.P.

Regrade existing ditch to new inlet

5'x5' Con. Box Culvert to be removed

Sta. 17+36.28 ℄ GRAND AVE.

SQUARE MANHOLE

FIRE HYDRANT

SCALE: 1"=20'

Sta. 19+55.95 CONST. MODI. 4' TYPE K CURB INLET SEE DETAIL SH. 40
T.G. = 640.01
GUT. = 639.18

P.M. Apron.

Edge of pav't.

36'-18" R.C.P. (ES 00-D) @ 10.0%

Existing R.O.M. pav't.

Exist. 3" H.P.

P.M. apron

CONST. TYPE K CURB INLET ST. - 405 4'
T.G. = 640.01
GUT. = 639.18
INV. = 636.68

GUARD RAIL To be removed

LINE "N" 36" R.C.P. See Sh. 22

℄ SECOND

PLAN
SCALE: 1"=20'

CONST. 4' TYPE K CURB INLET ST. - 405 (MODIFIED)
T.G. = 641.91
GUT. = 641.08

MATCH LINE 16+90 SEE ABOVE

NOTE: RE. R.R. CROSSING.

THE A.T. & S.F. R.R. CO. TO REMOVE EXISTING PILES & SHEETING UNDER TRACKS AND THE CONTRACTOR TO BACK FILL OVER BOX CULVERT AND UNDER R.R. TRACKS TO MEET A.T. & S.F. R.R. CO. STANDARDS.

DESIGNED BY

SHOLDERS, TANNER, MARQUARDT & ASSOCIATES INC.
CIVIL ENGINEERS
650 S. ESCONDIDO BLVD., ESCONDIDO, CALIFORNIA.

ENGINEER OF WORK: CITY ENGINEER OF ESCONDIDO

REVISIONS

NO.	CHANGES	BY	DATE	APPROVAL

SHEET 3 | CITY OF ESCONDIDO | 46 SHEETS

CONSTRUCTION OF STORM DRAINAGE SYSTEM - 1960 PROGRAM

LINE "1" TO STA. 10+50 STA. 21+90

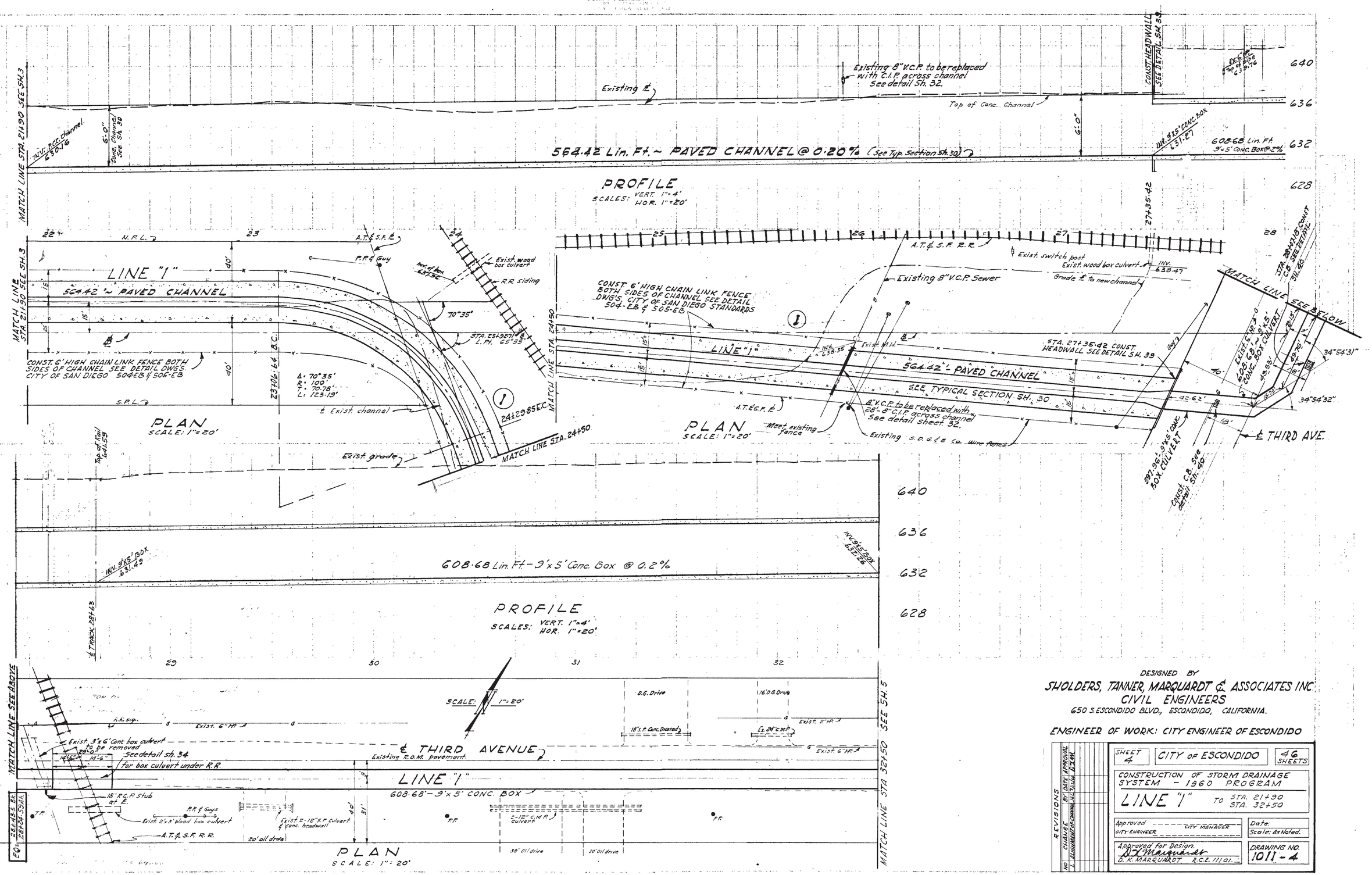
Approved _____ CITY MANAGER
CITY ENGINEER _____

Date:
Scale: As Noted.

Approved for Design.
D. K. MARQUARDT R.C.E. 11101

DRAWING NO. 1011 - 3

FIELD BOOKS LL-31 & 32. JOB NO. 923.



DESIGNED BY
SHOLDERS, TANNER, MARQUARDT & ASSOCIATES INC.
CIVIL ENGINEERS
650 S. ESCONDIDO BLVD., ESCONDIDO, CALIFORNIA.

ENGINEER OF WORK: CITY ENGINEER OF ESCONDIDO

REVISIONS

NO.	CHANGE	BY	DATE	APPROVAL
1.	REALIGNMENT OF CHANNEL	J.E.S.	11/61	D.K.M.

SHEET 4 | CITY OF ESCONDIDO | 46 SHEETS

CONSTRUCTION OF STORM DRAINAGE SYSTEM - 1960 PROGRAM

LINE "1" TO STA. 21+90 STA. 32+50

Approved ---------- CITY MANAGER
CITY ENGINEER ----------

Date:
Scale: As Noted.

Approved for Design.
D. K. MARQUARDT R.C.E. 11101

DRAWING NO. 1011-4

FIELD BOOKS LL-31 & 32, JOB NO. 923.

PLATE 7 MAIN REPORT T.A.S.
CITY ENGINEER'S FILE COPY
NO. 1333-H

PROFILE
NOTE BOOK
NO.

644
640
636
632
628

8' Top slab Transition See Detail Sh. 36

Future 2 47.00

Existing gr.

STATE HWY. R. OF W. XI-SD-77 (395) 180' R. of W.

NOTE: All work in this section to comply with State Hwy. Standards and Specifications.

INV. EX. 12" V.C.P. 635.79

608.68 Lin. Ft. ~ 9'x5' CONC. BOX @ 0.2%

INV. 54" R.C.P. 632.86

INV. 18" R.C.P. 635.50

422.17 Lin. Ft. ~ 54" R.C.P. (1000-D) @ 0.20%

INV. 18" R.C.P. 636.23

INV. 18" R.C.P. 636.25

190 Lin. Ft. ~ 54" R.C.P. (1350-D) @ 0.20%

INV. 54" R.C.P. 633.54

INV. 18" C.I.P. 630.00

3322516 Typ. SHG

For Detail See Sh. 36

20' TRANSITION @ 0.2%

33422 ℄ C.O.

PROFILE

SCALES: VERT. 1" = 4'
HOR. 1" = 20'

NOTE: SEE DETAIL SH. 6 FOR CROSSING 395.

190'

37+67.00

℄ PINE

℄ 395

33 34 35 36 37 38

℄ QUINCE

MATCH LINE STA. 32+50 SEE SH. 4

Exist. 2" HP.

Exist. 6" HP.

Exist. 2-18" Conc. Culverts to be removed

Future 25' R. Curb

CONST. TYPE K CURB INLET ST. 405
T.C. = 642.01
OUT. = 641.18
INV. = 637.68

18' D.G. Drive

18" C.M.P.

P.M. apron

8.34'

Exist. 18" R.C.P. (Cap) 637.97

INV. 18" R.C.P. 638.50

20' TRANSITION

2.64'

CONST. TYPE C.O. ON 9'x5' CONC. BOX AT INTERS. WITH 72" R.C.P. SEE DETAIL 36 FOR ALTERNATE SH. 37.

New 18" C.I.P. See Sewer plans Sheet 25

608.68' - 9'x5' CONC. BOX to be removed

LINE "O"

P.P.

Exist. 18" C.M.P.

M.H.

SCALE: 1" = 20'

LINE "K" 72" R.C.P. See Sh. 13

REPLACE 18" V.C.P. WITH 12" C.I.P. THROUGH BOX DRAIN

Exist. 6" Water

Δ = 45°
R = 45'
T = 20.34'
L = 18.64'

Exist. 18" V.C.P.

65'

PLAN

SCALE: 1" = 20'

Existing gr.

Exist. 2'x5' Conc. box culvert

Remove exist. guardrail and headwall & const. transition see detail sh. 31

Ex. E. 641.31

36'-18" R.C.P. (2500-D) @ 14.11%

20' D.G. Drive

Exist. 12" C.P. culvert

Exist. 18" C.M.P.

Exist. 12" C.P.

Edge of pav't.

Existing R.O.M. pav't.

ETHIRD AVENUE

422.17' ~ 54" R.C.P. (1000-D)

LINE "I"

Edge of pav't.

Exist. 1" Water on surface

190' ~ 54" R.C.P. (1350-D)

MATCH LINE STA. 38+80 SEE BELOW

Note: pipe to be jacked under 395

Exist. 2'x5' Conc. box culvert

Remove exist. guardrail and headwall & const. transition see detail sh. 31

Ex. E. 641.30

20'-18" R.C.P. (2500-D) @ 25.25%

INV. 18" R.C.P. 636.25

Exist. conc. curb

10 Tree Exist. Redw. W. Fence

Existing P.M. paving

Exist. conc. curb

U.S. HWY. 395

Existing gr.

644
640
636
632

180' R. of W.

10"- Exist. 12" V.C.P. Sewer to be replaced with 12" C.I.P. and cut into top of 54" R.C.P.

INV. 12" V.C.P. 637.78

190 Lin. Ft. 54" R.C.P. (1350-D) @ 0.2%

INV. 54" R.C.P. 633.982

8" W.S.H.

INV. 54" R.C.P. 636.48

Exist. 4" Water line to be moved by others

Exist. 8" W.C.P. 637.44

717.51 Lin. Ft. ~ 54" R.C.P. (1000-D) @ 0.20%

B.T. Co. U.G. duct to be relocated by others

INV. 36" R.C.P. 639.04

INV. 54" R.C.P. 637.35

℄ 431+44.02 CONST. C.O. SEE DETAIL SH. 32.

431+89.02 BK. EQ = 437+87.35 AH. MATCH LINE STA. 437+87.35 AH. SEE SH. 6

PROFILE

SCALES: VERT. 1" = 4'
HOR. 1" = 20'

Exist. gr.

EXIST. M.H.

CONST. NEW M.H. TYPE "C" ST. 304 ON EXIST. 8" V.C.P.

60' C.I.P.

20' 20' 20'

54" R.C.P.

EXIST. 8" V.C.P.

INV. 54" R.C.P. 634.90

INV. EX. M.H. 637.85

10" C.I.P. @ 1.0%

INV. 10" C.I.P. 634.97

INV. EX. 8" V.C.P. 635.15

INV. 10" C.I.P. 635.17

DETAIL 10" C.I.P. SIPHON AT STA. 441+55

SCALES: VERT. 1"=2' HOR. 1"=20'

39 40 41 42 43

MATCH LINE STA. 40+20 SEE RIGHT

MATCH LINE STA. 38+80 SEE ABOVE

Curb

Exist. 6" V.C.P.

Exist. Water on curved wall

28.5'

SCALE: 1" = 20'

5'x2' R.C. Box

Exist. curved guard rail

Exist. R.O.M. pavement

702.38' 54" R.C.P.

LINE "I" 190' (1350-D) 54" R.C.P.

07+13.18 LINE "J" Sh. 9

Edge of pav't.

℄ THIRD

Exist. R.O.M. pav't.

22.5'

11.5'

℄

30' EASEMENT FOR STORM DRAIN

LINE "I" 717.51' ~ 54" R.C.P. (1000-D)

39+57.00

15.5'-54" R.C.P. (1000-D)

39+172.50 BK.
39+63.81 AH.

EQ

39" R.C.P. SEE SH. 9

LINE "J"

CONST. C.O. SEE DETAIL SH. 32

Existing P.M. paving

Exist. P.M. curb

Replace Exist. 12" V.C.P. with 12" C.I.P.

PLAN

SCALE: 1" = 20'

U.S. HWY. 395

Exist. M.H.

Exist. 12" V.C.P.

Right of way fence

P.P.

P.M. Parking area

CONST. 60'-10" C.I.P. SIPHON SEE DETAIL THIS SHEET

CONST. NEW TYPE C M.H. ST-304 ON EXIST. 8" V.C.P.

Exist. 8" V.C.P.

Exist. 4" conc. walk & driveway

Exist. conc. curb

Exist. ROM Pav't.

℄ SECOND

N.P.L.

Exist. B.T.Co. U.G.

Exist. 5'x2' Conc. Box

SCALE: 1" = 20'

Const. 200 c.y. P.M. Apron

INV. 36" R.C.P. 639.04

Exist. 5'x2' Conc. Box

CONST. GRAVITY TYPE HEADWALL ST-402

E3'-36" R.C.P. (1500-D) @ 2.0%

Regrade exist. ditch to meet new inlet.

Exist. E.

Exist. 12" V.C.P.

22.5'

11.5'

℄

S.P.L.

26'

26'

INV. 36" R.C.P. 639.04

STA. 431+44.02 CONST. C.O. SEE DETAIL SHEET

3

Exist. ROM Pav't.

Exist. conc. curb

MATCH LINE EQ = 437+87.35 AH. E.C. SEE SH. 6

DESIGNED BY
SHOLDERS, TANNER, MARQUARDT & ASSOCIATES INC.
CIVIL ENGINEERS
650 S. ESCONDIDO BLVD., ESCONDIDO, CALIFORNIA.

ENGINEER OF WORK: CITY ENGINEER OF ESCONDIDO

REVISIONS

NO.	CHANGE	BY	DATE	APPROVAL
3	SEE C.O. ALIGNMENT	JHL	MAR. 61	

SHEET 5 | CITY OF ESCONDIDO | 46 SHEETS

CONSTRUCTION OF STORM DRAINAGE SYSTEM - 1960 PROGRAM.

LINE "I" TO STA. 32+50 STA. 43+69.65 BK. & 87.35 AH.

Approved _____ CITY MANAGER
CITY ENGINEER _____

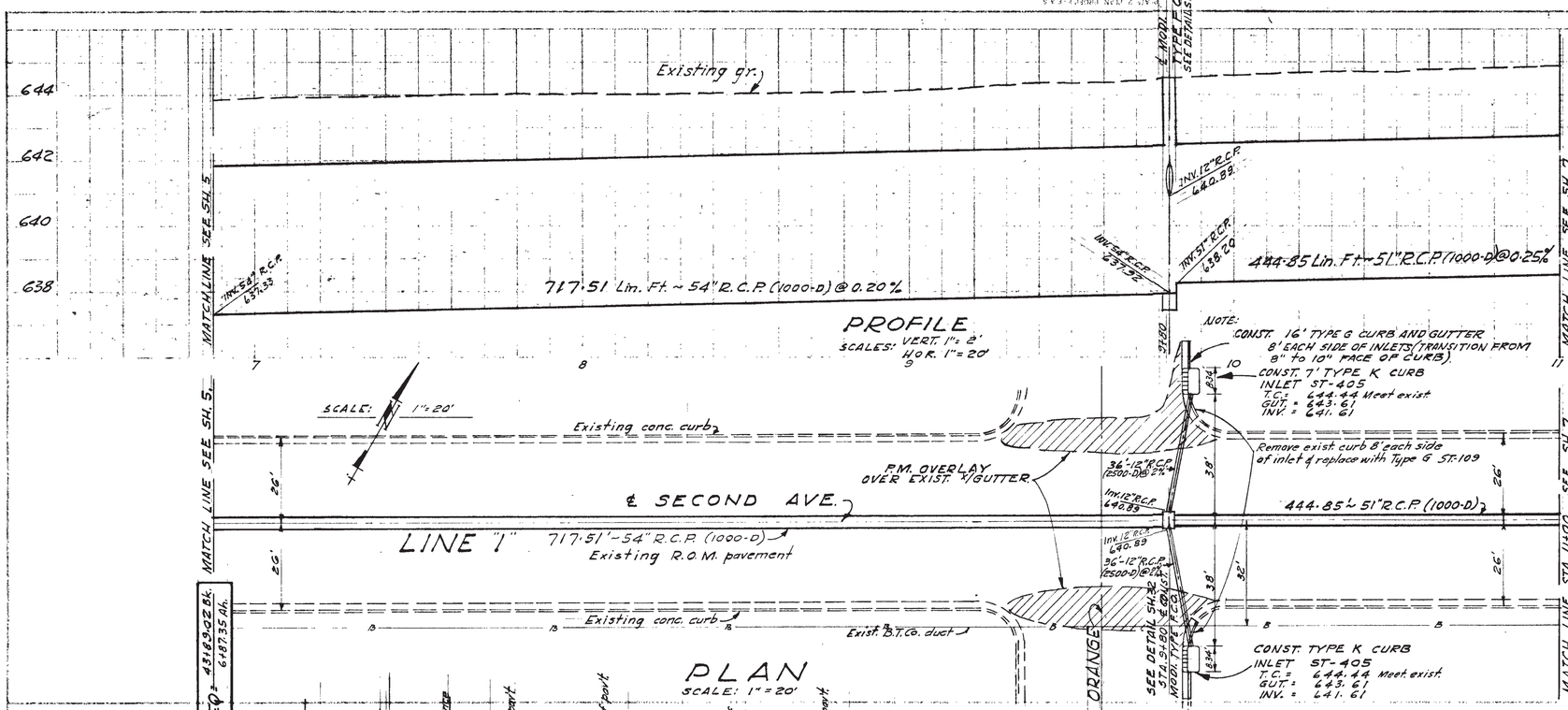
Date:
Scale: As Noted.

Approved for Design
E. K. MARQUARDT R.C.E. 11101

DRAWING NO. 1011-5

FIELD BOOKS LL-31 & 32. JOB NO. 923.

5



DESIGNED BY
SHOLDERS, TANNER, MARQUARDT & ASSOCIATES INC.
CIVIL ENGINEERS
650 S. ESCONDIDO BLVD, ESCONDIDO, CALIFORNIA.

ENGINEER OF WORK: CITY ENGINEER OF ESCONDIDO

REVISIONS: NO. | CHANGE | BY | DATE APPROVAL

SHEET 6 | CITY OF ESCONDIDO | 46 SHEETS

CONSTRUCTION OF STORM DRAINAGE SYSTEM ~ 1960 PROGRAM

LINE "I" TO STA. 6+87.35 STA. 11+00.00

Approved: CITY ENGINEER ____ CITY MANAGER ____ Date: Scale: As Noted.

Approved for Design D. K. MARQUARDT R.C.E. 11101

DRAWING NO. 1011 - 6

FIELD BOOK LL 31 & 32. JOB NO. 923.

PROFILE
SCALES: VERT. 1" = 2'
HOR. 1" = 20'

SCALE: 1" = 20'

PLAN
SCALE: 1" = 20'

PROFILE
SCALES: VERT. 1" = 2'
HOR. 1" = 20'

SCALE: 1" = 20'

PLAN
SCALE: 1" = 20'

DESIGNED BY
SHOLDERS, TANNER, MARQUARDT & ASSOCIATES INC.
CIVIL ENGINEERS
650 S. ESCONDIDO BLVD., ESCONDIDO, CALIFORNIA.

ENGINEER OF WORK: CITY ENGINEER OF ESCONDIDO.

REVISIONS			
NO.	CHANGE	BY	DATE APPROVAL

SHEET 7 | CITY OF ESCONDIDO | 46 SHEETS

CONSTRUCTION OF STORM DRAINAGE SYSTEM — 1960 PROGRAM

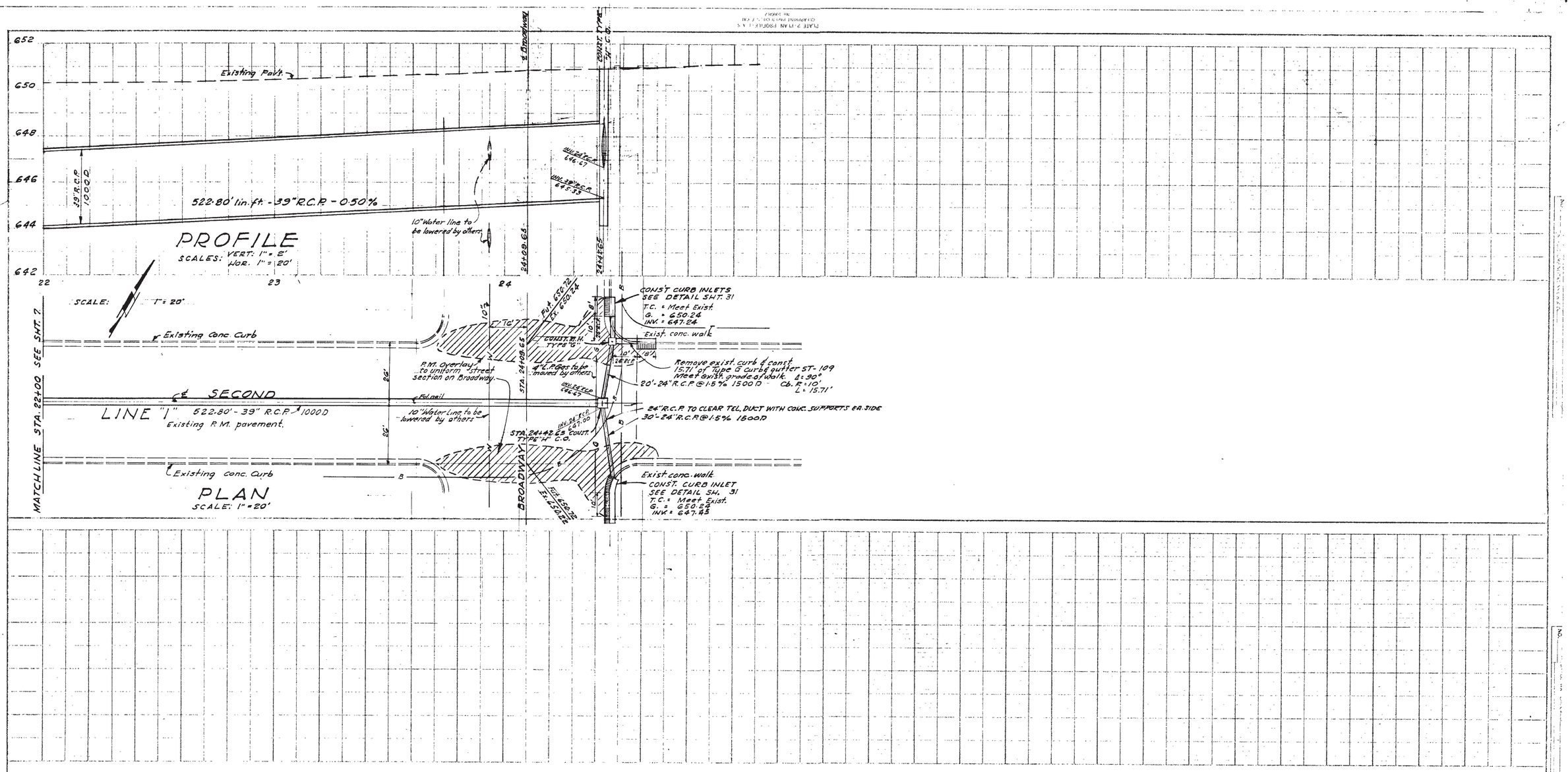
LINE "I" TO STA. 11+00.00 STA. 22+00.00

Approved _____ City Engineer
_____ City Manager
Date:
Scale As Noted.

Approved for Design.
D. K. MARQUARDT, R.C.E. 11101

DRAWING NO. 1011 - 7

SECOND - BROAD - QUINCE SHT



DESIGNED BY

SHOLDERS, TANNER, MARQUARDT & ASSOCIATES INC.
CIVIL ENGINEERS
650 S. ESCONDIDO BLVD., ESCONDIDO, CALIFORNIA.

ENGINEER OF WORK: CITY ENGINEER OF ESCONDIDO

REVISIONS				
NO.	CHANGE	BY	DATE	APPROVAL

SHEET 8 | CITY OF ESCONDIDO | 46 SHEETS

CONSTRUCTION OF STORM DRAINAGE SYSTEM — 1960 PROGRAM

LINE "I" STA. 22+00 TO END.

Approved: _____ City Engineer _____ City Manager

Date:

Scale: As Noted.

Approved for Design
D. K. MARQUARDT R.C.E. 11101

DRAWING NO. 1011-8

JOB NO. 923.

FILMED: 5/21/92

SECOND - BROAD. - QUINCE

STA. 5+13.18 CONST. CLEANOUT Detail Sh. 32

644 / 642 / 640 / 638

Existing gr.

698.18 Lin. Ft. ~ 39" R.C.P. (1000-D) @ 0.20%

INV. 39" R.C.P. 630.52

54" R.C.P. See Sh. 5

54" R.C.P. INV. 633.82

INV. 12" R.C.P. 640.46

INV. 12" R.C.P. 640.33

BREAK LINE STA. 3+55.48 B.C.

711.36 Lin. Ft. ~ 39" R.C.P. (1000-D) @ 0.2%

39" R.C.P. (1000-D)

BREAK LINE STA. 4+40.73 Δh.

MATCH LINE SEE LEFT

MATCH LINE STA. 5+70 SEE BELOW

LINE "I"
54" R.C.P. See Sh. 5

CONST. CLEANOUT SEE DETAIL SH. 32

Fence

Existing R.O.M. pavement

Edge of pavt.

℄ THIRD AVE.

LINE "J"
698.18' ~ 39" R.C.P. (1000-D)

Exist. 12" C.P.

Exist. 18" C.P.

Ex. 12" C.P.

Exist. 15" conc. wall

Exist. 5' conc. walk

16' D.G. Drive

16' D.G. Drive

P.P.

P.P.

P.P.

SCALE: 1" = 20'

PLAN
SCALE: 1" = 20'

℄ ORANGE

P.M. OVERLAY TO UNIFORM SECTION ON ORANGE ST.

CONST. 4' TYPE K CURB INLET ST-405
T.C. = 643.94
GUT. = 643.11
INV. = 641.11

Exist. conc. walk

Remove exist curb & gutter each side of inlet & replace with Type G ST-109

Exist. conc. curb & gutter

Δ: 90°
R: 12'
L: 18.85'

Meet

26'

15.34

45'-12" R.C.P. (2500-D) @ 1.0%

INV. 12" R.C.P. 640.46

Remove exist. curb & gutter and const. 18.85' Type G. ST-109 See profile this sheet

Exist. conc. curb & gutter

Δ: 90°
R: 12'
L: 18.85'

CONST. 7' TYPE K CURB INLET ST-405
T.C. = 643.64
GUT. = 642.81
INV. = 640.81

8.34

26'

24'-12" R.C.P. (2500-D) @ 2.0%

Edge of pavt.

Δ: 90°
R: 45'
L: 70.63'

P.M. OVERLAY OVER EXIST. ℄ GUTTER TO UNIFORM SECTION

PI = 3+55.48 B.C. 8k
4+40.73 B.C. Δh.

MATCH LINE SEE RIGHT

LINE "J" Exist. edge of pavt.
711.36 - 39" R.C.P. (1000-D)

℄ ORANGE ST.

Exist. R.O.M pavt.

Exist. edge of pavt.

SCALE: 1" = 20'

PLAN
SCALE: 1" = 20'

Exist. gr.

644 / 642 / 640 / 638

Exist. 6" HR to be moved by others

Exist. 4" Water to be moved by others

39" R.C.P. (1000-D)

711.36 Lin. Ft. ~ 39" R.C.P. (1000-D) @ 0.20%

INV. 12" R.C.P. 642.25

INV. 39" R.C.P. 639.86

MATCH LINE STA. 8+00 SEE SH. 10

Inv. Ex. 8" V.C.P. 639.27

Meet

7+36.61 ℄ TYPE F.C.O.

MATCH LINE STA. 5+70 SEE ABOVE

Exist. 8" V.C.P.

Exist. 4" Water

CONST. NEW M.H. TYPE C ON EXIST. SEWER, INV. 639.39 ST-304

CONST. 60'-10" C.I.P. SIPHON SEE DETAIL THIS SH.

Edge of exist. pavt.

℄ ORANGE ST.
711.36' - 39" R.C.P. (1000-D)

Existing R.O.M. pavement

LINE "J"

Edge of exist. pavt.

CONST. NEW M.H. TYPE C ON EXIST. SEWER INV. 639.13 ST-304

20' ALLEY

PLAN
SCALE: 1" = 20'

Sta. 7+36.61 CONST. TYPE F.C.O.

ST-407

7+34.61 E.C.

Exist. curb & gutter

INV. 12" R.C.P. 642.25

834

Exist. conc. walk

CONST. 7' TYPE K CURB INLET ST-405
T.C. = 646.04
GUT. = 645.21
INV. = 642.78

Remove exist. curb & gutter each side of inlet & replace with Type G. ST-109 See curb profile right.

Exist. curb & gutter to be

24'-12" R.C.P. (2500-D) @ 2.0%

Δ: 90°
D.C.: 10°
L: 15.71'

7+23.38 B.C.

Δ: 90°
R: 45'
L: 70.63'

40'

80'

40'

P.M. OVERLAY OVER EXIST. ℄ GUTTER TO UNIFORM SECTION ON ORANGE ST.

℄ FOURTH

Existing R.O.M. pavt.

Meet

MATCH LINE STA. 8+00 SEE SH. 10

Construct 60'-10" C.I.P. siphon

Exist. grade

Const. 2 type C manholes on existing 8" V.C.P. Sewer

ORANGE

20' 20' 20'

INV. 39" R.C.P. 639.86

Existing 8" V.C.P. Sewer

Inv. ex. 8" V.C.P. 639.13

10" C.I.P. @ 1.0%

INV. 10" C.I.P. 639.62

INV. 10" C.I.P. 639.90

INV. ex. 8" V.C.P. 639.37

644 / 642 / 640 / 638

DETAIL OF 10" C.I.P. SIPHON STA ~ 5+79

SCALES: VERT. 1" = 2'
HOR. 1" = 20'

18.85' Meet Exist.

643.71 P.C.R.

643.67

3.43'

643.64 P.C.R.

Third Ave.

Orange St.

Curb Line

Gutter Line

curb inlet

644

643

642

S. E. CURB RETURN PROFILE
THIRD AVE & ORANGE ST.

SCALES: VERT. 1" = 2'
HOR. 1" = 20'

18.85' Meet Exist.

643.94 P.C.R.

644.04

644.04 Meet

Third

Orange

Curb Line

Gutter Line

curb inlet

644

643

642

N.E. CURB RETURN PROFILE
THIRD AVE. & ORANGE ST.

15.71'

Fourth curb line

Orange gutter line

curb inlet

645.14 Meet ex.

8.00'

8.34'

6.83'

7.86'

646.02

646.04

646.04

646.02

645.47

645.26

645.21

645.47

S. E. CURB RETURN PROFILE

SCALES: VERT. 1" = 2'
HOR 1" = 20'

DESIGNED BY
SHOLDERS, TANNER, MARQUARDT & ASSOCIATES INC.
CIVIL ENGINEERS
650 S. ESCONDIDO BLVD., ESCONDIDO, CALIFORNIA

ENGINEER OF WORK: CITY ENGINEER OF ESCONDIDO

REVISIONS

NO.	CHANGE	BY	DATE	APPROVAL

SHEET 9 | CITY OF ESCONDIDO | 46 SHEETS

CONSTRUCTION OF STORM DRAINAGE SYSTEM - 1960 PROGRAM

LINE "J" TO STA. 0+00 STA. 8+00

Approved ---- CITY ENGINEER ---- CITY MANAGER

Date:

Scale: As Noted.

Approved for Design
D K Marquardt
D. K. MARQUARDT R.C.E. 11101

DRAWING NO. 1011 - 9

FIELD BOOKS : LL-31 & 32

JOB NO. 923.

FILMED: 5/27/92

9

Attachment 2

JURISDICTIONAL DELINEATION MENORANDUM

SPRUCE STREET DRAINAGE IMPROVEMENTS

AECOM
1420 Kettner Boulevard
Suite 500
San Diego, CA 92101
www.aecom.com

619.233.1454 tel
619.233.0952 fax

Memorandum

Date: July 7, 2014

To: Helen Davis

From: Lanika Cervantes

Subject: Mission Pools Jurisdictional Assessment Memorandum

Ms. Davis:

This memorandum contains the results of a jurisdictional assessment completed for the Mission Pools Project (Project). AECOM completed a field delineation for the 1.60-acre Project site (previously referred to as Site 5E) on July 14, 2010, as part of the Phase I efforts for the City of Escondido (City) Channel Maintenance Regional General Permit (RGP). Subsequently, this site was determined to require individual permitting due to the size of the site and the additional work activities needed to clear and stabilize the channel, which precludes it for inclusion in the RGP permit applications. Because the wetland delineation for this site was conducted in 2010 in accordance with regulations that remain current today (e.g., *Corps of Engineers Wetlands Delineation Manual* [Environmental Laboratory 1987] and *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0)* [Environmental Laboratory 2008]), the site does not require re-delineation. However, AECOM conducted a site reconnaissance to verify existing conditions remain essentially unchanged since the 2010 delineation and to update the existing Arid West Region data forms such that the updated 2014 National Wetland Plant List ratings (Lichvar et al. 2014) is included.

Project Location

The Project site is located within a tributary of Escondido Creek in the City of Escondido, San Diego County, California (Figures 1 through 4; see Attachment A). This channel begins north of the intersection of South Spruce Street and West 3rd Avenue as a concrete-lined channel and travels west (downstream) before going underground at South Spruce Street (Figures 4c and 4d). The channel daylights west of the intersection of West Grand Avenue and South Spruce Street as an earthen channel and flows west until it drains into Escondido Creek (Figures 4a through 4c).

Methodology

Field Survey

A site reconnaissance of the Project site and a 100-foot buffer (survey area) was conducted by AECOM biologists Lanika Cervantes and Rey Pellos on June 18, 2014.

During this reconnaissance, the formal delineation completed in July of 2010 was compared to current conditions (see Attachment B, site form).

During the site reconnaissance, the earthen segment of the channel was determined to have remained essentially unchanged. A slight increase was noted in the extent of coastal and valley freshwater marsh; minor edits have been accordingly made to the geographic information system (GIS) data and figures. In addition, the 2010 wetland sample points completed for the Project site were determined to reflect existing conditions; therefore, new sample points were not collected in these areas. However, the Arid West Region data forms for these points (T1.1, T1.2, T2.1, and T2.2) were updated to reflect the updated 2014 National Wetland Plant List ratings (Lichvar et al. 2014) (see Attachment C, data forms).

The concrete segment of the channel was previously mapped as unvegetated open water; however, during AECOM's field reconnaissance survey, small areas of coastal and valley freshwater marsh and southern willow scrub were observed within the channel. Due to the amount of wetland vegetation, two additional wetland sample points were dug within the concrete-lined segment of the Project. An Arid West region data form was completed for these new wetland sample points (T3.1 and T3.2).

In addition, a homeless encampment, not seen in July 2010, was observed during the June 2014 reconnaissance. This area contained two tents and a mattress, which was located within the western portion of the Project site on the south side of the channel (see Figure 4a).

Results

A total of 0.97 acre of jurisdictional waters of the U.S.[1] and state[2] occurs within the Project site. Of the 0.97 acre, 0.78 acre is within the earthen segment of the channel and is composed of 0.45 acre of waters of the U.S. in the form of coastal and valley fresh water marsh (0.41 acre), unvegetated channel (0.04 acre), and urban (<0.01 acre); and 0.33 acre of waters of the state under the exclusive purview of the California Department of Fish and Wildlife (CDFW) in the form of eucalyptus woodland (0.09 acre) and disturbed habitat (0.24 acre).

The additional 0.19 acre within a concrete-lined segment of the channel is waters of the U.S. in the form of coastal and valley freshwater marsh (0.05 acre), southern willow scrub (0.01 acre), and open water (0.12 acre); and less than 0.01 acre of waters of the state under the exclusive purview of CDFW in the form of eucalyptus woodland (<0.01 acre).

[1] Jurisdictional waters of the U.S. include jurisdictional waters of the state.
[2] State jurisdictions often exceed, in lateral extent and area, federal jurisdiction. Therefore, jurisdictional waters of the U.S. include waters of the state. Although federal and state jurisdictions do overlap, they would remain distinct for regulatory administration and permitting purposes.

Table 1 presents the types of waters of the U.S. and state (including wetlands) that occur within the Project site; also refer to Figures 4a through 4d for locations of waters of the U.S. and state.

Table 1
Waters of the U.S. and State Occurring within the Project Site

Type of Channel Bottom	Type of Waters	Type of Habitat (Holland 1986; Oberbauer et al. 2008)	Acres/ Linear Feet within Survey Area [a,b]
Waters of the U.S. and State (USACE, RWQCB, and CDFW)			
Earthen	Wetland	Coastal and Valley Freshwater Marsh (52410)	0.41/1,210
	Other Waters	Unvegetated Channel (64200)	0.04/174
	Other Waters	Urban/Developed (12000)	<0.01
Subtotal Earthen Segment			*0.46/1,384*
Concrete	Wetland	Coastal and Valley Freshwater Marsh (52410)	0.05/147
	Wetland	Southern Willow Scrub (63320)	0.01/30
	Other Waters	Open Water (64100)	0.12/390
	Other Waters	Urban/Developed (12000)/Culvert	0.01/74
Subtotal Concrete-lined Segment			*0.19/641*
Subtotal Waters of the U.S. and State			***0.64/2,025***
Jurisdictional Waters of the State, CDFW Exclusively			
Earthen	Riparian Extent	Eucalyptus Woodland (79100)	0.09
	Channel Bank	Disturbed Habitat (11300)	0.24
Subtotal Earthen Segment			*0.33*
Concrete	Riparian Extent	Eucalyptus Woodland (79100)	<0.01
Subtotal Concrete-lined Segment			*<0.01*
Subtotal Jurisdictional Waters of the State Only (acres)			***0.33***
Grand Total Jurisdictional Waters (acres)			**0.97/2,025**

[a] Linear feet are only provided for linear aquatic resources such as stream/riverine features and wetland/riparian corridors directly adjacent to stream features.
[b] Acreages are rounded to the nearest thousandth, which may account for minor rounding error.

The new areas of vegetation occurring within concrete-lined channels are temporal resources. Although these resources may have minor positive effects due to a temporary increase in habitat, they also have negative effects to water quality. The negative effects caused by sediment build-up and vegetation within concrete-lined channels include, but are not limited to:

- Reduction in flow, which allows water to heat, (beneficial use is listed as warm/cold) – lower flows can result in algae growth and reduction of dissolved oxygen;
- Sediment and organic materials discharged downstream during wet weather to San Elijo Lagoon (the downstream receiving water),which is currently listed as a 303(d) water body that is impaired for sediment;
- Increase in turbidity, total suspended solids, and total dissolved solids;
- Increase of sediment-bound pollutants traveling downstream and into receiving waters;
- Increase of total coliform (e.g., vegetation/organic materials decomposing in the water column); and
- Increase in anthropogenic gross solids.

Therefore, based on the discussion above, removal of vegetation within the concrete-lined segment of the channel is not anticipated to require compensatory mitigation, which is consistent with the approach used and accepted by the Regional Water Quality Control Board for the City Channel Maintenance RGP.

All additional jurisdictional and spatial data collected in the field are summarized in the following attachments:

- **Attachment B – Site Summary Form:** An updated summary form is provided for the Project site (originally Site 5E of the RGP), which includes Project size information, survey information (both jurisdictional waters and biological findings), and representative photos.
- **Attachment C – Wetland Determination Data Forms:** Forms T1.1, T1.2, T2.1, and T2.2 that contain the field data collected during the 2010 City of Escondido Channel Maintenance RGP Phase I jurisdictional delineation, as well as forms T3.1 and T3.2 that contain field data collected during the April 18, 2014, field effort. All data forms are based on the approved field forms from the Arid West Region Supplement (Environmental Laboratory 2008).
- **Attachment D – Preliminary Jurisdictional Determination Form:** This attachment contains the latitude and longitude of all waters of the U.S. within the Project footprint.

Avoidance and Minimization

The City should avoid and minimize impacts to jurisdictional waters to the greatest extent practicable. It is anticipated that the channel can be stabilized to prevent further erosion and incorporate a restoration design to reduce and/or eliminate net loss of jurisdictional waters (i.e., using a bio-engineered approach and revegetating the channel and banks with native wetland/riparian plant species). Therefore, the Project may be considered self-mitigating and would not require compensatory mitigation.

Please contact me at (619) 764-686, if you have any questions regarding this memo.

References:

Environmental Laboratory. 1987. *Corps of Engineers Wetlands Delineation Manual.* Technical Report Y-87-1. U.S. Army Engineer Waterways Experiment Station. Vicksburg, Mississippi.

Environmental Laboratory. 2008. *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0)*. September.

Holland, R. F. 1986. *Preliminary Descriptions of the Terrestrial Natural Communities of California*. Prepared for California Department of Fish and Game.

Lichvar, R. W., M. Butterwick, N. C. Melvin, and W. N. Kirchner. 2014. The National Wetland Plant List: 2014 Update of Wetland Ratings. Phytoneuron 2014 (41):1–42.

Oberbauer, Thomas, Meghan Kelly, and Jeremy Buegge. 2008. *Draft Vegetation Communities of San Diego County.* Based on *Preliminary Descriptions of the Terrestrial Natural Communities of California,* Robert F. Holland, October 1986*.* March. Department of Planning and Land Use County of San Diego, San Diego, California, 75 pp. March.

ATTACHMENT A

FIGURES

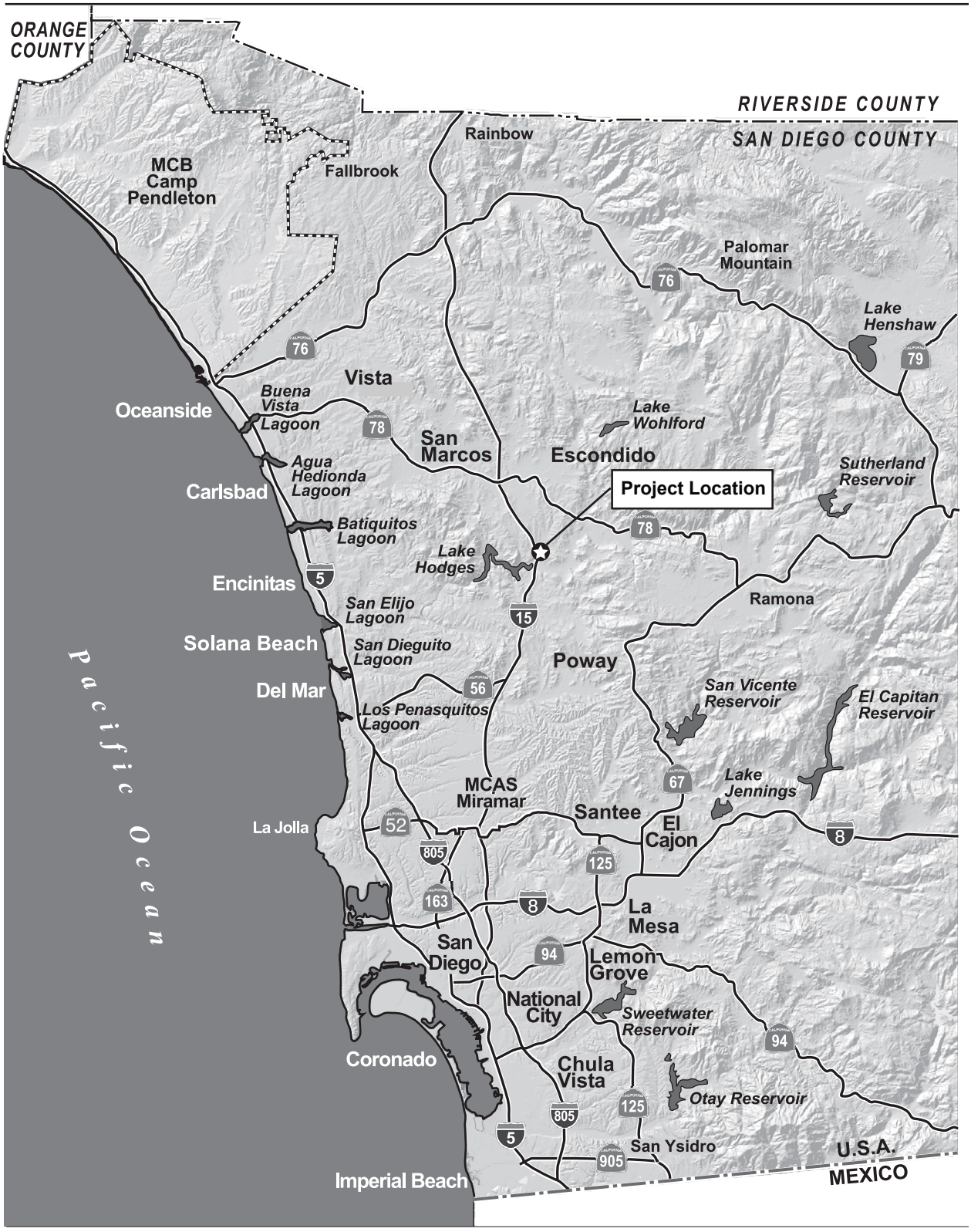
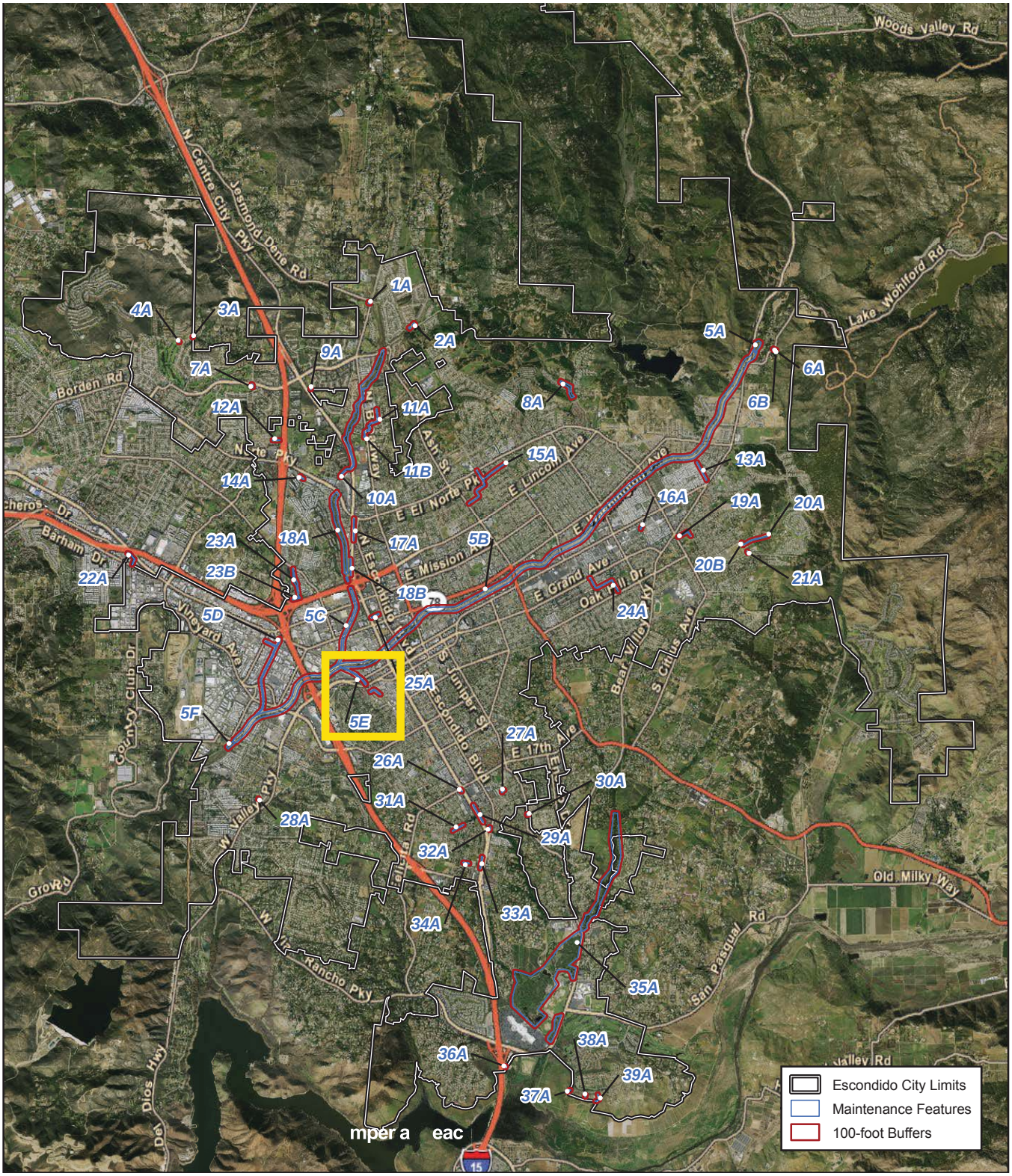


Figure 1
Regional Map



Source: Digital Globe 2008; City of Escondido 2010

0 3,500 7,000 Feet

Scale: 1 = 84,000; 1 inch = 7,000 feet

Figure 2
Vicinity Map

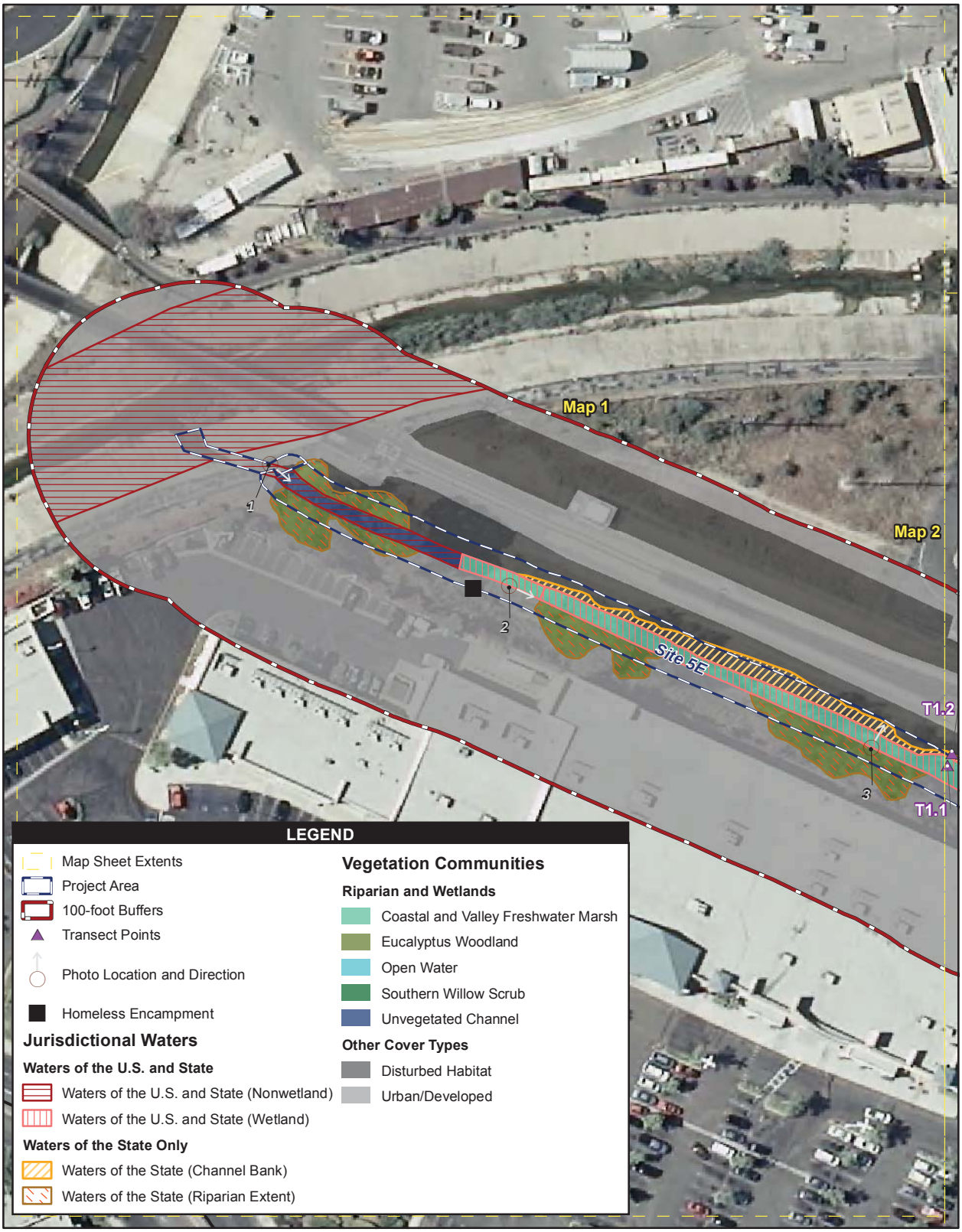
Source: SanGIS 2012, 2014; City of Escondido 2010

0 175 350 Feet

Scale - 1:4,200; 1 inch = 350 feet

Figure 3
Jurisdictional Waters Overview Map

Path: P:\2014\60313771_Esc_MissionP\900-CAD-GIS\920 GIS\922_Maps\JD_Assessment\Veg_Wetland_JD_overview.mxd, 7/2/2014, augellop



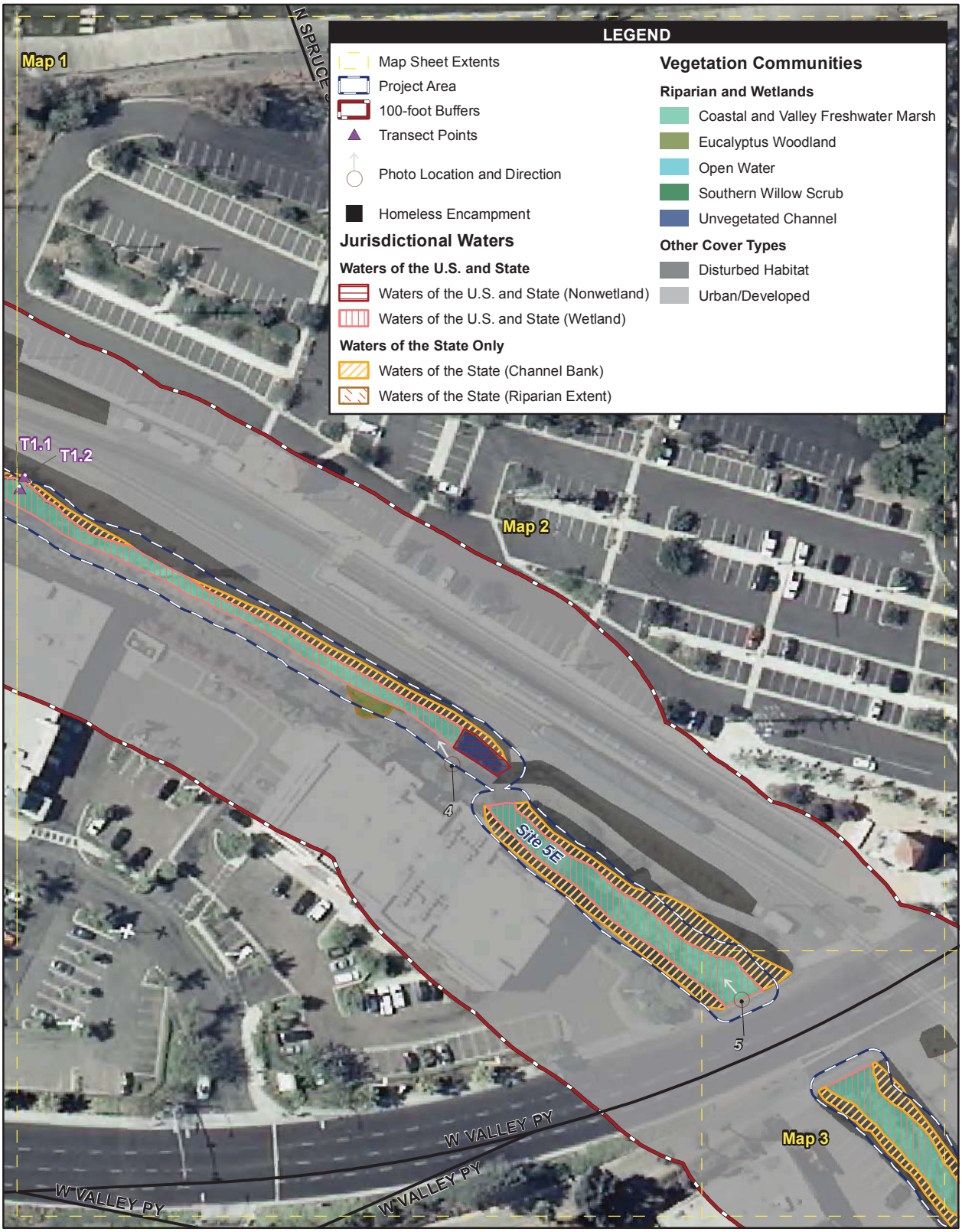
Source: SanGIS 2012, 2014; City of Escondido 2010

0 50 100 Feet

Scale - 1:1,200; 1 inch = 100 feet

Figure 4a
Detailed Jurisdictional Waters
Map 1

Path: P:\2014\60313771_Esc_MissionP\900-CAD-GIS\920 GIS\922_Maps\JD_Assessment\Veg_Wetland_JD_series.mxd, 7/3/2014, augellop



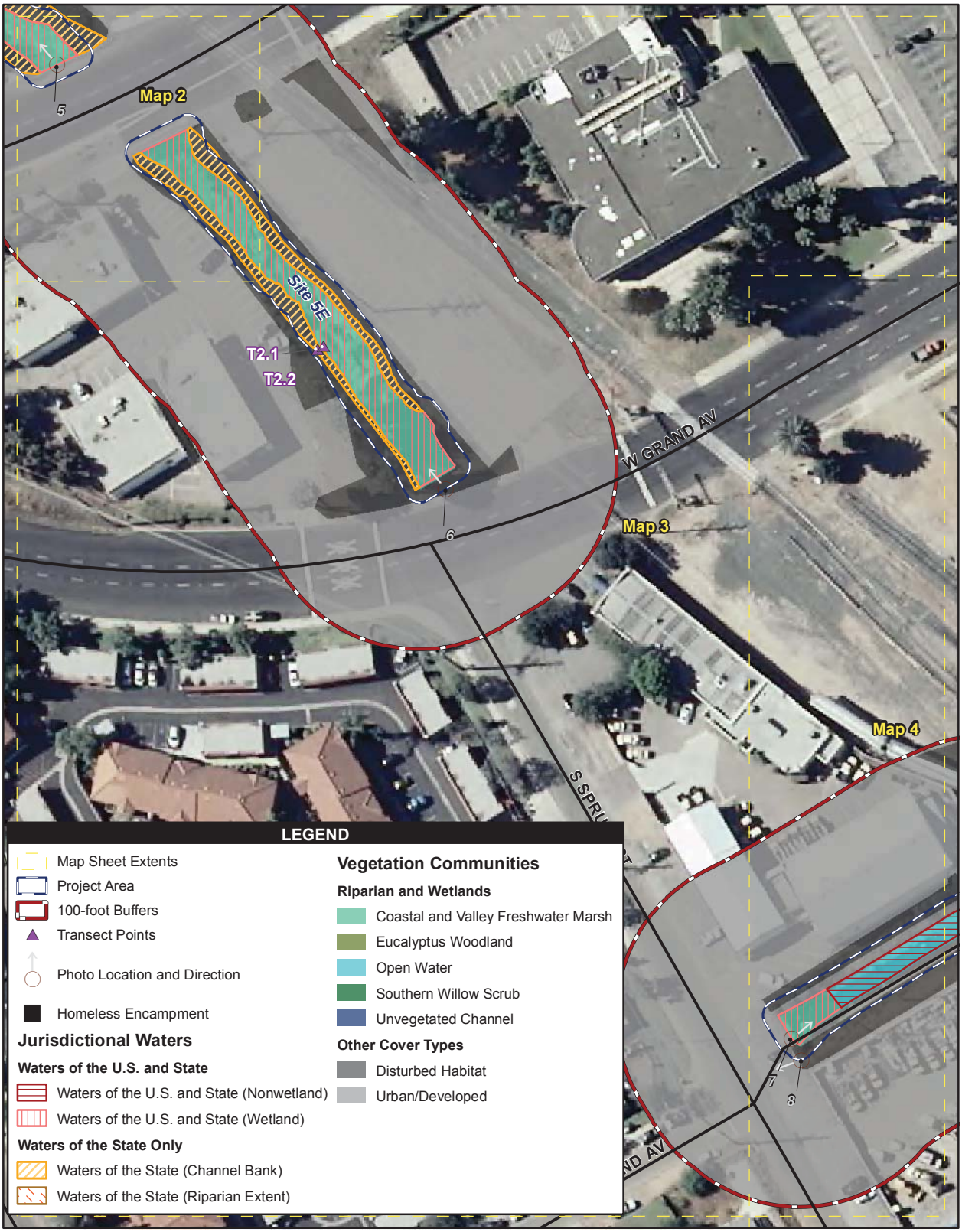
Source: SanGIS 2012, 2014; City of Escondido 2010

0 50 100 Feet

Scale - 1:1,200; 1 inch = 100 feet

Figure 4b
Detailed Jurisdictional Waters
Map 2

Path: P:\2014\60313771_Esc_MissionP\900-CAD-GIS\920 GIS\922_Maps\JD_Assessment\Veg_Wetland_JD_series.mxd, 7/3/2014, augellop



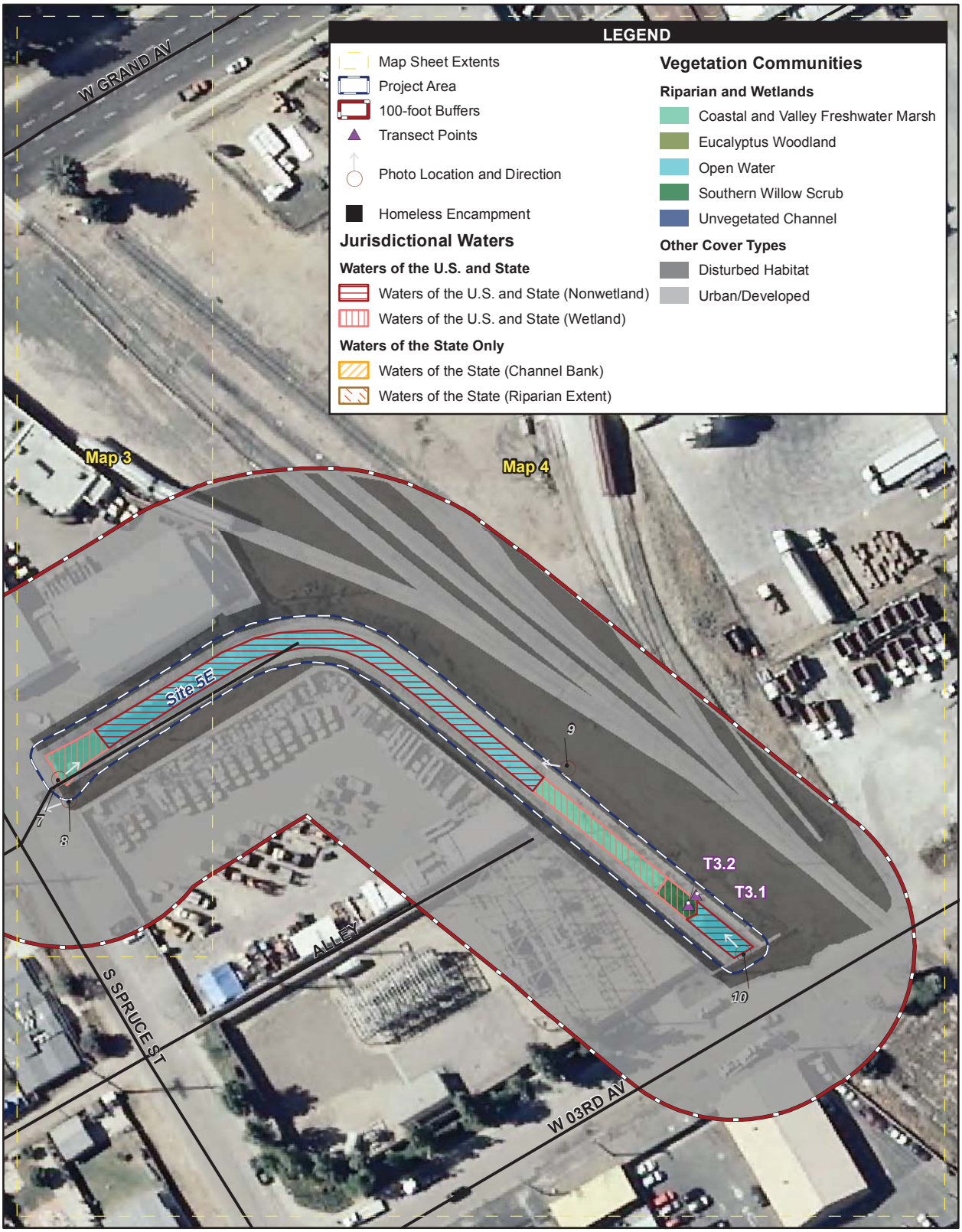
Source: SanGIS 2012, 2014; City of Escondido 2010

0 50 100 Feet

Scale - 1:1,200; 1 inch = 100 feet

Figure 4c
Detailed Jurisdictional Waters
Map 3

Path: P:\2014\60313771_Esc_MissionP\900-CAD-GIS\920 GIS\922_Maps\JD_Assessment\Veg_Wetland_JD_series.mxd, 7/3/2014, augellop



Source: SanGIS 2012, 2014; City of Escondido 2010

0 50 100 Feet

Scale - 1:1,200; 1 inch = 100 feet

Figure 4d
Detailed Jurisdictional Waters
Map 4

Path: P:\2014\60313771_Esc_MissionP\900-CAD-GIS\920 GIS\922_Maps\JD_Assessment\Veg_Wetland_JD_series.mxd, 7/3/2014, augellop

ATTACHMENT B

SITE SUMMARY FORM

PART I. PROJECT FOOTPRINT INFORMATION

Facility Name	Mission Pools	Facility ID	5E	Date Updated	June 18, 2014
Location	3rd Ave to Escondido Creek				
Latitude[1]	33.117697	Longitude[1]	-117.091777	Project Footprint (acres/linear feet)	1.60 acres/2,025 LF
Facility Type	Channel			Lining Type	Concrete, Riprap, Earthen
Will work occur when water is in the channel?	Y [X] N [ ]			**If Yes**, will dewatering or water diversion be needed?	Y [X] N [ ]

PART II. SURVEY INFORMATION

Surveyors	In 2014: L. Cervantes and R. Pellos; In 2010: K. Harper	Date of Survey	7/14/2010; updated assessment on 6/18/2014
Was water in the channel at the time of the survey?	Y [X] N [ ]	Hydrology Type[2]	P [X] I [ ] E [ ] O [ ]
Nearest Named Waterbody	Escondido Creek	NWI Index	Freshwater Forested/Shrub Wetland; Riverine
NRCS Soils	Placentia sandy loam, 2 to 9 percent slopes; Visalia sandy loam, 2 to 5 percent slopes		

Section II.a. Summary of USACE/RWQCB/CDFW Waters of the U.S. and State Within the Project Footprint

USACE 404/RWQCB 401 Jurisdiction	Y [X] N [ ]	USACE 404 Regulated Activity	Y [X] N [ ]		
USACE Nonwetland Waters Present	Y [X] N [ ]	USACE Wetland Waters Present	Y [X] N [ ]	Datapoint(s) Taken	Y [X] N [ ]
Associated Datasheet(s)	5E T1.1, 5E T1.2, 5E T2.1, 5E T2.2, T3.1, T3.2				

Summary of Aquatic Habitats (Waters of the U.S. and State)

Type of Jurisdictional Water	Cowardin Classification	Habitat Desc.[3]	Acres Delineated within Project Footprint[4]	Impact Tier[5]
Wetland Waters			**0.47**	
Coastal and Valley Freshwater Marsh	Palustrine; Emergent, Persistent, Permanently Flooded, Fresh	V/E	0.41	I
Coastal and Valley Freshwater Marsh	Palustrine; Emergent, Persistent, Permanently Flooded, Fresh	V/C	0.05	III
Southern Willow Scrub	Palustrine; Scrub/Shrub Broad-leaved, Deciduous, Seasonally Flooded, Fresh	V/C	0.01	III
Nonwetland Waters			**0.18**	
Open Water	Riverine; Streambed, Sand, Permanently Flooded, Fresh	U/C	0.12	IV
Unvegetated Channel	Riverine; Unconsolidated Bottom, Sand, Intermittently Flooded, Fresh	U/E	0.04	II
Unvegetated Channel	Riverine; Unconsolidated Bottom, Sand, Intermittently Flooded, Fresh	U/C	<0.01	IV
Urban/Developed	N/A	U/E	<0.01	II
Urban/Developed	N/A	U/C	0.01	IV
		TOTAL	**0.64**	

Section II.b. Summary of CDFW Waters of the State Only Within the Project Footprint[6]

CDFW 1600 Jurisdiction Beyond USACE Waters	Y [X] N [ ]	CDFW Regulated Activity	Y [X] N [ ]

Summary of Aquatic Habitats (Waters of the State Only)

Type of Jurisdictional Water	Cowardin Classification	Habitat Desc.[3]	Acres Delineated within Project Footprint[4]	Impact Tier[5]
Riparian Extent			**0.09**	
Eucalyptus Woodland	Palustrine; Forested Broad-leaved Perennial, Seasonally Flooded, Fresh	V/E	0.09	I
Eucalyptus Woodland	Palustrine; Forested Broad-leaved Perennial, Seasonally Flooded, Fresh	V/C	<0.01	III
Channel Bank			**0.24**	
Disturbed Habitat	N/A	V/E	0.24	II
		TOTAL	**0.33**	

Section II.c. Summary of Vegetation Communities and Cover Types Within and Adjacent to the Maintenance Facility

Vegetation Communities and Cover Types [Holland Code]	Acres within Study Area[4]			Dominant/Significant Species
	Project Footprint	100-Foot Buffer	Total	
Riparian and Wetland				
Southern Willow Scrub [63320]	0.01	-	0.01	*Salix gooddingii, Salix lasiolepis, Typha domingensis*
Coastal and Valley Freshwater Marsh [52410]	0.46	-	0.46	*Typha domingensis*
Eucalyptus Woodland [79100]	0.09	0.11	0.20	*Eucalyptus citriodora, Eucalyptus camaldulensis, E. sideroxylon, Salix laevigata (one individual); Ricinis communis*
Open Water [64100]	0.12	-	0.12	*N/A*
Unvegetated Channel [64200]	0.04	-	0.04	*N/A*
Subtotal Riparian and Wetland	*0.72*	*0.11*	*0.83*	
Upland				
None				
Subtotal Upland	-	-	-	
Other				
Urban/Developed [12000]	0.39	20.45	20.84	*Vinca* sp., *Carpobrotus edulis, Washingtonia robusta*
Disturbed Habitat [11300]	0.50	1.79	2.28	*Ricinis communis, Rumex crispus, Conyza bonariensis, Hirschfeldia incana, Salsola tragus, Anagallis arvensis, Melilotus albus, Lolium multiflorum, Washingtonia robusta*
Subtotal Other	*0.88*	*22.24*	*23.12*	
GRAND TOTAL	**1.60**	**22.35**	**23.95**	

Section II.d. Threatened/Endangered/Special Status Species Within the Vicinity of the Maintenance Facility[7]

Special status species observed during 2014 and 2010 field surveys within the Facility Buffer	None
Threatened/Endangered species historically known to occur within the Facility Buffer	coastal California gnatcatcher (*Polioptila californica californica*) (FT, SSC)
Threatened/Endangered species having Designated Critical Habitat within the Facility Buffer	None
Threatened/Endangered species historically known to occur within 1.0 mile of the Facility Buffer	coastal California gnatcatcher (*Polioptila californica californica*) (FT, SSC)
Other non-listed special status species historically known to occur within the Facility Buffer	southern tarplant (*Centromadia parryi* ssp. *australis*) (CNPS List 1B.1) pallid bat (*Antrozous pallidus*) (SSC) orange-throated whiptail (*Aspidoscelis hyperythra*) (SSC) burrowing owl (*Athene cunicularia*) (SSC) Dulzura pocket mouse (*Chaetodipus californicus femoralis*) (SSC) hoary bat (*Lasiurus cinereus*) (L) western yellow bat (*Lasiurus xanthinus*) (SSC) pocketed free-tailed bat (*Nyctinomops femorosaccus*) (SSC) big free-tailed bat (*Nyctinomops macrotis*) (SSC) white-faced ibis (*Plegadis chihi*) (WL) coastal California gnatcatcher (*Polioptila californica californica*) (FT, SSC) American badger (*Taxidea taxus*) (SSC)

Other non-listed special status species historically known to occur within 1.0 mile of the Facility Buffer	southern tarplant (*Centromadia parryi* ssp. *australis*) (CNPS List 1B.1) pallid bat (*Antrozous pallidus*) (SSC) orange-throated whiptail (*Aspidoscelis hyperythra*) (SSC) burrowing owl (*Athene cunicularia*) (SSC) Dulzura pocket mouse (*Chaetodipus californicus femoralis*) (SSC) hoary bat (*Lasiurus cinereus*) (L) western yellow bat (*Lasiurus xanthinus*) (SSC) pocketed free-tailed bat (*Nyctinomops femorosaccus*) (SSC) big free-tailed bat (*Nyctinomops macrotis*) (SSC) white-faced ibis (*Plegadis chihi*) (WL) coastal California gnatcatcher (*Polioptila californica californica*) (FT, SSC) American badger (*Taxidea taxus*) (SSC)		
Are species surveys recommended?	Y ☐ N ☒	If Yes, for what species?	
Will work occur in the breeding season (Feb-August)?		Y ☐ N ☒	

PART III. ADDITIONAL NOTES/COMMENTS

Indicators of all three wetland parameters were identified and the area within the Project footprint is considered to support federal and state regulated wetlands (Coastal and Valley Freshwater Marsh and Southern Willow Scrub). The facility also contains nonwetland waters of the U.S. in the form of OHWM (Open Water, Unvegetated Channel, Urban/Developed). Furthermore, the facility supports CDFW riparian habitat(s) (Disturbed Habitat, Eucalyptus Woodland). See photos for ambient site conditions at time of the 2014 reconnaissance survey. Although CNDDB includes a record of coastal California gnatcatcher with the facility buffer, currently suitable habitat for this or the other special-status species listed above is not present within the Project footprint or surrounding 100-foot buffer. Therefore, additional focused surveys are not required.

Footnotes:

1. Coordinates are based on the centroid of the Project footprint, or as otherwise specified by the City of Escondido.

2. Hydrology Types: P = Perennial, I = Intermittent, E = Ephemeral, O = Open Water

3. Habitat Descriptions: V = Vegetated, U = Unvegetated / E = Earthen, C = Concrete

4. All acreages are rounded to the hundredth-acre; therefore totals may not add up due to rounding.

5. Tier definitions:

TIER I: Includes native habitats occurring within earthen channels. This includes wetland waters and riparian extent.

TIER II: Includes nonnative habitats and unvegetated areas occurring within earthen channels. These are mostly nonwetland waters, but may include disturbed wetland waters.

TIER III: Includes native vegetation occurring within concrete channels.

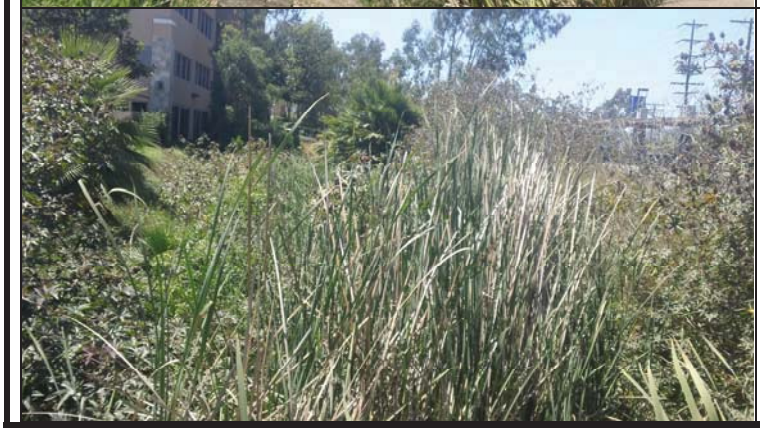
TIER IV: Includes nonnative habitats and unvegetated areas occurring within concrete channels.

6. CDFW jurisdictional waters of the state only do not include USACE jurisdictional waters. The total CDFW jurisdictional area can be calculated by adding USACE/CDFW waters to CDFW only waters.

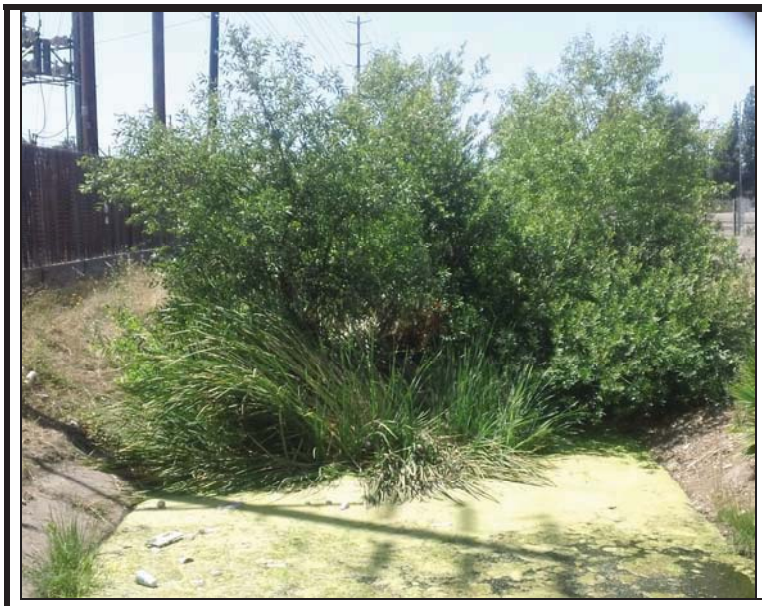
7. Sources: California Natural Diversity Database (CNDDB) (CDFG 2010) and U.S. Fish and Wildlife Critical Habitat Data (USFWS 2010).

PART IV. REPRESENTATIVE FACILITY PHOTOGRAPHS

Representative Photograph 1. Looking east (upstream) of the channel before it enters Escondido Creek.

	Representative Photograph 2. Looking east (upstream) within the coastal and valley freshwater marsh within the channel and Eucalyptus Woodland along the channel bank.
	Representative Photograph 3. Looking north at the eroded bank along the northern side of the channel. The erosion is occurring along the railroad berm and is a hazard to the railroad system.
	Representative Photograph 4. Looking west (downstream) of the channel dominated by coastal and valley freshwater marsh.
	Representative Photograph 5. Looking west (downstream). Within this area, coastal and valley freshwater marsh is found within the channel and castor bean was found along the banks.

	Representative Photograph 6. Looking west (downstream) from West Grand Avenue. The coastal and valley freshwater marsh allows for sediment to build up and water to pond for long durations within this area.
	Representative Photograph 7. Looking north (upstream) within the concrete-lined segment of the channel. A pocket of coastal and valley freshwater marsh has established near the inlet culvert.
	Representative Photograph 8. Looking northwest (upstream) within the concrete-lined segment of the channel. The majority of this concrete channel is open water and unvegetated.
	Representative Photograph 9. Looking west (downstream) of the concrete-lined channel. This channel is perennial and had approximately 1 foot of standing water throughout at the time of the survey (July 2014).



Representative Photograph 10. Looking west (downstream) at the small area of southern willow scrub found within the concrete-lined segment of the channel.

ATTACHMENT C

WETLAND DETERMINATION DATA FORMS

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: City of Escondido Mission Pools | City/County: Escondido/San Diego | Sampling Date: 7/14/2010

Applicant/Owner: City of Escondido | State: CA | Sampling Point: 5E T1.1

Investigator(s): K. Harper | Section, Township, Range: Land Grants, Civil Colonies, Rincon del Diablo

Landform (hillslope, terrace, etc.): Base of Hillslope | Local relief (concave, convex, none): Concave | Slope (%): 5

Subregion (LRR): C - Mediterranean California | Lat: 33.1188128517246 °N | Long: -117.093423707099 °W | Datum: NAD 83

Soil Map Unit Name: Visalia sandy loam, 2 to 5 percent slopes | NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes (●) No ( ) (If no, explain in Remarks.)

Are Vegetation [ ] Soil [ ] or Hydrology [ ] significantly disturbed? Are "Normal Circumstances" present? Yes (●) No ( )

Are Vegetation [ ] Soil [ ] or Hydrology [ ] naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ( )	No (●)
Hydric Soil Present?	Yes ( )	No (●)
Wetland Hydrology Present?	Yes (●)	No ( )
Is the Sampled Area within a Wetland?	**Yes** ( )	**No** (●)

Remarks: This data form was updated based on the updated field assessment completed on June 18, 2014 by L. Cervantes and R. Pellos. Site Conditions had not significantly changed, therefore new data within this area was not collected.
Upland datapoint for Transect 1 of Mission Pools. No evidence of hydrophytic vegetation or hydric soil were found for this datapoint as such the feature is not considered a three-parameter wetland.

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:	%		
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:	%		
Herb Stratum			
1. *Cynodon dactylon*	10	Yes	FACU
2. *Bromus diandrus*	7	Yes	Not Listed
3. *Lactuca serriola*	5	No	FACU
4. *Melilotus albus*	5	No	FACU
5. *Oenothera elata ssp. hookeri*	0.2	No	FACW
6.			
7.			
8.			
Total Cover:	27.2%		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

% Bare Ground in Herb Stratum 0 % | % Cover of Biotic Crust 0 %

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0 % (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	0
FACW species	0.2	x 2 =	0.4
FAC species		x 3 =	0
FACU species	20	x 4 =	80
UPL species	7	x 5 =	35
Column Totals:	27.2 (A)		115.4 (B)

Prevalence Index = B/A = 4.24

Hydrophytic Vegetation Indicators:

- (●) Dominance Test is >50%
- (●) Prevalence Index is ≤3.0[1]
- [ ] Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- [ ] Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ( ) No (●)

Remarks: The sample area lacks hydrophytic vegetation.
The vegetation portion of this data sheet was updated to use the 2014 NWPL. The changes in the wetland ratings did not change the status of the wetland and non-wetland areas.

SOIL

Sampling Point: 5E T1.1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-20	7.5YR 3/3	100	N/A	-			Loamy Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR C**)
- ☐ 1 cm Muck (A9) (**LRR D**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) (**LRR C**)
- ☐ 2 cm Muck (A10) (**LRR B**)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: None

Depth (inches): N/A

Hydric Soil Present? Yes ○ No ◉

Remarks: No indicators of hydric soil observed in soil pit. Some alluvial deposition here but soil does not show indicators. Alpha, alpha-dipyridyl negative.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1) (**Nonriverine**)
- ☐ Sediment Deposits (B2) (**Nonriverine**)
- ☐ Drift Deposits (B3) (**Nonriverine**)
- ☒ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Recent Iron Reduction in Plowed Soils (C6)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) (**Riverine**)
- ☐ Sediment Deposits (B2) (**Riverine**)
- ☒ Drift Deposits (B3) (**Riverine**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ○	No ◉	Depth (inches): N/A
Water Table Present?	Yes ○	No ◉	Depth (inches): N/A
Saturation Present? (includes capillary fringe)	Yes ○	No ◉	Depth (inches): N/A

Wetland Hydrology Present? Yes ◉ No ○

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: One Primary Indicator and 1 Secondary Indicator of wetland hydrology were observed. No saturation but consider extending OHWM here as other waters, extend to sheer bank.

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: City of Escondido Mission Pools | City/County: Escondido/San Diego | Sampling Date: 7/14/2010

Applicant/Owner: City of Escondido | State: CA | Sampling Point: 5E T1.2

Investigator(s): K. Harper | Section, Township, Range: Land Grants, Civil Colonies, Rincon del Diablo

Landform (hillslope, terrace, etc.): Channel Bottom | Local relief (concave, convex, none): Concave | Slope (%): 0

Subregion (LRR): C - Mediterranean California | Lat: 33.1188351705658 °N | Long: -117.093413866042 °W | Datum: NAD 83

Soil Map Unit Name: Visalia sandy loam, 2 to 5 percent slopes | NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes (●) No ( ) (If no, explain in Remarks.)

Are Vegetation [ ] Soil [ ] or Hydrology [ ] significantly disturbed? Are "Normal Circumstances" present? Yes (●) No ( )

Are Vegetation [ ] Soil [ ] or Hydrology [ ] naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes (●)	No ( )		
Hydric Soil Present?	Yes (●)	No ( )	**Is the Sampled Area within a Wetland?**	**Yes (●) No ( )**
Wetland Hydrology Present?	Yes (●)	No ( )		

Remarks: This data form was updated based on the updated field assessment completed on June 18, 2014 by L. Cervantes and R. Pellos. Site Conditions had not significantly changed, therefore new data within this area was not collected. Wetland verification datapoint.

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:	%		
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:	%		
Herb Stratum			
1. *Typha domingensis*	45	Yes	OBL
2. *Schoenoplectus americanus*	10	No	OBL
3. *Lactuca serriola*	5	No	FACU
4. *Melilotus albus*	5	No	FACU
5. *Anagallis arvensis*	0.2	No	FAC
6. *Conium maculatum*	0.2	No	FACW
7. *Conyza bonariensis*	0.2	No	FACU
8. *Plantago major*	0.2	No	FAC
Total Cover:	65.8%		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

% Bare Ground in Herb Stratum: 25 % | % Cover of Biotic Crust: 0 %

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0 % (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	55	x 1 =	55
FACW species	0.2	x 2 =	0.4
FAC species	0.4	x 3 =	1.2
FACU species	10.2	x 4 =	40.8
UPL species		x 5 =	0
Column Totals:	65.8 (A)		97.4 (B)

Prevalence Index = B/A = 1.48

Hydrophytic Vegetation Indicators:

- [X] Dominance Test is >50%
- [X] Prevalence Index is ≤3.0[1]
- [ ] Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- [ ] Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes (●) No ( )

Remarks: The sample area is dominated by hydrophytic vegetation. Channel is dense with typha and bulrush. Other herbs are only incidental along OHWM. Scattered trees in channel are mostly Eucalyptus spp. with one patch of Salix laevigata. The vegetation portion of this data sheet was updated to use the 2014 NWPL. The changes in the wetland ratings did not change the status of the wetland and non-wetland areas.

SOIL

Sampling Point: 5E T1.2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-3	7.5YR 3/3	100	N/A	-			Sand	
3-20	Gley 2.5/N	100	N/A	-			Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- [ ] Histosol (A1)
- [ ] Histic Epipedon (A2)
- [ ] Black Histic (A3)
- [x] Hydrogen Sulfide (A4)
- [ ] Stratified Layers (A5) (**LRR C**)
- [ ] 1 cm Muck (A9) (**LRR D**)
- [ ] Depleted Below Dark Surface (A11)
- [ ] Thick Dark Surface (A12)
- [ ] Sandy Mucky Mineral (S1)
- [x] Sandy Gleyed Matrix (S4)
- [ ] Sandy Redox (S5)
- [ ] Stripped Matrix (S6)
- [ ] Loamy Mucky Mineral (F1)
- [ ] Loamy Gleyed Matrix (F2)
- [ ] Depleted Matrix (F3)
- [ ] Redox Dark Surface (F6)
- [ ] Depleted Dark Surface (F7)
- [ ] Redox Depressions (F8)
- [ ] Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- [ ] 1 cm Muck (A9) (**LRR C**)
- [ ] 2 cm Muck (A10) (**LRR B**)
- [ ] Reduced Vertic (F18)
- [ ] Red Parent Material (TF2)
- [x] Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: None

Depth (inches): N/A

Hydric Soil Present? Yes (●) No ( )

Remarks: Indicator(s) of hydric soil observed in soil pit. In addition, hydrophytic vegetation and wetland hydrology are present. alluvial deposition has filled channel. All sand, does not match map unit. Alpha, alpha-dipyridyl negative.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- [x] Surface Water (A1)
- [x] High Water Table (A2)
- [x] Saturation (A3)
- [ ] Water Marks (B1) (**Nonriverine**)
- [ ] Sediment Deposits (B2) (**Nonriverine**)
- [ ] Drift Deposits (B3) (**Nonriverine**)
- [ ] Surface Soil Cracks (B6)
- [ ] Inundation Visible on Aerial Imagery (B7)
- [ ] Water-Stained Leaves (B9)
- [ ] Salt Crust (B11)
- [ ] Biotic Crust (B12)
- [ ] Aquatic Invertebrates (B13)
- [x] Hydrogen Sulfide Odor (C1)
- [ ] Oxidized Rhizospheres along Living Roots (C3)
- [ ] Presence of Reduced Iron (C4)
- [ ] Thin Muck Surface (C7)
- [ ] Recent Iron Reduction in Plowed Soils (C6)
- [ ] Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- [x] Water Marks (B1) (**Riverine**)
- [x] Sediment Deposits (B2) (**Riverine**)
- [x] Drift Deposits (B3) (**Riverine**)
- [x] Drainage Patterns (B10)
- [ ] Dry-Season Water Table (C2)
- [ ] Crayfish Burrows (C8)
- [x] Saturation Visible on Aerial Imagery (C9)
- [ ] Shallow Aquitard (D3)
- [x] FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes (●) No ( ) Depth (inches): 6

Water Table Present? Yes (●) No ( ) Depth (inches): 0

Saturation Present? (includes capillary fringe) Yes (●) No ( ) Depth (inches): 0

Wetland Hydrology Present? Yes (●) No ( )

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: 4 Primary Indicators and 6 Secondary Indicators of wetland hydrology were observed. Water is standing, flowing too slow to see at this point in channel. Water is moving more rapidly once cattails stop downstream. Appears to be a high point near here.

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: City of Escondido Mission Pools | City/County: Escondido/San Diego | Sampling Date: 7/14/2010

Applicant/Owner: City of Escondido | State: CA | Sampling Point: 5E T2.1

Investigator(s): K. Harper | Section, Township, Range: Land Grants, Civil Colonies, Rincon del Diablo

Landform (hillslope, terrace, etc.): Hillslope | Local relief (concave, convex, none): Convex | Slope (%): 8

Subregion (LRR): C - Mediterranean California | Lat: 33.1173418484789 °N | Long: -117.091224903989 °W | Datum: NAD 83

Soil Map Unit Name: Placentia sandy loam, 2 to 9 percent slopes | NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes (●) No ( ) (If no, explain in Remarks.)

Are Vegetation [ ] Soil [ ] or Hydrology [ ] significantly disturbed? Are "Normal Circumstances" present? Yes (●) No ( )

Are Vegetation [ ] Soil [ ] or Hydrology [ ] naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ( )	No (●)	
Hydric Soil Present?	Yes ( )	No (●)	**Is the Sampled Area within a Wetland?** Yes ( ) No (●)
Wetland Hydrology Present?	Yes ( )	No (●)	

Remarks: This data form was updated based on the updated field assessment completed on June 18, 2014 by L. Cervantes and R. Pellos. Upland datapoint for Transect 2 of site 5E (Mission Pools). No evidence of hydrophytic vegetation, hydric soil, or wetland hydrology were found for this datapoint as such the feature is not considered a three-parameter wetland.

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:	%		
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:	%		
Herb Stratum			
1. *Hirschfeldia incana*	11	Yes	Not Listed
2. *Conyza bonariensis*	8	Yes	FACU
3. *Lactuca serriola*	5	No	FACU
4. *Lolium multiflorum*	5	No	FAC
5.			
6.			
7.			
8.			
Total Cover:	29 %		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

% Bare Ground in Herb Stratum 61 % | % Cover of Biotic Crust 0 %

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0 % (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	0
FACW species		x 2 =	0
FAC species	5	x 3 =	15
FACU species	13	x 4 =	52
UPL species	11	x 5 =	55
Column Totals:	29 (A)		122 (B)

Prevalence Index = B/A = 4.21

Hydrophytic Vegetation Indicators:

- (●) Dominance Test is >50%
- (●) Prevalence Index is ≤3.0[1]
- [ ] Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- [ ] Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ( ) No (●)

Remarks: The sample area lacks hydrophytic vegetation. Mostly dormant invasive annuals.
The vegetation portion of this data sheet was updated to use the 2014 NWPL. The changes in the wetland ratings did not change the status of the wetland and non-wetland areas.

SOIL

Sampling Point: 5E T2.1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-4	10 YR 3/3	100	N/A	-			Loamy Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR C**)
- ☐ 1 cm Muck (A9) (**LRR D**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) (**LRR C**)
- ☐ 2 cm Muck (A10) (**LRR B**)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: Compact Soils

Depth (inches): 4

Hydric Soil Present? Yes ○ No ◉

Remarks: No indicators of hydric soil observed in soil pit.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1) (**Nonriverine**)
- ☐ Sediment Deposits (B2) (**Nonriverine**)
- ☐ Drift Deposits (B3) (**Nonriverine**)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Recent Iron Reduction in Plowed Soils (C6)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) (**Riverine**)
- ☐ Sediment Deposits (B2) (**Riverine**)
- ☐ Drift Deposits (B3) (**Riverine**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ○	No ◉	Depth (inches): N/A
Water Table Present?	Yes ○	No ◉	Depth (inches): N/A
Saturation Present? (includes capillary fringe)	Yes ○	No ◉	Depth (inches): N/A

Wetland Hydrology Present? Yes ○ No ◉

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: No indicators of wetland hydrology observed.

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: City of Escondido Mission Pools | City/County: Escondido/San Diego | Sampling Date: 7/14/2010

Applicant/Owner: City of Escondido | State: CA | Sampling Point: 5E T2.2

Investigator(s): K. Harper | Section, Township, Range: Land Grants, Civil Colonies, Rincon del Diablo

Landform (hillslope, terrace, etc.): Channel Bottom | Local relief (concave, convex, none): Concave | Slope (%): 1

Subregion (LRR): C - Mediterranean California | Lat: 33.1173484775295 °N | Long: -117.09121168567 °W | Datum: NAD 83

Soil Map Unit Name: Placentia sandy loam, 2 to 9 percent slopes | NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes (●) No ( ) (If no, explain in Remarks.)

Are Vegetation [ ] Soil [ ] or Hydrology [ ] significantly disturbed? Are "Normal Circumstances" present? Yes (●) No ( )

Are Vegetation [ ] Soil [ ] or Hydrology [ ] naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes (●)	No ( )	
Hydric Soil Present?	Yes (●)	No ( )	**Is the Sampled Area within a Wetland?** Yes (●) No ( )
Wetland Hydrology Present?	Yes (●)	No ( )	

Remarks: This data form was updated based on the updated field assessment completed on June 18, 2014 by L. Cervantes and R. Pellos. Site Conditions had not significantly changed, therefore new data within this area was not collected. Wetland verification datapoint.

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Washingtonia robusta*	5	Yes	FACW
2.			
3.			
4.			
Total Cover:	5 %		
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:	%		
Herb Stratum			
1. *Typha domingensis*	45	Yes	OBL
2. *Melilotus albus*	5	No	FACU
3. *Polypogon monspeliensis*	5	No	FACW
4. *Anagallis arvensis*	0.2	No	FAC
5. *Poa pratensis ssp. pratensis*	0.2	No	FAC
6. *Rumex crispus*	0.2	No	FAC
7.			
8.			
Total Cover:	55.6%		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

% Bare Ground in Herb Stratum 45 % | % Cover of Biotic Crust 0 %

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0 % (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	45	x 1 =	45
FACW species	10	x 2 =	20
FAC species	0.6	x 3 =	1.8
FACU species	5	x 4 =	20
UPL species		x 5 =	0
Column Totals:	60.6 (A)		86.8 (B)

Prevalence Index = B/A = 1.43

Hydrophytic Vegetation Indicators:

- [x] Dominance Test is >50%
- [x] Prevalence Index is ≤3.0[1]
- [ ] Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- [ ] Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes (●) No ( )

Remarks: The sample area is dominated by hydrophytic vegetation.
The vegetation portion of this data sheet was updated to use the 2014 NWPL. The changes in the wetland ratings did not change the status of the wetland and non-wetland areas.

SOIL

Sampling Point: 5E T2.2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-1	10YR 2/1	100	N/A	-			Muck	
1-20	Gley 1 2.5/N	100	N/A	-			Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- [ ] Histosol (A1)
- [ ] Histic Epipedon (A2)
- [ ] Black Histic (A3)
- [x] Hydrogen Sulfide (A4)
- [ ] Stratified Layers (A5) (**LRR C**)
- [ ] 1 cm Muck (A9) (**LRR D**)
- [ ] Depleted Below Dark Surface (A11)
- [ ] Thick Dark Surface (A12)
- [x] Sandy Mucky Mineral (S1)
- [x] Sandy Gleyed Matrix (S4)
- [ ] Sandy Redox (S5)
- [ ] Stripped Matrix (S6)
- [ ] Loamy Mucky Mineral (F1)
- [ ] Loamy Gleyed Matrix (F2)
- [ ] Depleted Matrix (F3)
- [ ] Redox Dark Surface (F6)
- [ ] Depleted Dark Surface (F7)
- [ ] Redox Depressions (F8)
- [ ] Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- [x] 1 cm Muck (A9) (**LRR C**)
- [ ] 2 cm Muck (A10) (**LRR B**)
- [ ] Reduced Vertic (F18)
- [ ] Red Parent Material (TF2)
- [ ] Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: None

Depth (inches): N/A

Hydric Soil Present? Yes (●) No ( )

Remarks: Indicator(s) of hydric soil observed in soil pit. In addition, hydrophytic vegetation and wetland hydrology are present. Soil has silty muck layer at surface, which smells strongly of H2S.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- [x] Surface Water (A1)
- [x] High Water Table (A2)
- [x] Saturation (A3)
- [ ] Water Marks (B1) (**Nonriverine**)
- [ ] Sediment Deposits (B2) (**Nonriverine**)
- [ ] Drift Deposits (B3) (**Nonriverine**)
- [ ] Surface Soil Cracks (B6)
- [ ] Inundation Visible on Aerial Imagery (B7)
- [ ] Water-Stained Leaves (B9)
- [ ] Salt Crust (B11)
- [ ] Biotic Crust (B12)
- [ ] Aquatic Invertebrates (B13)
- [x] Hydrogen Sulfide Odor (C1)
- [ ] Oxidized Rhizospheres along Living Roots (C3)
- [ ] Presence of Reduced Iron (C4)
- [ ] Thin Muck Surface (C7)
- [ ] Recent Iron Reduction in Plowed Soils (C6)
- [ ] Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- [x] Water Marks (B1) (**Riverine**)
- [x] Sediment Deposits (B2) (**Riverine**)
- [x] Drift Deposits (B3) (**Riverine**)
- [ ] Drainage Patterns (B10)
- [ ] Dry-Season Water Table (C2)
- [ ] Crayfish Burrows (C8)
- [x] Saturation Visible on Aerial Imagery (C9)
- [ ] Shallow Aquitard (D3)
- [ ] FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes (●) No ( ) Depth (inches): 18

Water Table Present? Yes (●) No ( ) Depth (inches): 0

Saturation Present? (includes capillary fringe) Yes (●) No ( ) Depth (inches): 0

Wetland Hydrology Present? Yes (●) No ( )

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Three Primary Indicators and 4 Secondary Indicators of wetland hydrology were observed. Not sure if water in channel is connected to water table or perched on concrete lining.

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: City of Escondido Mission Pools | City/County: Escondido/San Diego | Sampling Date: 6/18/2014

Applicant/Owner: City of Escondido | State: CA | Sampling Point: T3.1

Investigator(s): L. Cervantes and R. Pellos | Section, Township, Range: Land Grants, Civil Colonies, Rincon del Diablo

Landform (hillslope, terrace, etc.): Terrace | Local relief (concave, convex, none): Convex | Slope (%): 5

Subregion (LRR): C - Mediterranean California | Lat: 33.115856 °N | Long: -117.088741°W | Datum: NAD 83

Soil Map Unit Name: Placentia sandy loam, 2 to 9 percent slopes | NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes (●) No ( ) (If no, explain in Remarks.)

Are Vegetation [ ] Soil [ ] or Hydrology [ ] significantly disturbed? Are "Normal Circumstances" present? Yes (●) No ( )

Are Vegetation [ ] Soil [ ] or Hydrology [ ] naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ( )	No (●)	
Hydric Soil Present?	Yes ( )	No (●)	**Is the Sampled Area within a Wetland?** Yes ( ) No (●)
Wetland Hydrology Present?	Yes ( )	No (●)	

Remarks: Upland transect Point within disturbed terrace.

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:	%		
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:	%		
Herb Stratum			
1. *Conyza canadensis*	5	Yes	FACU
2. *Cynodon dactylon*	5	Yes	FACU
3.			
4.			
5.			
6.			
7.			
8.			
Total Cover:	10 %		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

% Bare Ground in Herb Stratum 90 % | % Cover of Biotic Crust 0 %

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0 % (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	0
FACW species		x 2 =	0
FAC species		x 3 =	0
FACU species	10	x 4 =	40
UPL species		x 5 =	0
Column Totals:	10 (A)		40 (B)

Prevalence Index = B/A = 4.00

Hydrophytic Vegetation Indicators:

- (●) Dominance Test is >50%
- (●) Prevalence Index is ≤3.0[1]
- [ ] Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- [ ] Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ( ) No (●)

Remarks: The sample area lacks hydrophytic vegetation and is mostly unvegetated.

SOIL

Sampling Point: T3.1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-4	10 YR 4/3	100	N/A	-			L/C	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR C**)
- ☐ 1 cm Muck (A9) (**LRR D**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) (**LRR C**)
- ☐ 2 cm Muck (A10) (**LRR B**)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: Compact Soils

Depth (inches): 4

Hydric Soil Present? Yes ○ No ◉

Remarks: No indicators of hydric soil observed in soil pit.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1) (**Nonriverine**)
- ☐ Sediment Deposits (B2) (**Nonriverine**)
- ☐ Drift Deposits (B3) (**Nonriverine**)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Recent Iron Reduction in Plowed Soils (C6)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) (**Riverine**)
- ☐ Sediment Deposits (B2) (**Riverine**)
- ☐ Drift Deposits (B3) (**Riverine**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ○	No ◉	Depth (inches): N/A
Water Table Present?	Yes ○	No ◉	Depth (inches): N/A
Saturation Present? (includes capillary fringe)	Yes ○	No ◉	Depth (inches): N/A

Wetland Hydrology Present? Yes ○ No ◉

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: No hydrology indicators observed within this area.

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: City of Escondido Mission Pools | City/County: Escondido/San Diego | Sampling Date: 6/18/2014

Applicant/Owner: City of Escondido | State: CA | Sampling Point: T3.2

Investigator(s): L. Cervantes and R. Pellos | Section, Township, Range: Land Grants, Civil Colonies, Rincon del Diablo

Landform (hillslope, terrace, etc.): Channel | Local relief (concave, convex, none): concave | Slope (%): 0

Subregion (LRR): C - Mediterranean California | Lat: 33.115837 °N | Long: -117.088758°W | Datum: NAD 83

Soil Map Unit Name: Placentia sandy loam, 2 to 9 percent slopes | NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ○ No ◉ (If no, explain in Remarks.)

Are Vegetation ☐ Soil ☐ or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ◉ No ○

Are Vegetation ☐ Soil ☐ or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ◉	No ○	
Hydric Soil Present?	Yes ◉	No ○	**Is the Sampled Area within a Wetland?** Yes ◉ No ○
Wetland Hydrology Present?	Yes ◉	No ○	

Remarks: Upland transect Point within disturbed terrace.
San Diego County is going into 3 years of drought.

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Salix lasiolepis*	15	Yes	FACW
2. *Salix goodingii*	10	Yes	FACW
3.			
4.			
Total Cover:	25 %		
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:	%		
Herb Stratum			
1. *Typha domingensis*	40	Yes	OBL
2.			
3.			
4.			
5.			
6.			
7.			
8.			
Total Cover:	40 %		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

% Bare Ground in Herb Stratum 60 % | % Cover of Biotic Crust 0 %

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0 % (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	40	x 1 =	40
FACW species	25	x 2 =	50
FAC species		x 3 =	0
FACU species		x 4 =	0
UPL species		x 5 =	0
Column Totals:	65 (A)		90 (B)

Prevalence Index = B/A = 1.38

Hydrophytic Vegetation Indicators:

- ☒ Dominance Test is >50%
- ☒ Prevalence Index is ≤3.0[1]
- ☐ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks: Typha is matted down along the channel bottom allowing willows to establish over it.

SOIL

Sampling Point: T3.2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
N/A	-	-	-	-			-	-

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR C**)
- ☐ 1 cm Muck (A9) (**LRR D**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) (**LRR C**)
- ☐ 2 cm Muck (A10) (**LRR B**)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☒ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: None

Depth (inches): N/A

Hydric Soil Present? Yes ◉ No ○

Remarks: No soils pit dug as standing water was within the area of investigation. In addition, less than one foot of sediment has built on the concrete channel and is not expected to show signs of hydric soils due to the recent development of this wetland habitat.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ☒ Surface Water (A1)
- ☒ High Water Table (A2)
- ☒ Saturation (A3)
- ☐ Water Marks (B1) (**Nonriverine**)
- ☐ Sediment Deposits (B2) (**Nonriverine**)
- ☐ Drift Deposits (B3) (**Nonriverine**)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Recent Iron Reduction in Plowed Soils (C6)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) (**Riverine**)
- ☒ Sediment Deposits (B2) (**Riverine**)
- ☒ Drift Deposits (B3) (**Riverine**)
- ☒ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ○	No ◉	Depth (inches):	4
Water Table Present?	Yes ○	No ◉	Depth (inches):	0
Saturation Present? (includes capillary fringe)	Yes ○	No ◉	Depth (inches):	0

Wetland Hydrology Present? Yes ◉ No ○

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: No hydrology indicators observed within this area.

ATTACHMENT D

PRELIMINARY JURISDICTIONAL DETERMINATION FORM

PRELIMINARY JURISDICTIONAL DETERMINATION FORM

This preliminary JD finds that there *"may be"* waters of the United States on the subject project site, and identifies all aquatic features on the site that could be affected by the proposed activity, based on the following information:

District Office: Los Angeles District | File/ORM #: | PJD Date: June 18, 2014

State: CA | City/County: Escondido/San Diego

Nearest Waterbody: Escondido Creek

Location: TRS, LatLong or UTM: 33.117697, -117.091777 (NAD 83)

Name/ Address of Person Requesting PJD:
Helen Davis
City of Escondido - Utilities Dept.
201 North Broadway
Escondido, CA 92025

Identify (Estimate) Amount of Waters in the Review Area:

Non-Wetland Waters: 2,025 linear ft | 13 width | 0.64 acres | Stream Flow: N/A

Wetlands: 0.18 acre(s) | Cowardin Class: Palustrine, emergent

Name of Any Water Bodies on the Site Identified as Section 10 Waters: Tidal: N/A | Non-Tidal: N/A

☐ Office (Desk) Determination
☑ Field Determination: Date of Field Trip: June 18, 2014

SUPPORTING DATA: Data reviewed for preliminary JD (check all that apply - checked items should be included in case file and, where checked and requested, appropriately reference sources below):

- ☑ Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant: Provided in JD Memo
- ☑ Data sheets prepared/submitted by or on behalf of the applicant/consultant.
  - ☐ Office concurs with data sheets/delineation report.
  - ☐ Office does not concur with data sheets/delineation report.
- ☐ Data sheets prepared by the Corps
- ☐ Corps navigable waters' study:
- ☑ U.S. Geological Survey Hydrologic Atlas:
  - ☑ USGS NHD data.
  - ☑ USGS 8 and 12 digit HUC maps.
- ☐ U.S. Geological Survey map(s). Cite quad name:
- ☑ USDA Natural Resources Conservation Service Soil Survey. Citation: Bowman1973
- ☑ National wetlands inventory map(s). Cite name: No NWI wetlands at this location
- ☐ State/Local wetland inventory map(s):
- ☐ FEMA/FIRM maps:
- ☐ 100-year Floodplain Elevation is:
- ☑ Photographs: ☑ Aerial (Name & Date): See figures in JD Memo
  ☑ Other (Name & Date): Photos included in site summary form (Att B)
- ☐ Previous determination(s). File no. and date of response letter:
- ☑ Other information (please specify): See JD Memo and Site Summary Form (Att B)

IMPORTANT NOTE: The information recorded on this form has not necessarily been verified by the Corps and should not be relied upon for later jurisdictional determinations.

Signature and Date of Regulatory Project Manager (REQUIRED)

Signature and Date of Person Requesting Preliminary JD (REQUIRED, unless obtaining the signature is impracticable)

EXPLANATION OF PRELIMINARY AND APPROVED JURISDICTIONAL DETERMINATIONS:

1. The Corps of Engineers believes that there may be jurisdictional waters of the United States on the subject site, and the permit applicant or other affected party who requested this preliminary JD is hereby advised of his or her option to request and obtain an approved jurisdictional determination (JD) for that site. Nevertheless, the permit applicant or other person who requested this preliminary JD has declined to exercise the option to obtain an approved JD in this instance and at this time.

2. In any circumstance where a permit applicant obtains an individual permit, or a Nationwide General Permit (NWP) or other general permit verification requiring "preconstruction notification" (PCN), or requests verification for a non-reporting NWP or other general permit, and the permit applicant has not requested an approved JD for the activity, the permit applicant is hereby made aware of the following: (1) the permit applicant has elected to seek a permit authorization based on a preliminary JD, which does not make an official determination of jurisdictional waters; (2) that the applicant has the option to request an approved JD before accepting the terms and conditions of the permit authorization, and that basing a permit authorization on an approved JD could possibly result in less compensatory mitigation being required or different special conditions; (3) that the applicant has the right to request an individual permit rather than accepting the terms and conditions of the NWP or other general permit authorization; (4) that the applicant can accept a permit authorization and thereby agree to comply with all the terms and conditions of that permit, including whatever mitigation requirements the Corps has determined to be necessary; (5) that undertaking any activity in reliance upon the subject permit authorization without requesting an approved JD constitutes the applicant's acceptance of the use of the preliminary JD, but that either form of JD will be processed as soon as is practicable; (6) accepting a permit authorization (e.g., signing a proffered individual permit) or undertaking any activity in reliance on any form of Corps permit authorization based on a preliminary JD constitutes agreement that all wetlands and other water bodies on the site affected in any way by that activity are jurisdictional waters of the United States, and precludes any challenge to such jurisdiction in any administrative or judicial compliance or enforcement action, or in any administrative appeal or in any Federal court; and (7) whether the applicant elects to use either an approved JD or a preliminary JD, that JD will be processed as soon as is practicable. Further, an approved JD, a proffered individual permit (and all terms and conditions contained therein), or individual permit denial can be administratively appealed pursuant to 33 C.F.R. Part 331, and that in any administrative appeal, jurisdictional issues can be raised (see 33 C.F.R. 331.5(a)(2)). If, during that administrative appeal, it becomes necessary to make an official determination whether CWA jurisdiction exists over a site, or to provide an official delineation of jurisdictional waters on the site, the Corps will provide an approved JD to accomplish that result, as soon as is practicable.

PRELIMINARY JURISDICTIONAL DETERMINATION FORM

This preliminary JD finds that there *"may be"* waters of the United States on the subject project site, and identifies all aquatic features on the site that could be affected by the proposed activity, based on the following information:

Appendix A - Sites

District Office	Los Angeles District	File/ORM #		PJD Date:	June 18, 2014
State	CA	City/County	Escondido/San Diego	Person Requestinq PJD	Helen Davis (City)

Site Number	Latitude	Longitude	Cowardin Class	Est. Amount of Aquatic Resource in Review Area	Class of Aquatic Resource

Notes:

Please refer to the Jurisdictional Assessment Memo and the Site Summary Form (Attachment B of the memo) for specific information on the aquatic resources delineated within the project site. Also, see the attached table that contains the full list of aquatic resources within the project site.

Table 1

Aquatic Resources within the Project Site

Vegetation Community	Latitude	Longitude	Cowardin Class	Est. Amount of Aquatic Resource in Review Area	Class of Aquatic Resource
Coastal and Valley Freshwater Marsh	33.117697	-117.091777	Palustrine; Emergent, Persistent, Permanently Flooded, Fresh	0.15415	Non-Section 10 Wetland
Coastal and Valley Freshwater Marsh	33.117697	-117.091777	Palustrine; Emergent, Persistent, Permanently Flooded, Fresh	0.09037	Non-Section 10 Wetland
Coastal and Valley Freshwater Marsh	33.117697	-117.091777	Palustrine; Emergent, Persistent, Permanently Flooded, Fresh	0.15416	Non-Section 10 Wetland
Coastal and Valley Freshwater Marsh	33.117697	-117.091777	Palustrine; Emergent, Persistent, Permanently Flooded, Fresh	0.01720	Non-Section 10 Wetland
Coastal and Valley Freshwater Marsh	33.117697	-117.091777	Palustrine; Emergent, Persistent, Permanently Flooded, Fresh	0.03048	Non-Section 10 Wetland
Coastal and Valley Freshwater Marsh	33.117697	-117.091777	Palustrine; Emergent, Persistent, Permanently Flooded, Fresh	0.01270	Non-Section 10 Wetland
Open Water	33.117697	-117.091777	Riverine; Streambed, Sand, Permanently Flooded, Fresh	0.10299	Non-Section 10 Non-Wetland
Open Water	33.117697	-117.091777	Riverine; Streambed, Sand, Permanently Flooded, Fresh	0.01407	Non-Section 10 Non-Wetland
Southern Willow Scrub	33.117697	-117.091777	Palustrine; Scrub/Shrub Broad-leaved, Deciduous, Seasonally Flooded, Fresh	0.00893	Non-Section 10 Wetland
Unvegetated Channel	33.117697	-117.091777	Riverine; Unconsolidated Bottom, Sand, Intermittently Flooded, Fresh	0.03087	Non-Section 10 Non-Wetland
Unvegetated Channel	33.117697	-117.091777	Riverine; Unconsolidated Bottom, Sand, Intermittently Flooded, Fresh	0.00002	Non-Section 10 Non-Wetland
Unvegetated Channel	33.117697	-117.091777	Riverine; Unconsolidated Bottom, Sand, Intermittently Flooded, Fresh	0.01184	Non-Section 10 Non-Wetland
Urban/Developed	33.117697	-117.091777	N/A	0.00065	Non-Section 10 Non-Wetland
Urban/Developed	33.117697	-117.091777	N/A	0.01486	Non-Section 10 Non-Wetland

Attachment 3

PRE-APPLICATION MEETING MINUTES

SPRUCE STREET DRAINAGE IMPROVEMENTS

City of Escondido | **Pre-Application Meeting** **Tuesday, July 8, 2014**

Mission Pools Project 1:45 – 2:30 PM

California Department of Fish and Wildlife
South Coast Region Headquarters
3883 Ruffin Road, San Diego, CA 92123

Attendees

Meris Bantilan-Smith | U.S. Army Corps of Engineers
Alan Monji | Regional Water Quality Control Board
Kelly Fisher | California Department of Fish and Wildlife
Christopher Lawrance | City of Escondido
Alicia Appel | City of Escondido
Mark Williams | AECOM
Lanika Cervantes | AECOM

Agenda

I. Project Overview | City & AECOM

   a. Objective: Eliminate vector breeding and public health issues while reducing the flood risk within the adjacent areas and stabilizing the eroding channel.

   b. Site: The Project is located within a tributary of Escondido Creek in the City of Escondido, San Diego County, California.

II. Work Completed to Date | AECOM

   a. Completed baseline surveys (jurisdictional delineations, vegetation mapping, habitat assessment)

   b. Preliminary project design concepts

III. Permitting Strategy | All

   a. Section 404 | USACE

   b. Section 401 | RWQCB

   c. Section 1600 | CDFG

IV. Mitigation Requirements | All

   a. Requirements for the Project to be considered self-mitigating

   b. Potential Mitigation requirements for unavoidable permanent impacts (if Project is not considered self-mitigating)

V. Next Steps | All

Mission Pools Project 1:45 – 2:30 PM

California Department of Fish and Wildlife
South Coast Region Headquarters
3883 Ruffin Road, San Diego, CA 92123

Attendees

Meris Bantilan-Smith | U.S. Army Corps of Engineers
Alan Monji | Regional Water Quality Control Board
Kelly Fisher | California Department of Fish and Wildlife
Kevin Hupf | California Department of Fish and Wildlife
Christopher Lawrance | City of Escondido
Alicia Appel | City of Escondido
Mark Williams | AECOM
Lanika Cervantes | AECOM

Agenda Topics	Meeting Notes
II. Work Completed to Date a. Completed baseline surveys (jurisdictional delineations, vegetation mapping, habitat assessment) b. Preliminary project design concepts	• Mark explained how the project proposes to restore the site by removing all exotic species and some re-planting with appropriate native wetland/riparian species. Freshwater marsh (composed of cattails and bulrush [native wetland species]) would be removed from the site to allow for improved channel capacity and flood protection, but would be replaced with native tree and shrub wetland species that offer higher quality habitat than what currently exists. o The agencies did not express any concern with the removal of freshwater marsh and encouraged planting other wetland/riparian species that would not dominate the site but would reduce the potential for cattails and bulrush to re-establish. • Mark explained the constraints of the project site, including the railroad bank, which constrains the design of the project (i.e., channel widening). o The agencies agreed that the site presents challenges and appreciated that the City is focusing on a restoration-type design rather than permanently impacting the entire channel by undergrounding the entire channel or lining it with concrete. Therefore, they understand that hardscape material (e.g., articulated concrete) may be required to gain the stability needed. • Mark also explained that benching/terracing the banks of the channel is also being evaluated as part of the project to allow for a range of wetland/riparian habitat. However, this may reduce he flood capacity of the channel, therefore terracing may be limited. o Meris stated that the City should determine what the project's objective is for flood capacity within this channel (i.e., 50-year flood, 100-year flood, etc.) and then determine what components

	of the restoration design could be incorporated and still meet the flood capacity objectives (i.e., if terracing is an option).
III. Permitting Strategy a. Section 404 b. Section 401 c. Section 1600	<u>Section 404</u> • Meris agreed that due to the size of the project, a Standard Individual Permit (SIP) would most likely be required. • Meris also agreed that although dependent on the project design, there is a possibility the project may meet Regional General Permit (RGP) 70 for a Bioengineered Bank Stabilization Activities. However, if headwall modifications are proposed and/or other hardscape designs, the project would not meet this RGP. • Meris stated that if a SIP is required, the project would have to comply with the 404(b)(1) guidelines, which is an Alternatives Analysis. Therefore, project alternatives would need to be assessed and included in the permit application. Typically 2-3 alternatives in addition to the proposed project are evaluated. Example alternatives to consider could include: 1) Purchasing adjacent lots to restore the historic floodplain of the channel, 2) Concrete-line the entire channel, and 3) Construct levees along the channel. • Meris also stated that depending on the amount of routine maintenance needed for the project post-construction, the City may be able to include the routine maintenance of this site to the Channel Maintenance RGP that is currently being processed with the USACE. However, if the routine maintenance required for this site is above and beyond the scope of the Channel Maintenance RGP, then routine maintenance can be included in the permit issued for this project. <u>Section 401</u> • Alan stated that an Individual Section 401 Certification would be required. Alan also had asked if routine maintenance at the site would be required post-construction and if so, a description of the routine maintenance should be included in the project description in order to cover those activities under the Certification. <u>Section 1600</u> • Kelly stated that an SAA would be required.
IV. Mitigation Requirements	• Kelly had requested that the project use as much plantable hardscapes as possible (such as Armaflex) to be considered self-

a. Requirements for the Project to be considered self-mitigating	mitigating. • Meris stated that the more natural the channel can stay, the better. In addition, bioengineering designs should be incorporated as much as practicable.
b. Potential Mitigation requirements for unavoidable permanent impacts (if Project is not considered self-mitigating)	• Meris also stated that the restoration aspect of the project should be included and described as part of the project (not to be referred to as compensatory mitigation). In addition, the permit application should include a discussion that evaluates the project's negative effects and the project's benefits. This evaluation should show how the project's effects are offset by the project benefits. This is the justification needed in order to determine if the project is self-mitigating and that additional off-site compensatory mitigation should not be required. • The agencies agreed that although compensatory mitigation may not be required, annual monitoring of the project site, post-construction, would be required to ensure that the project objectives were successfully attained. This may include monitoring erosion, water velocities, vegetation survival and coverage, exotic species, etc.

Meeting adjourned at 2:30 p.m.

Attachment 4

RECORD OF SURVEY

SPRUCE STREET DRAINAGE IMPROVEMENTS

R. OF S. MAP NO.

DEED LEGEND

DD1 INSTRUMENT REC. 10/19/1974 AS DOC. NO. 74-263944 O.R. (GRANT DEED)

DD2 INSTRUMENT REC. 10/8/1951 IN BK. 4257 PG. 228 O.R. (GRANT DEED)

DD3 INSTRUMENT REC. 9/26/1974 AS DOC. NO. 74-260181 O.R. (GRANT DEED)

DD4 INSTRUMENT REC. 9/26/1974 AS DOC. NO. 74-260182 O.R. (EASEMENT)

DD5 INSTRUMENT REC. 11/25/1974 AS DOC. NO. 74-309121 O.R. (GRANT DEED)

DD11 INSTRUMENT REC. 3/7/1889 IN BK. 146 PG. 196 OF DEEDS (GRANT DEED) (NOTE: A.T.&S.F. RY. SUCCESSOR IN INTEREST TO CALIFORNIA CENTRAL RY.)

DD12 INSTRUMENT REC. 2/8/1990 AS DOC. NO. 90-070790 O.R. (GRANT DEED)

REFERENCE DOCUMENT LEGEND

R1 [N59°06'03"E ROS 8725 & PM 11961]

R2 [N59°06'17"E ROS 8725 & PM 11961]

NOTES

1. E.C. STATION 23+57.59 AS SHOWN ON SHEET 6 OF 20 SHEETS IN CITY OF ESCONDIDO DWG. NO. P-1106
2. DD2 DOESN'T STATE A NON-TANGENT CURVE, BUT IT'S USE IS REASONABLE IN ORDER TO LAND ON THE N'LY LINE OF BLOCK 90 OUTSIDE OF THE RAILROAD R/W AS DESCRIBED IN SAID DEED.
3. B.C. STATION 18+51.18 AS SHOWN ON SHEET 5 OF 20 SHEETS IN CITY OF ESCONDIDO DWG. NO. P-1106
4. E.C. STATION 15+46.41 AS SHOWN ON SHEET 5 OF 20 SHEETS IN CITY OF ESCONDIDO DWG. NO. P-1106
5. THIS PORTION OF THE 2ND AVE C/L WAS LOCATED BASED ON HOLDING THE B.C AND E.C. TIES OF CURVE C1 AS SHOWN HEREON, HOLDING RECORD RADIUS (SCALED) PER DWG P-1106, AND PRODUCING A TANGENT LINE TO THE EAST. SAID C/L IS IN CLOSE AGREEMENT WITH TIES T14 AND T15, AS WELL AS MONUMENT 6.
6. A PORTION OF THE NE'LY LINE OF CRESCENT RD, BASED ON USING RECORD DATA FROM THE C/L INTERSECTION OF SPRUCE ST & GRAND AVE AS SHOWN ON ROS 3990.
7. B.C. STATION 9+29.49 AS SHOWN ON SHEET 2 OF 5 SHEETS IN CITY OF ESCONDIDO DWG. NO. P-1056.

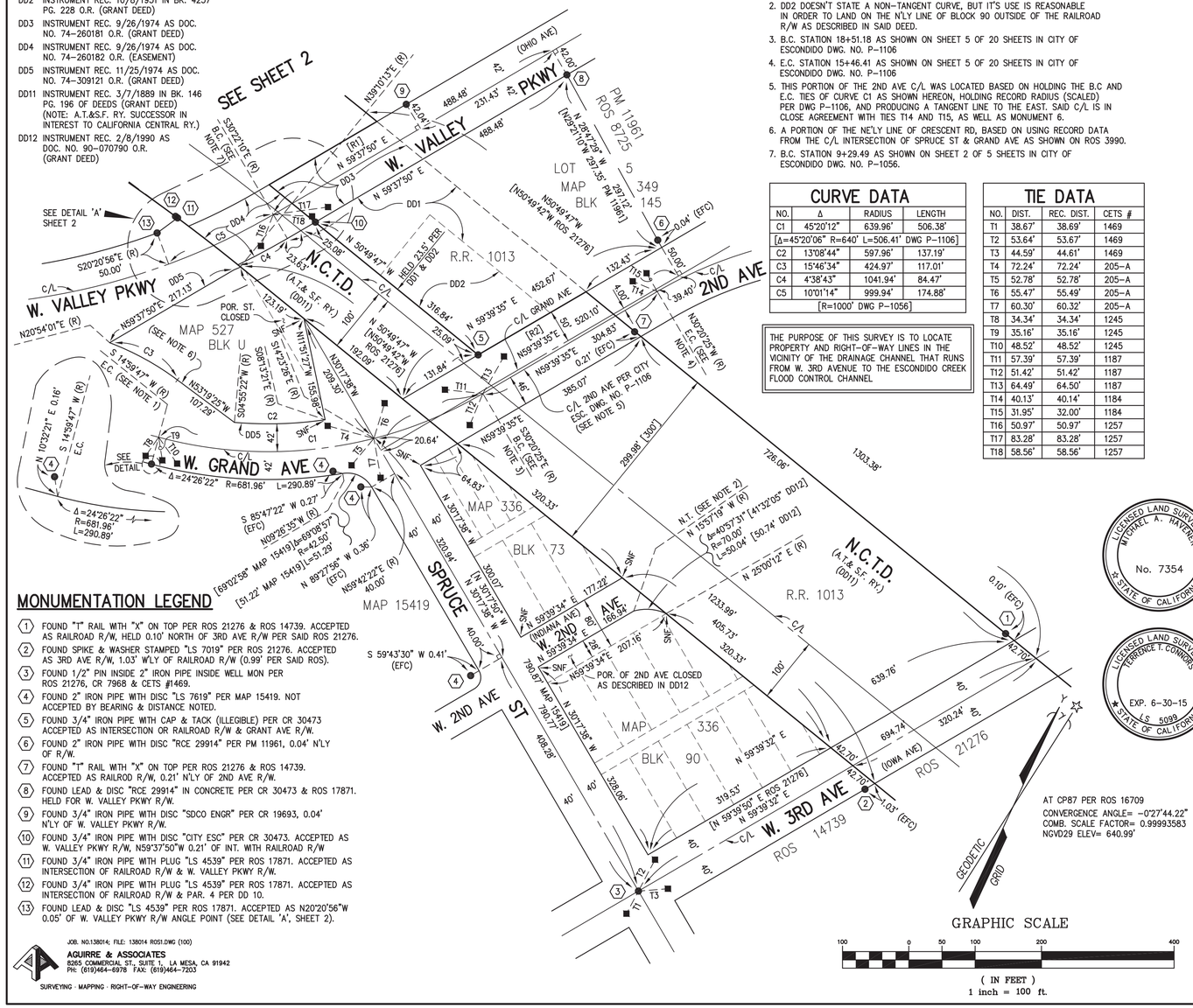
CURVE DATA

NO.	Δ	RADIUS	LENGTH
C1	45°20'12"	639.96'	506.38'
[Δ=45°20'06" R=640' L=506.41' DWG P-1106]			
C2	13°08'44"	597.96'	137.19'
C3	15°46'34"	424.97'	117.01'
C4	4°38'43"	1041.94'	84.47'
C5	10°01'14"	999.94'	174.88'
[R=1000' DWG P-1056]			

TIE DATA

NO.	DIST.	REC. DIST.	CETS #
T1	38.67'	38.69'	1469
T2	53.64'	53.67'	1469
T3	44.59'	44.61'	1469
T4	72.24'	72.24'	205-A
T5	52.78'	52.78'	205-A
T6	55.47'	55.49'	205-A
T7	60.30'	60.32'	205-A
T8	34.34'	34.34'	1245
T9	35.16'	35.16'	1245
T10	48.52'	48.52'	1245
T11	57.39'	57.39'	1187
T12	51.42'	51.42'	1187
T13	64.49'	64.50'	1187
T14	40.13'	40.14'	1184
T15	31.95'	32.00'	1184
T16	50.97'	50.97'	1257
T17	83.28'	83.28'	1257
T18	58.56'	58.56'	1257

THE PURPOSE OF THIS SURVEY IS TO LOCATE PROPERTY AND RIGHT-OF-WAY LINES IN THE VICINITY OF THE DRAINAGE CHANNEL THAT RUNS FROM W. 3RD AVENUE TO THE ESCONDIDO CREEK FLOOD CONTROL CHANNEL



MONUMENTATION LEGEND

(1) FOUND "T" RAIL WITH "X" ON TOP PER ROS 21276 & ROS 14739. ACCEPTED AS RAILROAD R/W, HELD 0.10' NORTH OF 3RD AVE R/W PER SAID ROS 21276.

(2) FOUND SPIKE & WASHER STAMPED "LS 7019" PER ROS 21276. ACCEPTED AS 3RD AVE R/W, 1.03' W'LY OF RAILROAD R/W (0.99' PER SAID ROS).

(3) FOUND 1/2" PIN INSIDE 2" IRON PIPE INSIDE WELL MON PER ROS 21276, CR 7968 & CETS #1469.

(4) FOUND 2" IRON PIPE WITH DISC "LS 7619" PER MAP 15419. NOT ACCEPTED BY BEARING & DISTANCE NOTED.

(5) FOUND 3/4" IRON PIPE WITH CAP & TACK (ILLEGIBLE) PER CR 30473 ACCEPTED AS INTERSECTION OR RAILROAD R/W & GRANT AVE R/W.

(6) FOUND 2" IRON PIPE WITH DISC "RCE 29914" PER PM 11961, 0.04' N'LY OF R/W.

(7) FOUND "T" RAIL WITH "X" ON TOP PER ROS 21276 & ROS 14739. ACCEPTED AS RAILROD R/W, 0.21' N'LY OF 2ND AVE R/W.

(8) FOUND LEAD & DISC "RCE 29914" IN CONCRETE PER CR 30473 & ROS 17871. HELD FOR W. VALLEY PKWY R/W.

(9) FOUND 3/4" IRON PIPE WITH DISC "SDCO ENGR" PER CR 19693, 0.04' N'LY OF W. VALLEY PKWY R/W.

(10) FOUND 3/4" IRON PIPE WITH DISC "CITY ESC" PER CR 30473. ACCEPTED AS W. VALLEY PKWY R/W, N59°37'50"W 0.21' OF INT. WITH RAILROAD R/W

(11) FOUND 3/4" IRON PIPE WITH PLUG "LS 4539" PER ROS 17871. ACCEPTED AS INTERSECTION OF RAILROAD R/W & W. VALLEY PKWY R/W.

(12) FOUND 3/4" IRON PIPE WITH PLUG "LS 4539" PER ROS 17871. ACCEPTED AS INTERSECTION OF RAILROAD R/W & PAR. 4 PER DD 10.

(13) FOUND LEAD & DISC "LS 4539" PER ROS 17871. ACCEPTED AS N20°20'56"W 0.05' OF W. VALLEY PKWY R/W ANGLE POINT (SEE DETAIL 'A', SHEET 2).

JOB. NO.138014; FILE: 138014 ROS1.DWG (100)

AGUIRRE & ASSOCIATES
8265 COMMERCIAL ST., SUITE 1, LA MESA, CA 91942
PH: (619)464-6978 FAX: (619)464-7203

SURVEYING · MAPPING · RIGHT-OF-WAY ENGINEERING

SHEET 1 OF 2 SHEET

RECORD OF SURVEY

THAT PORTION OF THAT CERTAIN 300-FOOT WIDE RIGHT OF WAY & STATION GROUND OF THE ATCHISON TOPEKA & SANTA FE RAILWAY CO. WITHIN RANCHO RINCON DEL DIABLO, AND THAT PORTION OF BLOCK "U" OF THE RESURVEY & SUBDIVISION OF A PART OF RANCHO RINCON DEL DIABLO ACCORDING TO MAP THEREOF NO. 527, FILED IN THE OFFICE OF THE COUNTY RECORDER OF SAN DIEGO COUNTY APRIL 10, 1888, TOGETHER WITH PORTIONS OF GRAND AVE, SPRUCE ST, OHIO AVE & INDIANA AVE AS SHOWN ON SAID MAP NO. 527 AND TOWN OF ESCONDIDO ACCORDING TO MAP THEREOF NO. 336, FILED IN THE OFFICE OF SAID COUNTY RECORDER JULY 10, 1886, ALL IN THE CITY OF ESCONDIDO, COUNTY OF SAN DIEGO, STATE OF CALIFORNIA.

BASIS OF BEARINGS

THE BASIS OF BEARINGS FOR THIS SURVEY IS THE CCS83, ZONE 6, GRID BEARING BETWEEN STATION 87 (FIRST ORDER ACCURACY) & STATION 84 (FIRST ORDER ACCURACY), AS SAID STATIONS ARE SHOWN ON RECORD OF SURVEY 16709, IE N 63°38'21" W (SEE DETAIL SHEET 2)

THE DISTANCES SHOWN HEREON ARE GRID DISTANCES, UNLESS NOTED OTHERWISE. GROUND DISTANCE = GRID DISTANCE / 0.99993583

QUOTED BEARINGS FROM REFERENCE MAPS/DEEDS MAY OR MAY NOT BE IN TERMS OF SAID SYSTEM.

LEGEND

●	INDICATES FOUND MONUMENT AS NOTED PER MONUMENTATION LEGEND.
■	INDICATES FOUND LEAD & TACK AS NOTED IN TIE DATA TABLE
▲	INDICATES FOUND FIRST ORDER CONTROL POINT AS NOTED HEREON
[ ]	INDICATES RECORD DATA PER REFERENCE DOCUMENT NOTED.
R1	INDICATES RECORD DATA NOTED IN REFERENCE DOCUMENT LEGEND
DD	INDICATES INSTRUMENT AS NOTED IN DEED LEGEND
N.T.	INDICATES NON-TANGENT
CETS	INDICATES CITY OF ESCONDIDO TIESHEET
EFC	INDICATES EXAGGERATED FOR CLARITY
SNF	INDICATES MONUMENT WAS SEARCHED FOR, BUT NOT FOUND
N.C.T.D.	INDICATES NORTH COUNTY TRANSIT DISTRICT

SURVEYOR'S STATEMENT

THIS MAP CORRECTLY REPRESENTS A SURVEY MADE BY ME OR UNDER MY DIRECTION IN CONFORMANCE WITH THE REQUIREMENTS OF THE PROFESSIONAL LAND SURVEYOR'S ACT AT THE REQUEST OF THE CITY OF ESCONDIDO IN FEBRUARY, 2014.

LICENSED LAND SURVEYOR MICHAEL A. HAVENER No. 7354 STATE OF CALIFORNIA

MICHAEL A. HAVENER PLS 7354

COUNTY SURVEYOR'S STATEMENT

THIS MAP HAS BEEN EXAMINED IN ACCORDANCE WITH SECTION 8766 OF THE PROFESSIONAL LAND SURVEYOR'S ACT THIS ____ DAY OF _____ 2015.

LICENSED LAND SURVEYOR TERRENCE T. CONNORS EXP. 6-30-15 LS 5099 STATE OF CALIFORNIA

TERRENCE T. CONNORS, PLS 5099
COUNTY SURVEYOR

RECORDER'S STATEMENT

FILE NO. _____

FILED THIS ____ DAY OF _____ 2014 AT _____ IN THE BOOK OF RECORD OF SURVEY MAPS AT PAGE _____ , AT THE REQUEST OF MICHAEL A. HAVENER

ERNEST J. DRONENBURG, JR., COUNTY RECORDER

BY: _____
DEPUTY COUNTY RECORDER

FEE: $12.00

CALIFORNIA COORDINATE INDEX: 346-1737

APN: 233-100-18, 232-090-62, 232-110-17

R. OF S. MAP NO.

SHEET 2 OF 2 SHEET

TIE DATA			
NO.	DIST	REC DIST	CETS #
T16	50.97'	50.97'	1257
T17	83.28'	83.28'	1257
T18	58.56'	58.56'	1257

CURVE DATA			
NO.	Δ	RADIUS	LENGTH
C4	4°38'43"	1041.94'	84.47'
C5	10°01'14"	999.94'	174.88'
[R=1000' DWG P-1056]			
C6	7°08'35"	957.94'	119.43'
C7	11°02'02"	1174.92'	226.26'
[Δ=11°02'04" R=1175' L=226.29' ROS 17871]			
C8	00°25'46"	2764.61'	20.73'
[Δ=00°25'38" R=2764.79' L=20.62' ROS 17871]			
C9	00°04'53"	2764.61'	3.92'
[R=2764.79' ROS 17871]			

LINE DATA		
NO.	BEARING	DISTANCE
L1	N 50°49'47" W	89.66'
L2	N 59°37'50" E	33.04'
L3	N 53°21'56" W	152.12'
[N53°23'41"W 152.13' ROS 17871]		
L4	N 10°36'11" W	43.87'
[N10°25'36"W 43.92' ROS 17871]		
L5	N 59°39'43" W	54.62'
[N59°39'25"W 54.64' ROS 17871]		
L6	N 60°53'21" W	58.22'
[N60°53'03"W 58.24' ROS 17871]		
L7	N 67°39'22" W	179.10'
[N67°39'15"W ROS 17871]		
L8	N 67°05'03" W	128.07'
[N67°04'37"W 128.04' ROS 17871]		
L9	N 64°08'14" W	142.29'
[N64°07'31"W 142.32' ROS 17871]		

AT CP87 PER ROS 16709
CONVERGENCE ANGLE= -0°27'44.22"
COMB. SCALE FACTOR= 0.99993583
NGVD29 ELEV= 640.99'

GRAPHIC SCALE
100 0 50 100 200 400
(IN FEET)
1 inch = 100 ft.

ROS 15913
ROS 12935
[STA 25+65 RR 1013 AND DD11]
CREEK CHANNEL
N 24°15'41" E
ROS 17246
ESCONDIDO FLOOD CONTROL
N.C.T.D. (A.T.& S.F. RY.) (DD11)
N24°15'41"E (R)
RR 1013
[90.60' PER ROS 12357]
N20°35'24"W (R)
N21°56'37"W (R)
N65°44'19"W [N65°43'47"W 502.37' ROS 17871]
299.98' [300']
100'
502.26'
[N62°21'28"W 192.07' ROS 17871]
N 62°21'20" W 192.10'
[N66°29'59"W 146.72' ROS 17871]
N 66°29'17" W 146.67'
SEE BASIS OF BEARINGS DETAIL THIS SHEET
N31°37'25"W (R)
ROS 17871
PAR 1
ROS 12357
ROS 2753
PAR 2 (DD8)
PAR 3 (DD9)
PAR 4 (DD10)
PAR 5 (DD7)
ROS 12705
ROS 17871
Δ=14°54'33" R=2764.61' L=719.39' [R=2764.79' ROS 17871]
S30°27'10"E (R) B.C. [SEE NOTE 7]
N 59°37'50" E 257.06'
17.37'
51.32'
N 59°37'50" E
488.48'
42'
DD3
DD4
C6
C5
C4
T16
T17
T18
L1
L2
L3
N53°33'35"E 38.38' [N53°38'26" E 38.30' ROS 17871]
S20°20'56"E (R) 50.00'
0.05'
0.21'
C/L
W. VALLEY PKWY
N 50°49'47" W 316.84'
48.71'
N 59°37'50" E
SEE BASIS OF BEARINGS DETAIL THIS SHEET
SEE DETAIL 'A' THIS SHEET
SEE SHEET 1
N 50°49'47"W 1233.99'
217.13'
N59°37'50"E
POR. SE'LY LINE PARCEL NO. 20913I-2 PER DD5
SEE DETAIL
GEODETIC
GRID

DETAIL 'A'
NOT TO SCALE

Δ=0°36'22" R=1050.93' L=11.11' PORTION SE'LY LINE DD6
Δ=14°54'33" R=2764.61' L=719.39'
S25°43'27"E (R)
S39°04'27"E (R)
SNF
C4
Δ=0°05'46" L=4.85'
N39°10'13"E (R)
N50°49'47"W 1233.99'
0.49'
123.19'
N59°37'50"E 217.23'
S22°52'00"E (R)
S23°38'22"E (R)

N39°10'13"E (R)
21.27'
42.00'
(OHIO AVE)
237.43'
W. VALLEY PKWY

FOUND CP84 PER ROS 16709
N 1989192.997
E 6300803.475
N 63°39'21" W 3669.98' (GRID) 3670.20' (GROUND)
BASIS OF BEARINGS
N 57°50'26" W 2280.67' (GRID) 2280.81' (GROUND)
FOUND CP87 PER ROS 16709
N 1987563.452
E 6304091.834
ELEV = 640.99' (NGVD 29)
N 03°22'04" W 11.20' (GRID & GROUND)

BASIS OF BEARINGS DETAIL
NOT TO SCALE

NOTES

7. B.C. STATION 9+29.49 AS SHOWN ON SHEET 2 OF 5 SHEETS IN CITY OF ESCONDIDO DWG. NO. P-1056.

MONUMENTATION LEGEND

(8) FOUND LEAD & DISC "RCE 29914" IN CONCRETE PER CR 30473. ACCEPTED AS W. VALLEY PKWY R/W.
(9) FOUND 3/4" IRON PIPE WITH DISC "SDCO ENGR" PER CR 19693, 0.04' N'LY OF W. VALLEY PKWY R/W.
(10) FOUND 3/4" IRON PIPE WITH DISC "CITY ESC" PER CR 30473. ACCEPTED AS W. VALLEY PKWY R/W, N59°37'50"W 0.21' OF INT. WITH RAILROAD R/W
(11) FOUND 3/4" IRON PIPE WITH PLUG "LS 4539" PER ROS 17871. ACCEPTED AS INTERSECTION OF RAILROAD R/W & W. VALLEY PKWY R/W.
(12) FOUND 3/4" IRON PIPE WITH PLUG "LS 4539" PER ROS 17871. ACCEPTED AS INTERSECTION OF RAILROAD R/W & ANGLE POINT PARCEL 4 PER DD 10.
(13) FOUND LEAD & DISC "LS 4539" PER ROS 17871. ACCEPTED AS N20°20'56"W 0.05' OF VALLEY PKWY R/W ANGLE POINT (SEE DETAIL 'A' THIS SHEET).
(14) FOUND 3/4" IRON PIPE WITH PLUG "LS 4539" PER ROS 17871. ACCEPTED AS CORNER PARCEL 3 PER DD 9.
(15) FOUND 3/4" IRON PIPE WITH PLUG "LS 4539", NO RECORD. SEE ROS 17871. HELD FOR RAILROAD R/W AND CORNER PARCEL 3 PER DD 9.
(16) FOUND 3/4" IRON PIPE WITH PLUG "LS 4539" PER ROS 17871. ACCEPTED AS CORNER PARCEL 1.
(17) FOUND 3/4" IRON PIPE WITH PLUG "LS 4539" PER ROS 17871. ACCEPTED AS CORNER PARCEL 4 PER DD 10.

DEED LEGEND

DD3 INSTRUMENT REC. 9/26/1974 AS DOC. NO. 74-260181 O.R. (GRANT DEED)
DD4 INSTRUMENT REC. 9/26/1974 AS DOC. NO. 74-260182 O.R. (EASEMENT)
DD5 INSTRUMENT REC. 11/25/1974 AS DOC. NO. 74-309121 O.R. (GRANT DEED)
DD6 INSTRUMENT REC. 02/23/1973 AS DOC. NO. 73-047443 O.R. (GRANT DEED)
DD7 INSTRUMENT REC. 4/18/2003 AS DOC. NO. 2003-0450244 O.R. (CERT. OF COMPL.)
DD8 INSTRUMENT REC. 4/18/2003 AS DOC. NO. 2003-0450245 O.R. (CERT. OF COMPL.)
DD9 INSTRUMENT REC. 4/18/2003 AS DOC. NO. 2003-0450246 O.R. (LOT-TIE AGREEMENT)
DD10 INSTRUMENT REC. 4/18/2003 AS DOC. NO. 2003-0450247 O.R. (LOT-TIE AGREEMENT)
DD11 INSTRUMENT REC. 3/7/1889 IN BK. 146 PG. 196 OF DEEDS (GRANT DEED) (NOTE: A.T.&S.F. RY. SUCCESSOR IN INTEREST TO CALIFORNIA CENTRAL RY.)

JOB. NO.13B014; FILE: 13B014 ROS2.DWG (100)

AGUIRRE & ASSOCIATES
8265 COMMERCIAL ST., SUITE 1, LA MESA, CA 91942
PH: (619)464-6978 FAX: (619)464-7203
SURVEYING · MAPPING · RIGHT-OF-WAY ENGINEERING

Attachment 5

SEDIMENT MANAGEMENT/DISPOSAL GUIDANCE

SPRUCE STREET DRAINAGE IMPROVEMENTS

Special Waste Acceptance Guidelines

The San Diego Landfill Systems has outlined the following procedures
to guide generators when profiling non-hazardous special wastes for disposal.

San Diego Area Landfills

Otay Landfill
1700 Maxwell Road
Chula Vista, CA 91910
Appt. Scheduling: 619-421-7083

Sycamore Landfill
8514 Mast Boulevard
Santee, CA 92071
Appt. Scheduling: 619-562-9325

Special Waste Sales Group

Stacy Loveland
SW Sales Representative
480.516.1892
SLoveland@RepublicServices.com

Holly Aasen
Sales Coordinator
619-562-0720
619.449.1050 fax
HAasen@RepublicServices.com

www.SpecialWasteExperts.com

Acceptance Procedures

The San Diego Landfill Systems will only accept non-hazardous special waste material for disposal. Acceptable wastes can include, but are not limited to, contaminated soil, non-friable asbestos, grit and screenings from wastewater treatment plants, sewage sludge, industrial sludge, fly ash, treated wood, food wastes, auto shredder fluff, foundry sand, filter cake, refractory brick, treated medical waste, construction/demolition debris and off-specification products.

Before accepting any special wastes for disposal, the San Diego Landfill Systems requires the generator to submit an appropriate waste profile form (special waste or express) and waste specific analytical reports, including the chain of custody, and/or Material Safety Data Sheet (MSDS).

Special Waste Profile Form or Express Waste Profile Form: Generators are to complete the Profile Sheet. The profile must be signed by this generator or by a duly authorized representative of the generator. All spaces on the profile sheet must be completed. If information is unavailable or does not apply, you may enter a hyphen (-) or "N/A". Once signed, only the generator or their duly authorized representative may make changes to the profile. Incomplete or unsigned profiles will delay the approval process. To download current versions of either form go to www.SpecialWasteExperts.com.

Third Party Authorization Form: This form must be completed, by the generator, when the generator designates an authorized representative to sign necessary documentation to comply with landfill requirements. Please see form for additional authorizations. To obtain a form please email the Special Waste Sales Rep or Sales Coordinator and request a copy.

Submittal for Review and Approval: Fax or email the completed information to the Special Waste Sales Coordinator for review. If the submitted data demonstrates the waste meets the non-hazardous waste requirements, the waste will be approved for acceptance and an approval email and packet will be issued. The approval process may take up to **48 hours** from the time the completed information is received.

Special Waste Service Agreement: Special Waste Service Agreement will be issued to the company that will be billing the project. Upon receipt of the signed service agreement from the billing party, this is the final step in the execution of the process.

Scheduling Shipments & Non-Hazardous Waste Manifests: Upon receiving the approval email and packet, you must notify the landfill at least **24 hours** prior to shipping to the landfill. For large quantities, we will need to know the actual days of shipment, the quantity and the exact number of loads that will be brought for disposal. Each load must be accompanied by a completed and signed non-hazardous waste manifest. Any loads brought in without a signed manifest will cause delays in the disposal process. Our office can supply blank or preprinted manifests.

Laboratory Analysis

Test data submitted by generators must meet the following criteria:

- The analytical data must be less than 12 months old to use for waste characterization, unless the generator can certify that site use has not changed the waste characteristics since the time the historical analytical data was complied.
- The analytical report must be the final laboratory report with all lab signatures. No draft or preliminary reports will be accepted.
- Chain of Custody and the QA/QC report must be included with analytical.
- For results reported as 'non detect', the detection or reporting levels must be indicated. Laboratory detection limits must be less than regulatory thresholds.
- The waste must be characterized by a state certified laboratory. Please visit the link: http://www.cdph.ca.gov/CERTLIC/LABS/Pages/ELAP.aspx to view a list of the laboratories through the State of California. The list is identified under Information, Lists and Form heading as Certified Laboratory List.
- Only submit analytical data that pertains to the material to be profiled. If you have to submit reports that include unnecessary data, please reference only those samples on which we are to base our decision.

Required Testing

Republic Services and San Diego Landfill System use many factors to determine the necessary and appropriate analytical needed for each waste stream. The most important factors include generator knowledge, a description of the process generating the waste, and the suspected contamination. Below are minimum required analysis for some common waste streams and contaminations.

During the review process, there may be additional certifications, such as site history or additional analytical, to those listed below. The generator of the waste is responsible for determining what the possible contamination is present in their waste.

Contaminated Soils, Debris, and Dredging Sediments

Sampling Frequency for Soils

Volume of Soil (cubic yards)	Number of Samples
100	4
125	5
150	6
175	7
200	8
225	9
250	10
275	11
300	12
325	13
350	14
375	15
400	16

Volume of Soil (cubic yards)	Number of Samples
425	17
450	18
475	19
500	20
1,000	21
1,500	22
2,000	23
2,500	24
3,000	25
3,500	26
4,000	27
4,500	28
5,000*	29

- Four samples per one hundred cubic yards up to 500 yards.
- One sample per 500 cubic yards up to 5,000 cubic yards.
- Beyond a volume of 5,000 cubic yards, it is up to the discretion of the landfill to determine whether additional samples are required per San Diego Regional Water Quality Control Board (SDRWQCB)*.

Testing Requirements for Contaminated Soils

Waste/Contamination	Minimum Testing Requirements
Burn Ash	pH, TPH extended range (C4-C40), CAM 17 Metals, Volatiles, Semi-Volatiles, PCB's, Dioxin (2,3,7,8-TCDD)
Gasoline	TPH, BTEX, TTLC Lead
Kerosene/Jet Fuel/Diesel	TPH, BTEX
Hydraulic Oils	TPH for diesel and hydraulic oil, BTEX, Metals: Cd, Cr, Pb, Ni, Zn, Pesticides, PCBs, MSDS
Cutting and Grinding Oils	TPH for diesel and cutting/grinding oils, BTEX, CAM 17 Metals, Pesticides, PCBs, MSDS
Motor Oil-Virgin	TPH diesel and motor oil, BTEX, Semi-Volatiles
Waste Oil	TPH diesel and waste oil CAM 17 Metals, Volatiles, Semi-Volatiles, PCBs
Pesticide/Herbicide	Pest/Herb, CAM 17 Metals

Testing Requirements for Industrial Wastes

Type of Special Waste	Minimum Testing Requirements
Asbestos, Non Friable	Certificate of Non Friability from certified Asbestos abatement consultant **(Sycamore Only)**
Customs/FDA/Border Rejections/ Destructions for Food Wastes **(excluding liquid based wastes)**	Rejection Notices or Alerts, Power of Attorney
Ceramic Wastes	CAM 17 Metals
Construction and Demolition (C&D) Debris contaminated with Lead Based Paint	Total Lead (WET for Lead, when required)
Dredge Sediment (Please follow sampling frequency for soils)	Paint Filter, CAM 17 Metals, Volatiles, Semi-Volatiles, Pesticides/Herbicides, PCB's and TPH Extended Range (C_4-C_{40})
Fire Debris	CAM 17 Metals and Certificate of Non Friability
Grease Trap Solids **(Residuals from processing and Not LARD)**	pH, CAM 17 Metals, Volatiles, Paint Filter
Maquiladora Waste	MSDS, Fish Bioassay and CAM 17 Metals (for powdered wastes)
Off Specification or Outdated Products **(excluding liquid based wastes)**	MSDS, Fish Bioassay and CAM 17 Metals (for powdered wastes)
Sand Blasting Residual	MSDS for Sand Blast Media, CAM 17 Metals
Sanitary Sewer Grit and Screenings	pH, Paint Filter, TPH extended range (C4-C40), CAM 17 Metals, Volatiles, Semi-Volatiles
Spent Carbon	pH, Paint Filter, CAM 17 Metals, TPH Extended Range (C_4-C_{40}), Volatiles, Semi-Volatiles and MSDS for Carbon Media
Storm Drain Sediment (Please follow sampling frequency for soils)	Paint Filter, Percent Moisture, CAM 17 Metals, TPH Extended Range (C_4-C_{40}) and Volatiles
Street Sweeping	pH, TPH extended range (C4-C40), CAM 17 Metals, Volatiles
Virgin Treated Wood Wastes – Railroad Ties, Telephone Poles, Pressure Treated Lumber	TCLP Cresols, TCLP Pentachlorophenol **(Otay Only)**
Wastewater Treatment Sludge (Municipal)	pH, Paint Filter, Percent Solids, TPH extended range (C4-C40), CAM 17 Metals, Volatiles, Semi-Volatiles
Wastewater Treatment Sludge (Industrial)	pH, Paint Filter, Percent Solids, TPH extended range (C4-C40), CAM 17 Metals, Volatiles, Semi-Volatiles, PCB's
Water Treatment Sludge	pH, Paint Filter, Percent Solids, CAM 17 Metals

California Code of Regulations Title 22 Limits for Hazardous Waste

22 CCR § 66261.24

***Organic Constituents*:**

CONSTITUENT	TCLP mg/L	STLC mg/L	TTLC mg/kg
Aldrin		0.14	1.4
Benzene	0.5		
Carbon Tetrachloride	0.5		
Chlordane	0.03	0.25	2.5
Chlorobenzene	100.0		
Chloroform	6.0		
Cresols	200.0		
2,4 D	10.0	10.0	100.0
DDT, DDE, DDD		0.10	1.0
1,4 Dichlorobenzene	7.5		
1,2 Dichloroethane	0.5		
1,1 Dichloroethylene	0.7		
2,4 Dinitrotoluene	0.13		
Dieldrin		0.8	8.0
Dioxin		0.001	0.01
Endrin	0.02	0.02	0.2
Heptachlor	0.008	0.47	4.7
Hexachlorobenzene	0.13		
Hexachlorobutadiene	0.5		
Hexachloroethane	3.0		
Kepone		2.1	21.0
Lindane	0.4	0.4	4.0
Methoxychlor	10.0	10.0	100.0
Methyl Ethyl Ketone	200.0		
Mirex		2.1	21.0
Nitrobenzene	2.0		
Pentachlorophenol	100.0	1.7	17.0
Polychlorinated Biphenyls		5.0	50.0
Pyridine	5.0		
Tetrachloroethylene	0.7		
Toxaphene	0.5	0.5	5.0
Trichloroethylene	0.5	204.0	2040.0
2,4,5 TP (Silvex)	1.0	1.0	10.0
2,4,5 Trichlorophenol	400.0		
2,4,6, Trichlorophenol	2.0		
Vinyl Chloride	0.2		

Petroleum Hydrocarbon Levels for Soils

Petroleum Hydrocarbon Contaminant	Maximum Concentration Limits	Additional Testing When in Range
Gasoline and lighter end hydrocarbons (C4-C12)	1,000 ppm TPH	1,000-5,000 ppm TPH with RCI and Toxicity - 96 hour fish bioassay
Diesel fuel, kerosene oil, jet fuel, (C8-C22) heavy end hydrocarbons	3,000 ppm TPH	3,000-15,000 ppm TPH with RCI and Toxicity - 96 hour fish bioassay
Hydraulic oil, cutting and grinding oil, virgin motor oil, waste oil, (C8-C40) heavy end hydrocarbons	3,000 ppm TPH	3,000-15,000 ppm TPH with RCI and Toxicity - 96 hour fish bioassay

Note: SW-846 averaging can be used in some cases; please contact the special waste group regarding specific projects.

Inorganic Constituents (Per 22CCR§66261.24) California 17 Metals (CAM17):

Constituent	Soluble Threshold STLC mg/L	Trigger Level* mg/kg	Total Threshold TTLC mg/kg	Toxicity Leaching Characteristic Procedure TCLP mg/L	Trigger Level TCLP mg/kg
Antinomy (Sb)	15.0	150.0	500.0		
Arsenic (As)	5.0	50.0	500.0	5.0	100.0
Barium (Ba)	100.0	1,000.0	10,000.0	100.0	2,000
Beryllium (Be)	0.75	7.5	75.0		
Cadmium (Cd)	1.0	10.0	100.0	1.0	20.0
Chromium (Cr HEX VI)	5.0	50.0	500.0		
Chromium (Cr)	5.0	50.0	2500.0	5.0	100.00
Cobalt (Co)	80.0	800.0	8,000.0		
Copper (Cu)	25.0	250.0	2,500.0		
Lead (Pb)	5.0	50.0	1,000.0	5.0	100.0
Mercury (Hg)	0.2	2.0	20.0	0.2	4.0
Molybdenum (Mo)	350.0	3,500.0	3,500.0		
Nickel (Ni)	20.0	200.0	2,000.0		
Selenium (Se)	1.0	10.0	100.0	1.0	20.0
Silver (Ag)	5.0	50.0	500.0	5.0	100.0
Thallium (Tl)	7.0	70.0	700.0		
Vanadium (V)	24.0	240.0	2,400.0		
Zinc (Zn)	250.0	2,500.0	5,000.0		

** Results over these thresholds do not necessarily disqualify the acceptance of the waste material. However, the STLC test for metals must be conducted.*

Important Notes

- The Waste Extraction Test (WET) is required for a metal with a total (TTLC) level 10 times equal to or greater than the permitted STLC. Results over the above listed metal thresholds do not necessarily disqualify the acceptance of the waste material, but do indicate the need for STLC testing.

- The TCLP is required for any organic with a total (TTLC) level 20 times equal to or greater than the permitted TCLP. Some organic compounds have both Federal and State regulatory levels.

Test Methods and Important Notes

- Total Petroleum Hydrocarbons (TPH) – EPA Method 8015M. Extended range is Gasoline, Diesel and Waste Oil (C_4 through C_{40})
- California 17 Metals (CAM17) – EPA Method 6010B and Mercury 7471A. Metals list in table labeled Inorganic Constituents (Per 22CCR§66261.24) California 17 Metals (CAM17).
- Volatile Organics (VOC) – EPA Method 8260B
- Semi Volatile Organics (Semi VOC) – EPA Method 8270C
- Polychlorinated Biphenyls (PCBs) –EPA Method 8082 and PCB < 50 ppm and not from a Toxic Substances Control Act (TSCA) source.
- Dioxin – EPA Method 8280
- BTEX (Benzene, Toluene, Ethylbenzene, and Xylene) – EPA Method 8021
- Pesticides/Herbicides (Pest/Herb) – EPA Method Organchlorine Pesticide 8081A and Organophosphorus Pesticide 8141
- Paint Filter – EPA Method 9095A - Paint Filter Test must indicate no free liquids.
- Percent Moisture – Or Percent Solid and Percent Moisture waste must not exceed 50% moisture.
- Reactivity, Corrosivity and Ignitability (RCI) – Per 22CCR§66261.21-23 Hazardous Waste Characteristics. pH (Corrosivity): $2 \leq X \geq 12.5$ (22CCR§66261.22) – EPA Method 9045C
- Toxicity - 96 hour Fish Bioassay – Per 26CCR§66261.24(6)

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD

SAN DIEGO REGION

ADDENDUM No. 1 TO ORDER NO. 93-86

MAXIMUM CONCENTRATION LIMITS FOR SOILS CONTAINING NONHAZARDOUS CONCENTRATIONS OF PETROLEUM HYDROCARBONS, ORGANIC AND INORGANIC COMPOUNDS, METALS, AND PESTICIDES FOR MSW LANDFILLS WITH SUBTITLE D LINERS

The California Regional Water Quality Control Board, San Diego Region (hereinafter Regional Board), finds that:

1. On August 16, 1993, this Regional Board adopted Order No. 93-86, **Waste Discharge Requirement (WDR) Amendment for all Class III Municipal Solid Waste (MSW) Landfills in this Region, to Implement State Water Board Resolution No. 93-62, Adopted June 17, 1993, as State Policy for Water Quality Control under Section 13140 of the Water Code.** Order No. 93-86 established compliance with Federal Regulations (40 CFR parts 247 & 248, referred to as Subtitle D).

2. Landfills with liners and leachate collection systems approved in accordance with California Code of Regulations, Title 27, Division 2 (hereinafter 27 CCR) provides enhanced waste containment and an additional level of protection against leakage as compared to unlined landfills.

3. As amended, Order No. 93-86 would establish concentration limits for the discharge of soils containing nonhazardous concentrations of petroleum hydrocarbons, organic and inorganic compounds, metals and pesticides to lined cells of operating landfills.

4. Section 25157.8(a) of the California Health and Safety Code prohibits the disposal of waste containing total lead in excess of 350 parts per million (ppm), copper in excess of 2500 ppm, and Nickel in excess of 2000 ppm to other than a Class I hazardous waste site, unless (1) the appropriate Regional Water Quality Control Board amends waste discharge requirements to specifically allow the disposal of the waste and (2) the appropriate local enforcement agency has revised the solid waste facility permit of the facility to specifically allow the disposal of the waste.

5. Soils containing non-hazardous concentrations of petroleum hydrocarbons, organic and inorganic compounds, metals and pesticides discharged to lined waste management units shall be considered to not pose a significant threat to water quality if concentration levels are below the threshold concentrations listed in the Discharge Specifications of this Order.

6. Soil wastes shall be considered to pose a threat to water quality if it has contamination levels above the threshold concentrations listed in the specifications of this Order and may not be discharged at these sites.

7. The discharge of hazardous waste, as defined in California Code of Regulations (CCR) Title 22 Division 3, Chapter 30, Article 11 is prohibited.

8. MSW landfills subject to this order are existing facilities and as such are exempt from the provisions of the California Environmental Quality Act in accordance with Title 14, California Code of Regulations, Chapter 3, Article 19, Section 15301.

9. The Regional Board in a public meeting heard and considered all comments pertaining to the modification of Order No. 93-86.

10. The Regional Board has notified all known interested parties of its intent to modify Order No. 93-86.

IT IS HEREBY ORDERED, That Order No. 93-86 be modified as follows:

Add the following:

A. DISCHARGE SPECIFICATIONS

1. Soil samples shall be taken in accordance with sampling guidelines set forth in the most recently promulgated edition of "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW-846", U.S. Environmental Protection Agency. At a minimum, for quantities of soil less than or equal to 500 cubic yards, four samples per 100 cubic yards will be taken. For quantities of soil between 500 to 5000 cubic yards, an additional sample shall be taken for every 500 cubic yards.

2. MSW Class III landfills shall have an approved load check program in compliance with 27 CCR Section 20870.

3. Waste soils shall be discharged into lined areas specifically approved by the Regional Board in accordance with 27 CCR. Soils may also be utilized for daily landfill cover within lined units if approved for such use by the appropriate agencies

4. All wastes received at the landfill are to be certified California non-hazardous according to 22 CCR.

5. Lined Class III Waste Management Units, as designed, may accept only soils contaminated with petroleum hydrocarbons, organic and inorganic compounds, metals, and pesticides below the following concentration limits which could pose a threat to water quality if discharged in an uncontrolled manner:

    a. Soils containing nonhazardous concentrations of metals and pesticides, organic and inorganic compounds shall not exceed hazardous waste classifications as determined using the waste extraction test (WET) (Reference CCR Title 22, Section 66261.24 as amended).

    b. Soils containing nonhazardous concentrations of metals, pesticides, organic and inorganic compounds shall not exceed maximum concentrations of contaminants using Toxicity Characteristic Leaching Procedure (TCLP) analysis (Reference: CCR Title 22, Section 66261.24 as Amended).

c. The discharge of total lead at concentrations shall not exceed the threshold for hazardous concentration established in 22 CCR. The current level is 1000 mg/kg (ppm). This Order would not effect the concentration levels established in Section 25157.8(a) for Nickel and Copper as these are equivalent to the threshold for hazardous waste for concentration levels in 22 CCR.

d. Soils containing nonhazardous concentrations of petroleum hydrocarbons. The following maximum concentration levels will be used to determine if soils containing petroleum hydrocarbons are acceptable for disposal.

Petroleum Hydrocarbon Contaminant	Maximum Concentration Limits	
Gasoline and lighter end hydrocarbons (C_4 -C_{12})	1,000 ppm TPH	1,000 -5,000 ppm TPH w/RCI and 96 hour bioassay
Diesel fuel, Kerosene Oil, Jet Fuel, (C_8-C_{22}) heavy end hydrocarbons	3,000 ppm TPH	3,000 -15000 ppm TPH w/RCI and 96 hour bioassay
Hydraulic Oil, Cutting and Grinding Oil, Virgin Motor Oil, Waste Oil (C_8-C_{40} heavy end hydrocarbons)	3000 ppm TRPH	3,000 -15000 ppm TPH w/RCI and 96 hour bioassay

TPH - Total Petroleum Hydrocarbon
TRPH - Total Recoverable Petroleum Hydrocarbon
RCI - Hazardous Waste Criteria for Reactivity, Corrosivity, Ignitiability and 96 Hour Acute Bioassay as established by CCR 22

6. Test Methods for Soils Containing Petroleum Hydrocarbons:

The following test methods shall be performed for soils containing Petroleum Hydrocarbons.

Petroleum constituent	TPH (8015M) Gas	TPH (8015 M Diesel	(EPA 418.1)	BTEX (8020)	Lead (TCLP)	Metals (Cd, Cr, Pb, Ni, Zn), OX, and PCBs	Semi-Volatile Organics (8270 or EPA 625)	Volatile organics (8260)	Metals (CAM 17), and PCBs
Leaded Gasoline									
Unleaded gasoline					*				
Kerosene Oil									
Jet Fuel									
Diesel Fuel									
Hydraulic Oil									
Cutting and Grinding Oil									
Virgin Motor Oil									
Waste Oil									

* with documentation that only unleaded gas was historically on site

7. Test Methods for Soils Containing Metals and Pesticides

The analyses can include the following methodologies:

TPH (418.1 or 8015M)	TCLP Analysis (8 RCRA metals)
8260	CAM 17
8270 (Semi-VOCs)	8080 (Chlorinated pesticides & PCBs)
8150 (herbicides)	

8. Recordkeeping

Copies of the waste approvals will be kept on file at the facility and at a minimum will include:

a. Certification from the generator certifying that the analyses submitted is representative of the material to be disposed.

b. Analytical data or Material and Safety Data Sheets representing the waste stream.

c. The Chain-of-Custody form showing the sample's integrity was not compromised.

d. The approximate yardage of the material and the transporter information.

I, John H. Robertus, Executive Officer, do hereby certify the foregoing is a full, true and correct copy of an Order adopted by the California Regional Water Quality Control Board, San Diego Region, on June 7, 1999.

- signed by -

JOHN H. ROBERTUS
Executive Officer

Table 1- Maximum Concentration Limits For Soils Containing Nonhazardous Concentrations Of Metals and Pesticides and organic and inorganic compounds. (Reference: CCR Title 22, Section 66261.24 as Amended).

Contaminant (CAM 17*)	Maximum Concentration Limits **STLC* * mg/l**
Antimony	15
Arsenic	5.0
Barium	100
Beryllium	0.75
Cadmium	1.0
Chromium	5
Cobalt	80
Copper	25
Lead	5.0
Mercury	0.2
Molybdenum	350
Nickel	20
Selenium	1.0
Silver	5
Thallium	7.0
Vanadium	24
Zinc	250
Contaminant	**STLC (mg/l)**
Aldrin	0.14
Chlordane	0.25
DDT, DDE, DDD	0.1
2,4-Dichlorophenoxyacetic acid	10
Dieldrin	0.8
Dioxin (2,3,7,8-TCDD)	0.001
Endrin	0.02
Heptachlor	0.47
Kepone	2.1
Lead compounds, organic	-
Lindane	0.4
Methoxychlor	10
Mirex	2.1
Pentachlorophenol	1.7
Polychlorinated biphenyls (PCBs)	5.0
Toxaphene	0.5
Trichloroethylene	204
2,4,5-Trichlorophenoxypropionic acid	1.0

** California Metals 22 CCR 66261.24*

***STLC - Soluble Threshold Limit Concentration*

Table 2- Maximum Concentration Limits For Soils Containing Nonhazardous Concentrations Of Metals, Pesticides and Organic and Inorganic Compounds using Toxicity Characteristic Leaching Procedure (TCLP) analysis.(Reference: CCR Title 22, Section 66261.24 as Amended).

Contaminant	Maximum Concentration Limits Regulatory Level (Mg/l)
Arsenic	5.0
Barium	100.0
Benzene	0.5
Cadmium	1.0
Carbon tetrachloride	0.5
Chlordane	0.03
Chlorobenzene	100.0
Chloroform	6.0
Chromium	5.0
0-Cresol	200.0
m-Cresol	200.0
p-Cresol	200.0
Cresol, total	200.0
2,4- D	10.0
1,4-Dichlorobenzene	7.5
1,2-Dichloroethane	0.5
1,1-Dichloroethylene	0.7
2,4-Dinitrotoluene	0.13
Endrin	0.02
Heptachlor (and its epoxide)	0.008
Hexachlorobenzene	0.13
Hexachlorobutadiene	0.5
Hexachloroethane	3.0
Lead	5.0
Lindane	0.4
Mercury	0.2
Methoxychlor	10.0
Methyl ethyl ketone	200.0
Nitrobenzene	2.0
Pentachlorophenol	100.0
Pyridine	5.0
Selenium	1.0
Silver	5.0
Tetrachloroethylene	0.7
Toxaphene	0.5
Trichloroethylene	0.5
2,4,5-Trichlorophenol	400.0
2,4,6-Trichlorophenol	2.0
2,4,5-TP (Silvex)	1.0
Vinyl Chloride	0.2

Attachment 5b
Sample Chain-of-Custody Record

COC No. _____

Page ____ of ____

City of Escondido 120 South Broadway Escondido, CA 92025 (760) 835 - 4074	Attn: Chris Lawrence (858) 229-2884 cell Fax (xxx) xxx-xxxx	**Project Name:** Mission Pools Drainage Dredging **Project No:**	**Laboratory:** Contact: _____ Phone:

Event: _____ ***Sampled By:*** **_C. Lawrance**

	SAMPLE IDENTIFICATION		**Date**	**Time**	**# of Containers**	**Container Type**	**Grab "G" or Composite "C"**	***Matrix***			***Analyses Required***															**SPECIAL INSTRUCTIONS/ COMMENTS**
								Water	**Sediment**	**Other**														**Other**	**Hold**	
1																									
2																									
3																									
4																									
5																									
6																									
7																									
8																									
9																									
10																									

Relinquished By (sign/print)	Company	Date	Time	Received By (sign/print)	Company
/				/	
/				/	
/				/	
/				/	
/				/	

Container Type:	**Turnaround Time:**	**Reporting Level:**	**Remarks (by laboratory):**
VOA Vials = V Plastic = P Glass = G	3/15 days (fax/final)	QC Sum + EDD	

Priority: 1-TDS, TSS, Metals (Total/Diss). 2- PAH 3- Nitrate-N, Ammonia (N). 4- Total P and Orthophosphate.

INSTRUCTIONS FOR THE COMPLETION OF SPECIAL WASTE PROFILE

The Special Waste Profile (Profile) is to be used by the generator/customer when applying for acceptance approval at a Republic Services, Inc. facility of a new special waste stream.

The Profile is to be completed to properly identify and characterize the type of waste that is being requested for acceptance. All information provided must be certified by the generator/customer of the waste identified on the Profile as true, correct, and accurate.

Profile Legibility and Alterations: The information on the Profile and lab report must be legible. Electronic copy of the Profile is available for convenience and is the preferred form for use. Any changes to the profile once it has been submitted by the customer for review must be initialed and dated. Attachments may be used if there is not enough room on the profile. Reference the attachment on the Profile by date and signature.

Profile Completeness: The Profile must be signed, dated, and all pertinent sections completed. If the information doesn't apply, the Generator should indicate with Not Applicable (NA) to acknowledge that the item was considered and not missed; a yellow highlight shows in box if not marked as such. If a parameter is not tested (NT), the Generator should insert NT in the appropriate box. The name of the waste should clearly and accurately describe the waste stream. The process should explain how, when, and why the waste was produced. Abbreviations and industry specific terminology that can be interpreted differently should be avoided.

Profile Printing: Once the profile is completed electronically, click the big red PRINT button at the top of the page to print. Do not use your print icon or go to **File**, **Print,** because you will have the question marks along the side of the print out.

SPECIAL WASTE PROFILE INFORMATION

Waste Profile # (Number): Leave blank. A specific tracking number will be issued by the Special Waste Department.

Requested Disposal Facility: Select the name of the proposed landfill facility (more than one can be entered) for the disposal of the non-hazardous waste stream using the drop-down menu. Facilities are in alphabetical order.

Sales Rep # (Number): Leave blank. Item will be completed by Special Waste Department.

I. GENERATOR INFORMATION

Generator Name: Enter the name of generator/customer. The generator is the company/owner of the facility or mobile source that emits or releases hazardous or nonhazardous waste into water or soil; or any person, by site, whose act or process produces hazardous or nonhazardous waste.

Generator Site Address: Address or vicinity of where the waste is being taking from that will be disposed of. Be sure to select the state from the drop-down menu.

State ID/Reg No and State Approval/Waste Code: Applies only if State Agencies issue identification or registration numbers. (For instance, Illinois EPA has a ten-digit code assigned to each generator of special waste). If the state agency does not issue a number enter NA.

NAICS #: Each industry class is assigned a code called a North American Industry Classification System. The classification is assigned to the process that generates a specific product.

Generator Mailing Address (if different): If the address to where correspondence is to be sent is different from the waste generating site address, complete the mailing address, otherwise type SAME.

Generator Contact Name: Enter the Contact Person's name, telephone and fax numbers, email address, which belong to the generator/customer noted above. A consultant or construction firm is not a generator, and should not be stated as such in Generator Name or within contact information. When entering phone and fax numbers, do not use parenthesis or dashes; enter the number as 5551234567, it will auto format the number.

IIa. TRANSPORTER INFORMATION

Transporter Name: Enter the required name and address information for the waste hauler who is to transport the waste. Also, enter the Contact Person's name, telephone and fax numbers. Again, when entering phone and fax numbers, do not use parenthesis or dashes; enter the number as 5551234567.

State Transportation Number: Enter any required State issued number for transportation activities.

IIb. BILLING INFORMATION

Bill To: Enter the billing customer name in the space provided. This is the party to whom disposal costs will be charged. If the customer and the generator are the same, so indicate. Also, enter the Contact Person's name, telephone and fax numbers. When entering phone and fax numbers, do not use parenthesis or dashes; enter the number as 5551234567. Lastly, enter the email address of the Contact Person.

III. WASTE STREAM INFORMATION

Name of Waste: Provide the common name of the major component or substance that most accurately describes the waste.

Process Generating Waste: Provide a detailed description of the process or operation that generates the waste.

Type of Waste: Check one of the 2 choices listed, either Industrial Process Waste or Pollution Control Waste.

Physical State: Check one of the choices listed. Check with the disposal facility on what type of physical state of the waste they can accept.

Method of Shipment: Check one of the choices listed. This will describe the planned method of transportation to the transfer station or disposal facility.

Estimated Annual Volume*:* Specify the estimated annual volume by writing in the number and using the drop-down menu to select the unit of volume. Please do not use fractions – always round up. Please do not use any symbols such as <, ~, etc. Please don't list the volume, for example, as 20-60 CY; enter only the higher number. Also, enter only whole numbers.

Frequency: Check one of the 2 choices listed, either One Time (an event project lasting 6 months to 1 year) or annual (an on-going waste stream approval is for 3 years).

Disposal Consideration: Check one of the 3 choices listed, Landfill, Solidification, Bioremediation.

IV. REPRESENTATIVE SAMPLE CERTIFICATION

No Sample Taken: Check the NO SAMPLE TAKEN box, if there was no sample taken that is representative of the waste.

Representative Sample Collected: Indicate Yes or No, that a representative sample was collected to prepare the profile sheet and laboratory analytical report in accordance with USEPA guidelines or equivalent rule.

Sample Date: Enter the date the sample/s was/were taken or collected, located on the Chain of Custody (COC) page of the laboratory analytical report, and must be included with Profile submission. The space provided within this spot will only hold roughly 2 samples dates. If the lab results include more than this please see below under sample ID numbers to attach an additional page.

Type of Sample: Indicate by checking whether this is a Composite Sample (Composite sampling is a technique whereby multiple temporally or spatially discrete, or media samples are combined, thoroughly homogenized, and treated as a single sample.) or Grab Sample (Grab sampling is a technique where samples are taken of a homogeneous material in a single vessel, that provides a good snap-shot view of the quality of the sampled environment at the point of sampling and at the time of sampling.)

Sample ID Numbers: Enter the Sample ID Numbers that are represented of the waste. The Sample ID Numbers are listed on the Lab Report as Client sample number, lab sample number, or project number and must also be include with Profile submission. The space provided within this spot will only hold roughly 8-10 samples numbers. If the lab results include more than this, please attach an additional page using the following as an example on what this additional page should include.

Exhibit A
Special Waste Profile
IV. Representative Sample Certification
Additional Page

Generator: _____
Site Address: _____
_____

	SAMPLE ID NUMBER	SAMPLE DATE	LABORATORY NAME	LABORATORY REPORT #
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				

Prepared by: _____
Company: _____
Title: _____
Generator Signature: _____ Date: _____

V. PHYSICAL CHARACTERISTICS OF WASTE

Characteristic Components | % by Weight (range): Furnish the general constituents and the relative percentages that comprise the waste. These components can have generic or chemical names. The total percentage must equal 100% (i.e. Petroleum Contaminated Soil: Soil 97-100%, unleaded gasoline 0-3%).

Color: Describe the color of the waste. If the color is variable, provide the most dominant color.

Odor (describe): If an odor from the waste is detected give the most accurate description of that odor including what kind of odor and if it is slight, mild, or strong. If no odor is detected, indicate None.

Waste Contain Free Liquids: Determine if there are free liquids in the waste (Paint Filter Test). Mark NO if the waste passes the test (no free liquids present). Mark YES if the waste fails the test (detecting the presence of free liquids).

% (percent) Solids: Determine the amount of solids present in the waste, provide as a percentage of the waste as a whole.

pH: Indicate the pH of the waste (corrosivity), if tested place the value reported in this box.

Flash Point: Indicate the temperature at which the waste ignites.

Attach Analytical Report

Testing requirements for specific waste streams are based on landfill permits and can be provided through inquiry. Eight RCRA TCLP Metals, Cyanide Total/Reactive, Sulfide Total/Reactive, Flash Point,

Paint Filter, pH, Phenol, PCBs, EOX, TCLP Organics (TCLP Volatiles, TCLP Semi-Volatiles), Pesticides/Herbicides are parameters required for the majority of waste streams for approval. When performing metals and organics analysis, Total or TCLP procedure may be utilized, but any constituent whose total concentration is greater than 20 times the TCLP level, then TCLP must be performed. Where parameters are not tested, include historical background and/or Material Safety Data Sheets. Analytical used to complete this form **MUST** be less than one (1) year old.

Pesticides and/or Herbicides: Indicate Yes or No.

Reactive Sulfide or Reactive Cyanide: Indicate Yes or No.

PCBs: Indicate Yes or No. PCBs are generally used in electric capacitors, transformers, and vacuum pumps. An alternate name commonly used by laboratories for PCB is Aroclor followed by a number defining the special PCB tested. If PCBs are tested and separated into the Aroclor compounds, the highest detection limit is the parameter to be reported.

Listed Hazardous Waste: Indicate Yes or No.

Characteristic Hazardous Waste: Indicate Yes or No.

Dioxins: Indicate Yes or No.

Radioactive Waste: Indicate Yes or No.

Medical or Infectious Waste: Indicate Yes or No.

Reactive or Heat Generating Waste: Indicate Yes or No.

Contain Sulfur or Sulfur by- product Waste: Indicate Yes or No.

Federal Superfund Site: Indicate Yes or No.

TSD Facility, TSD Like Facility or Consolidator: Indicate Yes or No.

VI. CERTIFICATION

Authorized Representative Name and Title: The Certification requires the generator/customer name of a representative of Section I Generator Information. If a generator/customer employee does not sign the Special Waste Profile, a properly completed Third Party Signature Authorization form from the generator/customer authorizing the person (Contractor/Hauler) to sign this form on their behalf, must accompany the Profile.

Company Name: Also would match Section I Generator Information.

Authorized Representative Signature and Date: Electronic signatures are not acceptable and a wet signature is required.

REPUBLIC SERVICES

SPECIAL WASTE PROFILE

Requested Disposal Facility: --- Select a Facility ---

Waste Profile #

Saveable fill-in form. Restricted printing until all required (yellow) fields are completed.

Sales Rep #:

I. Generator Information

Generator Name:			
Generator Site Address:			
City:	County:	State: -- Select a State --	Zip:
State ID/Reg No:	State Approval/Waste Code: (if applicable)		NAICS # :
Generator Mailing Address (if different): ☐			
City:	County:	State: -- Select a State --	Zip:
Generator Contact Name:		Email:	
Phone Number:	Ext:	Fax Number:	

II. Billing Information

Bill To:		Contact Name:	
Billing Address:		Email:	
City:	State:	Zip:	Phone:

III. Waste Stream Information

Name of Waste:	
Process Generating Waste:	
Type of Waste:	☐ INDUSTRIAL PROCESS WASTE ☐ POLLUTION CONTROL WASTE
Physical State:	☐ SOLID ☐ SEMI-SOLID ☐ POWDER ☐ LIQUID
Method of Shipment:	☐ BULK ☐ DRUM ☐ BAGGED ☐ OTHER:
Estimated Annual Volume:	-- Select Volume Type --
Frequency:	☐ ONE TIME ☐ ONGOING
Disposal Consideration:	☐ LANDFILL ☐ SOLIDIFICATION ☐ BIOREMEDIATION

IV. Representative Sample Certification

☐ NO SAMPLE TAKEN

Is the representative sample collected to prepare this profile and laboratory analysis, collected in accordance with U.S. EPA 40 CFR 261.20(c) guidelines or equivalent rules?	☐ YES or ☐ NO
Type of Sample: ☐ COMPOSITE SAMPLE ☐ GRAB SAMPLE	
Sample Date:	
Sample ID Numbers:	

Waste Profile #

V. Physical Characteristics of Waste

Characteristic Components	% by Weight (range)
1.	
2.	
3.	
4.	
5.	

Color	Odor (describe)	Does Waste Contain Free Liquids?	% Solids	pH:	Flash Point
		☐ YES or ☐ NO			°F

Attach Laboratory Analytical Report (and/or Material Safety Data Sheet) Including Chain of Custody and Required Parameters Provided for this Profile

Does this waste or generating process contain regulated concentrations of the following Pesticides and/or Herbicides: Chlordane, Endrin, Heptachlor (and its epoxides), Lindane, Methoxychlor, Toxaphene, 2,4-D, or 2,4,5-TP Silvex as defined in 40 CFR 261.33?	☐ Yes or ☐ No
Does this waste contain reactive sulfides (greater than 500 ppm) or reactive cyanide (greater than 250 ppm)[reference 40 CFR 261.23(a)(5)]?	☐ Yes or ☐ No
Does this waste contain regulated concentrations of Polychlorinated Biphenyls (PCBs) as defined in 40 CFR Part 761?	☐ Yes or ☐ No
Does this waste contain concentrations of listed hazardous wastes defined in 40 CFR 261.31, 261.32, 261.33, including RCRA F-Listed Solvents?	☐ Yes or ☐ No
Does this waste exhibit a Hazardous Characteristic as defined by Federal and/or State regulations?	☐ Yes or ☐ No
Does this waste contain regulated concentrations of 2,3,7,8-Tetrachlorodibenzodioxin (2,3,7,8-TCCD), or any other dioxin as defined in 40 CFR 261.31?	☐ Yes or ☐ No
Is this a regulated Radioactive Waste as defined by Federal and/or State regulations?	☐ Yes or ☐ No
Is this a regulated Medical or Infectious Waste as defined by Federal and/or State regulations?	☐ Yes or ☐ No
Is this waste a reactive or heat generating waste?	☐ Yes or ☐ No
Does the waste contain sulfur or sulfur by-products?	☐ Yes or ☐ No
Is this waste generated at a Federal Superfund Clean Up Site?	☐ Yes or ☐ No
Is this waste from a TSD facility, TSD like facility or consolidator?	☐ Yes or ☐ No

VI. Certification

I hereby certify that to the best of my knowledge and belief, the information contained herein is a true, complete and accurate description of the waste material being offered for disposal and all known or suspected hazards have been disclosed. All Analytical Results/Material Safety Data Sheets submitted are truthful and complete and are representative of the waste.

I further certify that by utilizing this profile, neither myself nor any other employee of the company will deliver for disposal or attempt to deliver for disposal any waste which is classified as toxic waste, hazardous waste or infectious waste, or any other waste material this facility is prohibited from accepting by law. I shall immediately give written notice of any change or condition pertaining to the waste not provided herein. Our company hereby agrees to fully indemnify this disposal facility against any damages resulting from this certification being inaccurate or untrue.

I further certify that the company has not altered the form or content of this profile sheet as provided by Republic Services Inc.

Authorized Representative Name And Title (Type or Print)	Company Name
Authorized Representative Signature	Date

VERSION 08.02.19

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN DIEGO REGION
9174 Sky Park Court, Suite 100
San Diego, California 92123-4340

TEMPORARY WASTE PILE CERTIFICATION
[SECTION A]

I. TEMPORARY WASTE PILE GENERATOR INFORMATION

Generator Name:			
Generator Contact and Title:			
Generator Mailing Address:			
City:	County:	State:	Zip:
Telephone:	Fax:	Email:	

II. WASTE INFORMATION

Local Oversight Program Case No.:			San Diego Water Board File No.:	
Waste Type: (check all that apply)	☐ Gasoline	☐ Diesel	☐ Other Petroleum Hydrocarbons	
	☐ Other Impacted Dredged Spoils		☐ Other:	

Contaminant Concentrations *(Used additional pages as needed)*:

Mean	Mean+80%CI	Mean	Mean+80%CI	Mean	Mean+80%CI	Mean	Mean+80%CI
Mean	Mean+80%CI	Mean	Mean+80%CI	Mean	Mean+80%CI	Mean	Mean+80%CI
Mean	Mean+80%CI	Mean	Mean+80%CI	Mean	Mean+80%CI	Mean	Mean+80%CI

Waste Pile Quantity (yd^3):

Description of Containment Method:

III. TEMPORARY WASTE PILE SITE INFORMATION

Site Property Owner Name:			
Site Address:			
City:	County:	State:	Zip:
Telephone:	Fax:	Email:	
Assessor Parcel Number(s):		Hydrologic Area/Subarea:	

IV. PROPERTY OWNER ACKNOWLEDGMENT

I hereby acknowledge receipt of the waste soil described in section II and that I have reviewed any associated reports. By signing this form I acknowledge that the Generator of this waste has certified that all 8.II.D waiver conditions have been met.

Signature (Owner or Authorized Representative) _____ Date _____

Print Name _____ Title _____

V. GENERATOR CERTIFICATION

I hereby certify that the information provided regarding soil characterization is a complete and accurate representation of the subject soil, and that the soil is not hazardous waste as defined by California Code of Regulations Title 22 and by the U.S. Environmental Protection Agency (Code of Federal Regulations Title 40), and that all 8.II.D waiver conditions have been met.

Generator Signature _____ Date _____

Print Name _____ Title _____

VERSION 08.02.19

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN DIEGO REGION
9174 Sky Park Court, Suite 100
San Diego, California 92123-4340

TEMPORARY WASTE PILE CERTIFICATION
[SECTION B]

I. FINAL WASTE DISPOSAL INFORMATION

Final Disposition of Waste:	☐ Off-site/Landfill Disposal	☐ On-site Reuse/Disposal	
	☐ Off-site Reuse/Disposal	☐ Other:	
Property Owner/Discharger Name:			
Property Owner/Discharger Contact and Title:			
Property Owner/Discharger Mailing Address:			
City:	County:	State:	Zip:
Telephone:	Fax:	Email:	
Assessor Parcel Number(s):		Hydrologic Area/Subarea:	
Date(s) Waste Disposed:			
Quantity of Waste Disposed: (in cubic yards for each disposal date)			
Disposal Location(s): (for each disposal date)			

II. FINAL DISPOSAL CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

Signature (Owner or Authorized Representative)	Date
Print Name	Title

Attachment 6

ENGINEER'S COST ESTIMATE

SPRUCE STREET DRAINAGE IMPROVEMENTS

Attachment 6
Engineer's Order-of-Magnitude Cost Estimate
for
Spruce Street Drainage Improvement Project,
City of Escondido 2014

Item	Description	Unit	Quantity	Unit Price	Total
	BASE BID				
1	Bonds (Payment and Performance)*	LS	1	$ 82,150	$ 82,000
2	Traffic Control*	LS	1	$ 82,150	$ 82,000
3	Traffic Control Design*	LS	1	$ 82,150	$ 82,000
4	Mobilization*	LS	1	$ 82,150	$ 82,000
5	Potential Change Orders*	LS	1	$ 82,150	$ 82,000
6	Clearing & Grubbing (including disposal)	SF	124,510	$ 0.50	$ 62,000
7	Coffer Dam and Bypass Pumping**	LS	1	$ 50,000	$ 50,000
8	SWPPP	LS	1	$ 25,000	$ 25,000
9	Remove Escondido Outlet Structure	LS	1	$ 12,500	$ 13,000
10	Remove Valley Parkway Headwalls	LS	1	$ 25,000	$ 25,000
11	Remove Existing Crossing	LS	1	$ 10,000	$ 10,000
12	Additional Channel Grading and Bend Erosion Protection	LS	1	$ 10,000	$ 10,000
13	Unclassified Excavation and Haul--Earth-Lined Main Channel***	CY	6,658	$ 35	$ 233,000
14	Sediment Removal and Haul--Earth-Lined Short Channel***	CY	259	$ 30	$ 8,000
15	Sediment Removal and Haul--Underground Box (Spruce Street)***	CY	753	$ 63	$ 47,000
16	Sediment Removal and Haul--Concrete-Lined Channel***	CY	495	$ 30	$ 15,000
17	Channel Fine Grading	CY	250	$ 50	$ 13,000
18	10' X 10' RC Box	LF	49	$ 2,000	$ 98,000
19	96" RCP Extensions	LF	46	$ 350	$ 16,000
20	12" RCP Outfall Repair	LF	8	$ 100	$ 1,000
21	5' X 5' RC Box (Jack in Place)	LF	103	$ 2,250	$ 232,000
22	Construct Escondido Outlet Structure	LS	1	$ 40,000	$ 40,000
23	Construct Valley Parkway Headwalls	LS	1	$ 80,000	$ 80,000
24	Construct Valley Parkway Pier Nose	LS	1	$ 12,000	$ 12,000
25	5-foot-wide Sidewalk North Side of Valley Parkway	SF	516	$ 7.50	$ 4,000

Attachment 6
Engineer's Order-of-Magnitude Cost Estimate
for
Spruce Street Drainage Improvement Project,
City of Escondido 2014

Item	Description	Unit	Quantity	Unit Price	Total
26	Compacted Fill	CY	15	$ 35	$ 1,000
27	AC Pavement & Base North Side Valley Parkway	LS	1	$ 5,000	$ 5,000
28	Box Access Manholes	EA	3	$ 4,000	$ 12,000
29	Box Concrete Fillet (radius smoothing)	LS	1	$ 7,500	$ 8,000
30	Revegetation and Erosion Control	SF	124,510	$ 5.00	$ 623,000
				Base Bid	**$ 2,050,000**
				Contingency @ 25%	$ 513,000
				Subtotal	**$ 2,563,000**

*** Estimated at 5% of the base bid cost as a standard. City requirements may be different.**

**** Depends of amount of water and potential level of treatment.**

***** Assumes excavated material does not require special handling (i.e., nonharzardous).**

Optional Item 1 -- Construct Sediment Deposition Basin Between Valley Parkway and Grand Ave.					
1	Remove Pavement (widening)	SF	18,404	$ 0.50	$ 9,000
2	Unclassified Excavation and Haul *	CY	1,164	$ 25	$ 29,000
3	Channel Bottom Diversion Grading and Hardscape	LS	1	$ 75,000	$ 75,000
4	Landscape and Erosion Control	SF	18,000	$ 2.50	$ 45,000
5	Additional Park Amenities	LS	1	$ 5,000	$ 5,000
6	Relocate Utility Pole	LS	1	$ 250,000	$ 250,000
				Base Bid	**$ 413,000**
				Contingency @ 25%	$ 103,000
				Subtotal	**$ 520,000**

*** Assumes excavated material does not require special handling (i.e., nonharzardous).**

Attachment 7

DREDGING COST ESTIMATE COMPARISON

SPRUCE STREET DRAINAGE IMPROVEMENTS

Attachment 7.
Estimated Dredging Costs,
Spruce Street Drainage Improvements, City of Escondido

SPRUCE STREET DRAINAGE IMPROVEMENTS Order-of-Magnitude Dredging Cost Estimate					Mechanical Dredge with Mining Cart	Mechanical Dredge with Bobcat	Mechanical Dredge with Vactor Truck/Jet	Hydraulic Dredge
Drainage Section	Unit	Quantity	Unit $	Cost	**Dredging Option**			
Main Channel (6,658 CY sediment)								
Backhoe w/operator	Day	45	$ 1,200	$ 54,000	$ 54,000	$ 54,000	$ 54,000	$ 54,000
Bobcat w/operator	Day	45	$ 1,000	$ 45,000	$ 45,000	$ 45,000	$ 45,000	$ 45,000
Hand labor 3 laborers	Day	135	$ 120	$ 16,200	$ 16,200	$ 16,200	$ 16,200	$ 16,200
Load/Haul (dewatering site)	8 CY Load	832	$ 150	$ 124,838	$ 124,838	$ 124,838	$ 124,838	$ 124,838
				Subtotal	**$ 240,038**	**$ 240,038**	**$ 240,038**	**$ 240,038**
Short Channel (259 CY sediment)								
Backhoe w/operator	Day	3	$ 1,200	$ 3,600	$ 3,600	$ 3,600	$ 3,600	$ 3,600
Bobcat w/operator	Day	3	$ 1,000	$ 3,000	$ 3,000	$ 3,000	$ 3,000	$ 3,000
Hand labor 2 laborers	Day	6	$ 120	$ 720	$ 720	$ 720	$ 720	$ 720
Load/Haul (dewatering site)	8 CY Load	32	$ 100	$ 3,238	$ 3,238	$ 3,238	$ 3,238	$ 3,238
				Subtotal	**$ 10,558**	**$ 10,558**	**$ 10,558**	**$ 10,558**
Spruce Street (753 CY sediment)								
Mining Cart w/operator (SCUBA) [prev. removal technique]	Day	10	$ 1,600	$ 16,000	$ 16,000	$ -	$ -	$ -
Backhoe w/operator	Day	12	$ 1,200	$ 14,400	$ 11,520	$ 14,400	$ 5,760	$ -
Bobcat w/operator (SCUBA)	Day	12	$ 1,800	$ 21,600		$ 21,600	$ -	$ -
Vactor Truck w Water Jet	Day	14	$ 1,500	$ 21,000			$ 21,000	$ -
Hydraulic dredge & processing skid	Day	14	$ 7,000	$ 98,000	$ -	$ -	$ -	$ 98,000
Temp Dirt Ramp (install/remove)	LS	1	$ 750	$ 750	$ 750	$ 750	$ -	$ -
Hand labor 3 laborers	Day	42	$ 120	$ 5,040	$ 5,040	$ 5,040	$ 5,040	$ 5,040
Load/Haul (dewatering site)	8 CY Load	94	$ 100	$ 9,413	$ 9,413	$ 9,413	$ 9,413	$ 9,413
Vactor waste disposal	8 CY Load	94	$ 250	$ 23,531	$ -	$ -	$ 23,531	$ -
				Subtotal	**$ 42,723**	**$ 51,203**	**$ 64,744**	**$ 112,453**
Concrete Channel (495 CY sediment)								
Vactor Truck (water removal)	Day	2	$ 800	$ 1,600	$ -	$ -	$ 800	$ 1,600
Backhoe w/operator	Day	4	$ 1,200	$ 4,800	$ 4,800	$ 4,800	$ 4,800	$ 4,800
Bobcat w/operator	Day	4	$ 1,000	$ 4,000	$ 4,000	$ 4,000	$ 4,000	$ 4,000
Hand labor 3 laborers	Day	12	$ 120	$ 1,440	$ 1,440	$ 1,440	$ 1,440	$ 1,440
Load/Haul (dewatering site)	8 CY Load	62	$ 100	$ 6,188	$ 6,188	$ 6,188	$ -	$ 7,425
				Subtotal	**$ 16,428**	**$ 16,428**	**$ 11,040**	**$ 19,265**
Dewatering Platform (mob/demob/disposal)	LS	1	$ 2,000	$ 2,000	$ 2,000	$ 2,000	$ 2,000	$ 2,000
				Site Totals	**$ 311,745**	**$ 320,225**	**$ 328,379**	**$ 384,313**