

2016 Substantial Conformance Review for Individual Maintenance Plan (IMP) and Individual Technical Assessments for Tijuana River Pilot Channel and Smuggler's Gulch, City of San Diego Site Development
Permit No. 1134892, Master Storm Water System Maintenance Program

Appendix B

Individual Biological Assessment (IBA)

July 1, 2016

8685

Stephanie Bracci
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City of San Diego
Transportation and Storm Water Department, Operations and Maintenance
2781 Caminito Chollas, MS 44
San Diego, CA 92105

Subject: Master Storm Water System Maintenance Program – Tijuana River Valley Channel Maintenance Project Individual Biological Assessment

Dear Ms. Bracci:

In conformance with the City of San Diego (City) modified Master Storm Water System Maintenance Program's (Master Maintenance Program or MMP) amended Site Development Permit (SDP) No. 1134892 and Program Environmental Impact Report (PEIR) Project No. 42891/SCH No. 2004101032, the attached *Individual Biological Assessment (IBA) Report* (2015 IBA) and *Final Monitoring Report for the Tijuana River Valley Channel Maintenance Project* (2014 Final Monitoring Report) documents are submitted as part of the Substantial Conformance Review (SCR) package for maintenance activities associated with the Tijuana River Valley Channel Maintenance Project.

Maintenance activities associated with the Tijuana River Valley Channel Maintenance Project have occurred periodically since 2013. Maintenance activities have generally been conducted between September 15 and March 15 to avoid potential impacts to nesting birds. Formal regulatory approval and implementation of detailed protocol survey mitigation measures have allowed the City to conduct maintenance activities as-needed and weather permitting throughout the calendar year for the Tijuana River Valley Channel Maintenance Project. Accordingly, this 2016 SCR submittal package (2016 SCR) is intended to address maintenance activities conducted in the 2016-2017 maintenance period, which begins September 15, 2016 and ends September 14, 2017 (2016-2017 maintenance period).

Maintenance activities conducted under the MMP as part of the Tijuana River Valley Channel Maintenance Project were first conducted in 2013. An SCR package containing an Individual Maintenance Plan (IMP), IBA, and other associated Individual Assessments (IAs) was approved in January 2013 (2013 SCR) for maintenance in the 2013-2014 maintenance period. A second SCR package, for maintenance in the 2015-2016 maintenance period (2015 SCR), that included an updated IMP (2015 IMP), was approved in July 2015. Existing conditions and mitigation impacts were re-evaluated and documented in an updated IBA (2015 IBA; Attachment A) and included as part of the 2015 SCR package. The 2014 Final Monitoring Report (Attachment B) was submitted following completion of monitoring activities associated with channel maintenance in the 2013-2014 period.

Existing conditions and mitigation impacts were re-evaluated in February 2016 in order to assess conditions related to biological resources in advance of the 2016-2017 maintenance period. Biological resource conditions remain substantially similar to those described in the 2015 IBA (Attachment A). Accordingly, this letter provides a summary technical review performed by a qualified biologist of the 2015 IBA as it applies to current conditions in the Tijuana River Valley Channel Maintenance Project area. This letter and attachments serve as the basis for SCR determination for maintenance work in the 2016-2017 monitoring period as part of the Tijuana River Valley Channel Maintenance Project.

Project History and Background

The Tijuana River Valley Channel Maintenance Project includes maintenance of the Pilot Channel and Smuggler's Gulch Channel as part of the MMP. The Pilot Channel is included on MMP Maps 138a through 138c and the Smuggler's Gulch Channel is included on MMP Maps 138 and 139 (City of San Diego 2011). Environmental permits were issued by the California Department of Fish and Wildlife (CDFW), Regional Water Quality Control Board (RWQCB), United States Fish and Wildlife Service (USFWS), Army Corps of Engineers (ACOE), and the California Coastal Commission (CCC) in 2012 and 2013 based on the project scope, impacts, and mitigation. Maintenance activities in the Pilot Channel and Smuggler's Gulch Channel were conducted in the 2013 – 2014 and 2015-2016 maintenance periods. Appropriate construction-related Best Management Practices and concurrent wetland compensatory mitigation have been implemented as part of the comprehensive channel maintenance project. The City is also working with federal, state and local agencies to address bi-national sources of sediment and trash that regularly discharge to the Pilot Channel and Smuggler's Gulch Channel.

Project Description

Maintenance of the Pilot Channel and the Smuggler's Gulch Channel includes the mechanized removal of sediment, vegetation and trash and debris from the channels. Proposed maintenance procedures for Tijuana River Valley Channel Maintenance Project channel clearing activities in the 2016-2017 maintenance period remain substantially similar to procedures included as part of the IMP included in the 2013 and 2015 SCR packages.

The periodic maintenance of both channels is needed to restore the channels' flood conveyance capacity to original design condition and reduce flood risk. The maintenance activities also reduce impacts to the Tijuana River National Estuarine Research Reserve from transport of sediment and trash and debris derived from upstream sources to the project area. The project incorporates removal of approximately 10,000–30,000 cubic yards of material per maintenance period, occupying a total of 4.31 acres.

Current Conditions

Since the most recent maintenance activities, natural and anthropogenic processes in the upstream watershed have resulted in additional sediment, trash and debris accumulation in the channel maintenance areas. A qualified biologist conducted a survey of the project area on

February 27, 2016. Survey results indicate that site and biological resource conditions are substantially similar to conditions evaluated as part of the 2015 IBA. Accordingly, the 2015 IBA findings have been determined to be generally applicable to the maintenance activities for the 2016-2017 maintenance period. Specific to the Tijuana River Channel Maintenance Project, the following conditions should be noted:

- Based on historical sediment accumulation rates within the Tijuana River Valley maintenance channels, it is expected that maintenance activities and SCR submittals will be necessary for the future of this maintenance program.
- The 2013 IBA, 2014 Final Monitoring Report, 2015 IBA, and other portions of the 2015 SCR were reviewed in June 2016 by a qualified biologist.
- The 2015 IBA recommended biological resource monitoring for ground disturbing channel maintenance activities during the maintenance period in order to ensure that maintenance activities remained within the limits of work and did not impact any biologically sensitive areas. This letter confirms this recommendation for the 2016-2017 maintenance period.
- The February 27, 2016 project area survey was used to update the 2015 IBA vegetation mapping and the mapping of singlewhorl burrobrush (*Ambrosia monogyra*) populations to reflect current conditions, as necessary. Recent 2016 survey results indicate that the mapping shown in the 2015 IBA sufficiently described the existing vegetation conditions, therefore no changes to the 2015 vegetation mapping were made as part of this 2016 SCR submittal.
- A jurisdictional delineation completed by Helix Environmental in February 2011 was the basis for this evaluation in combination with the modifications made by Dudek in the 2015 IBA to reflect minor changes in existing conditions from 2011. All channels and riparian and wetland communities within the maintenance area were considered to be regulated by ACOE, RWQCB, CDFW, and the City of San Diego.
- An updated California Natural Diversity Database (CNDDDB) records search was conducted in June 2016 in order to include the most recent special status occurrence data for the project area and project vicinity. The record search did not identify any new special status species not addressed in the 2015 IBA. The results of this search are shown in Attachment C.
- As described in the 2015 IMP, pre-maintenance pumping may be necessary to dry ponded water in the channel areas to allow mechanized equipment use. As necessary for the 2016-2017 maintenance period, protocol surveys to identify nearby critical occupied nests will be utilized to guide noise-related and other mitigation measures to comply with regulatory requirements. These measures were documented in the 2015 SCR.

In summary, evaluation of current conditions and review of the 2013 IBA, 2014 Final Monitoring Report, and the 2015 IBA did not identify any new significant environmental impacts to biological resources that have not already been identified, addressed and/or mitigated by the

Ms. Stephanie Bracci

Subject: Tijuana River Valley Channel Maintenance Project- Individual Biological Assessment

required conditions set forth in the associated SDP and PEIR. Therefore the proposed maintenance would substantially conform to the existing permit and environmental documents.

Please contact me by phone (858.997.6874) or by e-mail (sgressard@dudek.com) with questions or requests for clarification.

Respectfully,



Scott Gressard, M.S.
Environmental Specialist
Dudek

Attachment A - 2015 Individual Biological Assessment

Attachment B - 2014 Final Monitoring Report for the Tijuana River Valley Channel Maintenance Project

Attachment C - California Natural Diversity Database (CNDDB) Records Search (2016)

Attachment A
City of San Diego Channel Maintenance 2015 – Individual Biological Assessment (IBA)
Report for Tijuana River Pilot Channel and Smuggler's Gulch
Channel

INDIVIDUAL BIOLOGICAL ASSESSMENT REPORT

Site Name/Facility:	Tijuana River Pilot Channel and Smuggler's Gulch Channel
Master Program Map No.:	138a, 138b, 138c (Tijuana River Pilot Channel) and 138, 139 (Smuggler's Gulch Channel)
Date:	June 1, 2015
Biologist Name/Cell Phone No.:	Vipul Joshi / 619.985.2149

Instructions: This form must be completed for each storm water facility identified in the Annual Maintenance Needs Assessment report and prior to commencing any maintenance activity on the facility. The Existing Conditions information shall be collected prior to preparing of the Individual Maintenance Plan (IMP) to assist in developing the IMP. The remaining sections shall be completed after the IMP has been prepared. Attach additional sheets as needed.

EXISTING CONDITIONS

The City of San Diego (City) has developed the Master Storm Water System Maintenance Program (MMP, Master Maintenance Program) (City of San Diego 2011a) to govern channel operation and maintenance activities in an efficient, economic, environmentally and aesthetically acceptable manner to provide flood control for the protection of life and property. This document provides a summary of the Individual Biological Assessment (IBA) components conducted within the Tijuana River Pilot (Pilot) Channel and the Smuggler's Gulch (SG) Channel to comply with the MMP's Programmatic Environmental Impact Report (PEIR) (City of San Diego 2011b).

IBA procedures under the MMP provide the guidelines for an in-depth inspection of the proposed maintenance activity site including access routes, and temporary spoils storage and staging areas. A qualified biologist will determine whether or not sensitive biological resources could be affected by the proposed maintenance and potential ways to avoid impacts in accordance with the measures identified in the Mitigation, Monitoring and Reporting Program (MMRP) of the PEIR and the MMP protocols. This document provides a summary of the biological resources associated with the storm water facility, a quantification of impacts to sensitive biological resources, and the mitigation measures required to mitigate for those impacts, if any found.

Project Description

The channels associated with this assessment report are located in the Tijuana River Valley (Valley), within the jurisdiction of the City of San Diego (City) (Figure 1). The Tijuana River watershed covers an area of approximately 1,725 square miles, of which 73 percent is located in Mexico and 27 percent in the United States. The main Tijuana River flows in a north-westerly

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direction from the international border into the Valley and City jurisdiction. Approximately 21.9 square miles of the watershed (~1% of the total watershed area) is within City jurisdiction.

The Tijuana River National Estuarine Research Reserve (TRNERR) and a portion of the City of Imperial Beach are generally west of the project area located adjacent to the Tijuana River's discharge to the Pacific Ocean. The Otay-Nestor community and the United States Naval Outlying Landing Field Imperial Beach are located north of the project area; the community of San Ysidro is located to the east.

The Pilot Channel is included on MMP Maps 138a through 138c and the SG Channel is included on MMP Maps 138 and 139 (City of San Diego 2011a). The Pilot and SG Channels are generally located in the Valley roughly bordered by Hollister Street to the east and Monument Road to the south. The Tijuana River low flow channel splits into what are commonly referred to as the Tijuana River's Northern and Southern Channels approximately 800 feet east of Hollister Street. The Pilot Channel follows the Southern Channel.

The Valley, including the project area, is within the Federal Emergency Management Agency's (FEMA) Special Flood Hazard Areas Subject to Inundation by the 1-percent Annual Chance Flood (100-year floodplain). The project areas are zoned OF-1-1 (Open Space-Floodplain) and AR-1-1 (Agricultural/Residential); and are designated for Open Space and Agricultural land uses in the Tijuana River Valley Land Use Plan. In addition, the project area is within the boundaries of the County of San Diego's 2.7 square mile Tijuana River Valley Regional Park (Regional Park). The project area is also within the City's Multiple Species Conservation Program's Multi-Habitat Planning Area (MHPA) (Figure 2).

The project consists of maintenance and dredging of the Pilot and SG Channels to remove anthropogenic-derived sediment and trash that accumulates as a result of development and other practices in the upstream watershed. The removal of sediment and trash conducted to maintain flow conveyance capacities and reduce the risk of flooding to public and private infrastructure in the Valley.

Pilot Channel

The Pilot Channel was originally excavated in 1993 within the Southern Channel. It has been irregularly maintained since that time as an earthen trapezoidal channel that is approximately 5 feet deep, with a 23-foot top width, and a 15-foot streambed width. According to the PEIR, the Pilot Channel was constructed to divert wet-weather flows from 2- to 5-year storm events into the Southern Channel (City of San Diego 2011b). The Pilot Channel stretches from 100 feet east to 5,300 feet west of Hollister Street for a total length of 5,400 feet and it flows roughly in an east-west direction (Figure 3a).

SG Channel

The SG Channel is an existing historical agricultural channel with manufactured berms. The contributing sub-watershed area is approximately 6.7 square miles, primarily located south of the

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international border within Canon de los Mataderos. The SG Channel, as originally constructed, is an earthen channel approximately 20 feet wide and 15 feet deep. The SG Channel is tributary to the South Channel and flows in a northerly direction, from the international border past Monument Road until it confluences with the Pilot Channel. The portion of the SG Channel maintained by the City extends for a distance of approximately 3,040 feet (Figure 3b).

Survey Methods and Date:

In 2015 Dudek conducted research and review of existing project documentation as part of this biological assessment. Document review included the Master Storm Water System Maintenance Program, Army Corps of Engineers (ACOE) Permit SPL-2009-00719-RRS, United States Fish and Wildlife Service (USFWS) Formal Section 7 Consultation on the Tijuana River Valley Channel Maintenance Project (Biological Opinion) (FWS-SDG-08B0600-10F0001), Final Recirculated MMP PEIR, California Coastal Commission Coastal Development Permit A-6-NOC-11-086 and addendum, California Department of Fish and Game (CDFG) Streambed Alteration Agreement 1600-2011-0271-R5, California Regional Water Quality Control Board (RWQCB) Water Quality Certification 09C-077, Final Monitoring Report for the Tijuana River Valley Channel Maintenance Project (Dudek 2011a), Errata - Biological Resource Technical Report and Conceptual Wetlands Mitigation Plan (Dudek 2011b), and various Substantial Conformance Review documents prepared in 2012 (URS 2012).

The channels are located on property owned by the City of San Diego and County of San Diego, within the City of San Diego's Multiple Species Conservation Program's Multi-Habitat Planning Area (MHPA), as shown in Figure 2. The project site, located within the U.S. Geological Survey 7.5 minute Imperial Beach quadrangle, was evaluated for special-status plants and wildlife within the Imperial and surrounding quadrangles using the California Natural Diversity Database (CNDDB) RareFind5 database (Figure 4).

Dudek conducted a biological survey and site assessment on February 27, 2015 for all portions of the Project Area (maintenance channels, staging areas, and access routes). The survey was conducted to update the previous (URS 2012) vegetation mapping and the mapping of singlewhorl burrobrush (*Ambrosia monogyra*) populations to reflect current conditions. The SG Channel was accessed from Monument Road and surveyed with 100 percent coverage from Monument Road to the junction with the Pilot Channel. The Pilot Channel was inundated with water from recent winter storms and therefore was inaccessible. The Pilot Channel was evaluated from two locations, at the confluence of the Pilot and SG Channel, and from Hollister Street where the Pilot Channel crosses under the bridge.

The vegetation mapping effort was based on site observations and interpretation of 2014 aerial photographic signatures, according to the R.F. Holland system (1986) as modified for San Diego County, in accordance with the City of San Diego "Guidelines for Conducting Biological Surveys" (2002). For consistency with the PEIR and original Biological Resources Technical

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Report, this IBA report has used the 1986 version of the Oberbauer modification for San Diego County with limited project-specific customization originally used in the Biological Technical Report. Vegetation communities and land cover types were updated in 2015 in the field directly onto a 200-foot-scale (1 inch = 200 feet), aerial photograph–based field map of the project area. Following completion of the fieldwork, all vegetation polygons were transferred to a topographic base and digitized using ArcGIS and a geographic information system (GIS) coverage was created. Once in ArcGIS, the acreage of each vegetation community and land cover present on site was determined.

Observed plant and animal species were recorded during all surveys. Observed sensitive species were documented and potential for sensitive species occurrence was evaluated based on site conditions. Representative photographs taken during the surveys are provided in this report. Potential limitations on the comprehensiveness of these biological surveys consist of survey timing: these fall and winter surveys could have missed spring-blooming annual plants, certain migratory bird species, and nocturnal wildlife.

Biological Resources:

Stream Type:	Perennial	<input type="checkbox"/>	Intermittent	<input checked="" type="checkbox"/>	Ephemeral	<input checked="" type="checkbox"/>
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Tijuana River Pilot Channel:

The 23-foot wide Pilot Channel maintenance area (Figure 3a) includes the following vegetation categories: Open Channel (13200), Southern Riparian Forest (61300), and Open Water (13100) (see PEIR Appendix D.1 [Biological Resources Report] for descriptions of vegetation categories).

At the time of the 2015 visit the Pilot Channel contained Open Water throughout the entire channel (photograph 1). The banks of the Pilot Channel east of the junction with SG Channel support Southern Riparian Forest dominated by tall, mature black willows (photographs 2 and 3) and were relatively hard to access due to a dense understory. The western end includes riparian habitat that has been enhanced/restored, and in this area fewer giant reed and castor bean plants were observed. The channel at the eastern-most end of Map 138a, on either side of the Hollister Street bridge, contained standing water (Open Water) at the time of the survey (photograph 3). The Pilot Channel at the junction with SG Channel and immediately to the west was inundated with water (Open Water) but typically contains a sandy- bottom and is relatively unvegetated (Open Channel). With increasing distance from the junction, giant reed became more abundant on the banks along the channel (up to approximately 30% relative cover), such that much of the large black willow-dominated riparian vegetation could be described as disturbed Southern Riparian Forest in Map 138b (Figure 3a). The west end of the channel is increasingly dominated by giant reed and filled with accumulated trash (photographs 1, 2 and 4). The understory of the Southern Riparian Forest contains increasing amounts of invasive castor bean and garden nasturtium (*Tropaeolum majus*) toward the western end of the maintenance area.

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The section of the Pilot Channel included in Maps 138a-c is mapped on the USGS 7.5 minute Imperial Beach quadrangle map as a blue-line stream and, based on prior observations, the channel conveys intermittent flows except for the area immediately around Hollister Street Bridge, which for the past several years has supported perennial open water.

Three equipment turnarounds adjacent to the Pilot Channel, measuring 25 by 30 feet, will be used during maintenance; all three areas were previously cleared and are currently mapped as unvegetated open channel, based on the lack of mature vegetation. These areas are slightly elevated above the low flow channel.

SG Channel:

SG Channel (covered by Map 139 and Map 138, Figure 3b) has a natural bottom of sand and small patches of cobble. Channel banks vary in steepness from nearly vertical to approximately 45 degrees. The 20-foot wide maintenance area is mapped as the following vegetation category (with Holland/Oberbauer classification numbers in parentheses): Open Channel (13200).

The Open Channel is almost entirely unvegetated with a sparse mix of weedy herbaceous plants such as Mexican tea (*Dysphania ambrosioides*) and wild radish (*Raphanus sativus*) (photographs 5 and 6). The banks of the channel are also mostly unvegetated given the recent removal of non-native invasive species. Large, old tamarisk trees (*Tamarix aphylla*) remain in a few locations along with patches of mule fat (*Baccharis salicifolia*). At the northern end of Map 138 (Figure 3b), near the junction with the Pilot Channel, the channel is bordered by Southern Riparian Forest, characterized by tall, mature black willows (*Salix gooddingii*), with an understory of mule fat (*Baccharis salicifolia*) and smaller willows.

SG channel is mapped on the United States Geological Survey (USGS) 7.5 minute Imperial Beach quadrangle map (1996 version) as a blue-line stream; the channel is best classified as ephemeral because it appears to only support surface flow during and relatively briefly after precipitation.

Access Routes and Staging Areas:

Four access routes will be used to move equipment from existing nearby unpaved roads or staging areas into the channels. Access Route 1 is an existing trail (Disturbed Habitat [11300]) that passes through adjacent disturbed Mule Fat Scrub (containing up to 30% relative cover of non-native species) between the Pilot Channel and the TRVRP staging area to the north (Figure 3a). Access Route 2 allows access into SG channel via an access ramp (Disturbed Habitat, 11300) between an existing dirt road and SG Channel, north of the Disney Crossing (Figure 3b). Access Route 3 is located along the eastern bank of SG Channel, south of the Disney Crossing (Figure 3b). Access Route 4 consists of an existing trail (Disturbed Habitat, 11300) east of Hollister Street and a 45-foot long by 15-foot wide section in Mule Fat Scrub (63310) on the south bank of the Pilot Channel (Figure 3b). Equipment will reach from the 45-foot long section on the south bank into the channel to perform channel maintenance, and riparian vegetation between the equipment and the channel may

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need to be trimmed or removed to allow activity. The access routes will be approximately 15 feet wide; only the access road east of Hollister Street would require removal of vegetation.

Maintenance will include use of two existing staging areas. Staging Area B is just east of the southern end of SG Channel (Figure 3b), and consists of upland Disturbed Habitat (11300) land, characterized by compacted soil that is bare to sparsely vegetated with ruderal non-native species such as garland daisy (*Glebionus coronaria*) and stinkwort (*Dittrichia graveolens*). Staging Area D is located to the east, near the South Bay International Wastewater Treatment Plant (Figure 3c). The portion of the Staging Area D parcel that will be used for this maintenance project consists of upland Disturbed Habitat (11300) land, characterized by gravelly and compacted soil that is bare to sparsely vegetated with ruderal non-native species such as garland daisy, filaree (*Erodium* sp.), and short-pod mustard (*Hirschfeldia incana*) (photograph 8).

Vegetation acreages within the project area (including the channel maintenance footprint, turnarounds, access routes, and staging areas) are summarized in Table 1, below.

Table 1. Vegetation Within the Project Area

Vegetation Community or Land Cover Type (Holland Code)	City MSCP Habitat Designation/Tier	Total Acreage
Jurisdictional Wetlands		
Open Channel (13200)	Natural Flood Channel	1.22
Open Water (13100)	Natural Flood Channel	3.05
Southern Riparian Forest (61300)	Riparian Forest	0.03
Mule Fat Scrub (63310)	Riparian Scrub	0.02
Mule Fat Scrub, disturbed (63310)	Riparian Scrub	0.05
Subtotal		4.37
Non-native Land Covers		
Disturbed Habitat (11300)	Disturbed (Tier IV)	10.12
Subtotal		10.12
Total***		14.49

* Numbers may not total due to rounding

Sensitive species:

In February 2015, approximately eight individuals of singlewhorl burrobrush (*Ambrosia monogyra*), a California Rare Plant Rank 2B.2 species, were observed on the berm east of the unpaved access road that parallels the southern end of SG Channel, between the unpaved road and Staging Area B (Figure 3b). This is consistent with documentation of this sensitive plant species in the SG Channel area in CNDDDB records, as described in the Master Program PEIR Biological Resources Technical Report (Helix, 2011).

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During the 2012 surveys, two adult monarchs (*Danaus plexippus*), a CNDDDB Rank S3 species, were observed flying over the site (no larval host plants were observed). Yellow-Breasted Chat (*Icteria virens*) (California Species of Special Concern) was identified by call, but was not visually confirmed. One Coastal California Gnatcatcher (*Polioptila californica californica*) (federal Threatened, state Species of Special Concern) was seen and heard in the singlewhorl burrobrush shrubs between SG Channel and Staging Area B (Figure 3b). Raptors, including a female Northern Harrier (*Circus cyaneus*) (state Species of Special Concern), Red-Shouldered Hawk (*Buteo lineatus*) and a Red-Tailed Hawk (*Buteo jamaicensis*), were seen and heard in and over the maintenance area. The large black willows and occasional eucalyptus (*Eucalyptus* sp.) trees immediately adjacent to the Pilot Channel could support nests of raptors (these trees would not be removed by the channel maintenance). During the 2015 survey, a pair of Northern Harriers were observed flying above the north section of SG.

Riparian woodland and adjacent riparian scrub along the northern section of SG Channel and the Pilot Channel, where Southern Riparian Woodland lines the channels, contain suitable habitat for other sensitive species. Least Bell's Vireo (*Vireo bellii pusillus*) (state and federal Endangered) has been documented in the project area, and part of the Pilot Channel lies within designated critical habitat for this species; South-western Willow Flycatcher (*Empidonax trailii extimus*) (state and federal Endangered) and Western yellow-billed cuckoo (*Coccyzus americanus occidentalis*) (state Endangered, federal candidate for listing) have been documented further east in the same CNDDDB quadrangle, and may use habitat in or near the project area. Yellow-breasted Chat has been documented in the same CNDDDB quadrangle and, according to the San Diego Bird Atlas, has been observed in the Tijuana River, so this species may use suitable habitat in the project vicinity. Coastal California Gnatcatcher has been documented on mesa slopes near the southern end of the site, may use coastal sage scrub upslope of the southern end of SG Channel in Map 139, and may forage in shrubs near the maintenance area. Although the Light-Footed Clapper Rail (*Rallus longirostris levipes*) (state and federal Endangered) is unlikely to use habitat within the maintenance area, it has been documented nearby in the Tijuana River Valley (Dairy Mart Ponds and the Tijuana River estuary) and implementation of proposed project conservation measures will avoid and minimize potential adverse effects to this listed species, for which no incidental take is anticipated.

Wildlife value:

The channels themselves have limited wildlife value because they are mostly sandy or densely vegetated with invasive plants such as giant reed and castor bean. The bands of riparian woodland extending along the banks of the Pilot Channel and the northern end of SG Channel appear to provide relatively high quality habitat for birds and other wildlife. Wildlife observed in, along, and over the channels included:

Anna's Hummingbird (*Calypte anna*)

American Coot (*Fulica americana*)

American Crow (*Corvus brachyrhynchos*)

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Bank Swallow (*Riparia riparia*)
Black Phoebe (*Sayornis nigricans*)
Black-throated Magpie-jay (*Calocitta colliei*)
Bushtit (*Psaltiriparus minimus*)
California Towhee (*Pipilo crissalis*)
Coastal California Gnatcatcher (*Polioptila californica californica*)*
Common Yellowthroat (*Geothlypis trichas*)
Cooper's Hawk (*Accipiter cooperii*)*
Downy Woodpecker (*Picoides pubescens*)
Green Heron (*Butorides virescens*)
House Finch (*Carpodacus mexicanus*)
Mallard (*Anas platyrhynchos*)
Mourning Dove (*Zenaida macroura*)
Northern Flicker (*Colaptes auratus*)
Northern Harrier (*Circus cyaneus*)*
Orange-Crowned Warbler (*Oreothlypis celata*)
Red-Shouldered Hawk (*Buteo lineatus*)
Red-Tailed Hawk (*Buteo jamaicensis*)
Red-winged Blackbird (*Agelaius phoeniceus*)
Song sparrow (*Melospiza melodia*)
Townsend's Warbler (*Dendroica townsendi*)
Turkey Vulture (*Cathartes aura*)
White-Crowned Sparrow (*Zonotrichia leucophrys*)
Yellow-Breasted Chat (*Icteria virens*)
Yellow-Rumped Warbler (*Dendroica coronata*)
Audubon's cottontail (*Silvilagus audubonii*)
California ground squirrel (*Spermophilus beecheyi*)
Raccoon (*Procyon lotor*) (tracks)
Red-eared Slider (*Trachemys scripta elegans*)

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Western Fence Lizard (*Sceloporus occidentalis*)

Monarch (*Danaus plexippus*)

*MSCP-covered species

The access routes have limited wildlife value because they are primarily bare ground. Staging Areas B and D likely support small mammals that could attract raptors. No animals were observed within the staging areas during the survey.

Are there current levels of anthropogenic influences on habitat within the project footprint (e.g., homeless encampment, illegal dumping)?

Yes



No



If yes, describe the influence: Trash was observed in both SG Channel and the Pilot Channel during the most recent 2015 survey. Previous surveys have observed large quantities of trash, including vehicle tires, within the Pilot Channel starting approximately 550 feet west of the junction with SG Channel (see photographs 4 and 7); smaller amounts of trash occurred elsewhere in the channel.

Are there any conservation easements which have been previously recorded within the maintenance area?

Yes



No



Please provide a written rationale for a “Yes” or “No” answer:

Based on a search of County parcel records on November 1, 2012, none of the parcels in which these channel segments occur has any conservation easement. Land ownership and parcel numbers are shown in Figure 2. The two channels, access routes, and Staging Area B are located on City and County-owned properties within the MHPA. The Pilot Channel and northern end of SG channel are within the County of San Diego’s TRVRP. Staging Area D is located on City-owned property and outside the MHPA.

Jurisdictional Areas:

A jurisdictional delineation completed by Helix Environmental in February 2011 was the basis for this evaluation of jurisdictional impacts, with minor modifications by Dudek in 2015 to reflect current site conditions. All channels and riparian and wetland communities within the maintenance area were considered to be regulated by ACOE, CDFW, and the City of San Diego. The impacts quantified below are based on SG Channel width of 20 feet, Pilot Channel width of 23 feet, turnaround dimensions of 25 by 30 feet, and access route widths of 15 feet. Staging areas did not include jurisdictional wetlands or waters. Jurisdictional impacts are shown in Table 2a and 2b.

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Table 2a
U.S. Army Corps of Engineers Jurisdictional Impact Acreages

Vegetation Community (including access routes and turnarounds)	Acreage Impacts
ACOE Wetland Waters of the U.S.	
Southern Riparian Forest	0.03
Mule Fat Scrub	0.01
Subtotal	0.04
ACOE Non-Wetland Waters of the U.S.	
Open Channel	1.22
Open Water	3.05
Subtotal	4.27
Total ACOE jurisdictional impacts	4.31

The total ACOE jurisdictional impact area of 4.31 acres does not exceed the previously permitted jurisdictional impact area of 4.31 acres.

Table 2b
CDFW/City of SD Jurisdictional Acreages

Vegetation Community (including access routes and turnarounds)	Acreage Impacts
Wetlands	0.04 (Same as Wetlands in Table 2a)
Streambed/Unvegetated Waters	4.27 (Same as Non-wetland Waters in Table 2a)
Total CDFW and City jurisdictional impacts	4.31

The total CDFW jurisdictional impact area of 4.31 acres does not exceed the previously permitted jurisdictional impact area of 4.31 acres.

(CDFW jurisdiction often extends further from the outer or upper limit of the water body than Army Corps of Engineers [ACOE] jurisdiction, but in this case the limits of both are set by the narrow extents of the maintenance area).

Attach documentation supporting the determination of jurisdictional areas:

Please refer to the 2011 PEIR jurisdictional wetland delineation for additional information.

EXISTING CONDITIONS							
Sensitive Plant Species Observed/Detected				Sensitive Animal Species Observed/Detected:			
YES	<input checked="" type="checkbox"/>	NO	<input type="checkbox"/>	YES	<input checked="" type="checkbox"/>	NO	<input type="checkbox"/>
If yes, what species were observed and where?				If yes, what species were observed/detected and where?			
<p>Singlewhorl burrobrush (<i>Ambrosia monogyra</i>) – Eight plants detected outside of maintenance area, between SG Channel and Staging Area B, approximately 350 feet north of Monument Road; this location will not be impacted by maintenance, and the shrubs will be cordoned off and flagged to avoid potential direct impacts. (Although timing of surveys may have prevented detection of spring annuals or deciduous herbaceous perennials, none of such potentially occurring rare plants in CNDDB records search is likely to occur within the maintenance area).</p>				<p>Coastal California Gnatcatcher (<i>Polioptila californica californica</i>) in cluster of four singlewhorl burrobrush adjacent to SG Channel; Northern Harrier (<i>Circus cyaneus</i>) over middle section of SG Channel; Yellow-Breasted Chat (<i>Icteria virens</i>) in east side of Pilot Channel near but outside maintenance area. Gnatcatcher will not be directly or indirectly impacted if maintenance is conducted outside breeding season (March 1 – August 15), and no suitable habitat occurs within maintenance area; if maintenance occurs after March 1, maintenance activity shall comply with all applicable mitigation measures as described in following sections. Northern Harrier is MSCP-covered species; project complies with relevant Specific Management Directives for the Tijuana River Valley. Northern Harrier nest in non-native grassland and marsh habitats and there is a low potential for their nesting or foraging habitat to be indirectly impacted if maintenance activities are conducted during their breeding/nesting season starting January 15 because nesting/foraging habitat does not occur immediately adjacent to the project area. Yellow-Breasted Chat will not be impacted because maintenance will not be performed between March 15 and September 15, outside the breeding season for this migratory species.</p>			
If yes, complete a California Native Species				If yes, complete a California Native Species			

EXISTING CONDITIONS				
<u>Field Survey Form and submit it to the California Natural Diversity Database.</u>		<u>Field Survey Form and submit it to the California Natural Diversity Database.</u>		
California Native Species Field Survey Forms have been completed for submittal to the CNDDDB.		California Native Species Field Survey Forms have been completed for submittal to the CNDDDB.		
<u>*Sensitive species shall include those listed by state or federal agencies as well as species that could be considered sensitive under Sections 15380(b) and (c) and 15126(c) of the CEQA Guidelines.</u>		<u>*Sensitive species shall include those listed by state or federal agencies as well as species that could be considered sensitive under Sections 15380(b) and (c) and 15126(c) of the CEQA Guidelines.</u>		
Is any portion of the maintenance activity within an MHPA?		YES	<input checked="" type="checkbox"/>	NO <input type="checkbox"/>
<u>If yes, describe which portions are within an MHPA:</u>				
<p>The channel maintenance areas, access routes, and Staging Area B lie within the City of San Diego Multi-Habitat Planning Area (MHPA). Because of the location of these areas within the MHPA, maintenance at these locations must conform to Section 1.4.2 (General Planning Policies and Design Guidelines) of the City of San Diego MSCP Subarea Plan. MSCP conformance is summarized in Attachment 1. Staging Area D is outside and to the east of the MHPA; although it is not immediately adjacent to the MHPA because both the unused portion of the parcel and a road lie between it and the MHPA, Section 1.4.3 (Land Use Adjacency Guidelines) was also included in Attachment 1 and project use of Staging Area D will comply with these guidelines during this project.</p>				
Is there moderate or high potential for listed animal species to occur in or adjacent to the impact area?				
YES	<input checked="" type="checkbox"/>	NO	<input type="checkbox"/>	

EXISTING CONDITIONS

If yes, which species (check all that apply) and describe any surveys which should be undertaken to determine whether those species could occur within the maintenance area:

<input checked="" type="checkbox"/>	Least Bell's Vireo	<input type="checkbox"/>	Riverside fairy shrimp
<input checked="" type="checkbox"/>	Southwestern Willow Flycatcher	<input type="checkbox"/>	California Least Tern
<input type="checkbox"/>	Arroyo toad	<input type="checkbox"/>	Light-footed Clapper Rail
<input checked="" type="checkbox"/>	Coastal California Gnatcatcher	<input type="checkbox"/>	Western Snowy Plover
<input type="checkbox"/>	San Diego fairy shrimp	<input type="checkbox"/>	Other:

Although work is not proposed after March 14, if maintenance is scheduled during sensitive breeding seasons for any reason, the City shall complete all requisite surveys.

The USFWS Section 7 Consultation Biological Opinion (BO) contains specific conditions pertaining to avoidance and minimization measures for the Least Bell's Vireo, such as the recommendation that maintenance be performed outside the Least Bell's Vireo breeding season of March 15 - September 15 (with specific requirements if it is conducted during the breeding season), and retention of a biologist knowledgeable of vireo biology and ecology to oversee compliance with the conservation measures for the vireo and its designated critical habitat.

In compliance with the USFWS Section 7 BO and Master Program PEIR Mitigation Measure 4.1.2, protocol surveys for Least Bell's Vireo are required if maintenance is proposed during the vireo breeding season (March 15 - September 15). In compliance with PEIR Mitigation Measure 4.1.2, and 4.1.8, Coastal California Gnatcatcher protocol surveys are required if maintenance and noise levels exceeding 60 dB(A) occur within the MHPA during the gnatcatcher breeding season (March 1 – August 15).

PEIR Mitigation Measure 4.1.2 would require protocol surveys for the Southwestern Willow Flycatcher if maintenance were scheduled during the flycatcher breeding season (May 1 - August 30).

The federal and state endangered Light-Footed Clapper Rail is considered to have a low potential to occur in or adjacent to the project area and is unlikely to use habitat within the maintenance area. This species has been documented nearby in the Tijuana River Valley (Dairy Mart Ponds and the Tijuana River estuary), and the project's USFWS Section 7 BO has established conservations measures that will avoid and minimize potential adverse effects to the clapper rail. Implementation of these measures will reduce impacts to clapper rail to below a level of significance in which no incidental take is anticipated. These include the requirements that channel maintenance be performed outside of the Light-Footed Clapper Rail breeding season of

EXISTING CONDITIONS

March 15 - September 15 (based on the breeding season provided in the BO Enclosure), that pre-maintenance surveys be conducted by a biologist familiar with clapper rail biology and ecology to confirm that clapper rails are not present, that exclusionary fencing be installed around each area of the project footprint, and that the clapper rail biologist will oversee compliance with conservation measures for the clapper rail (see **Attachment 2** for complete requirements).

Attach documentation to support the determination of the presence or absence of listed animal species with a moderate or high potential to occur (e.g., California Natural Diversity Database records searches).

Attachment 3 contains CNDDDB animal records for project quadrangle and surrounding quadrangles.

Is there moderate or high potential for listed plant species to occur in or adjacent to the impact area?

YES



NO



If yes, identify which species may occur and describe any surveys which should be undertaken to determine whether those species could occur within the maintenance area. If no, please provide a written rationale as to why species may not be present:

Approximately eight individuals of one sensitive plant species (singlewhorl burrobrush, *Ambrosia monogyra*) were observed adjacent to the impact area. These plants are outside the maintenance area and will be cordoned off and flagged to minimize and avoid potential direct and indirect impacts. Based on a review of CNDDDB plant records for the project quadrangle (Imperial Beach) and surrounding quadrangles, and observations during the survey, there is low potential for other sensitive plant species to occur within the maintenance area.

Attach documentation to support the determination of the presence or absence of listed plant species with a moderate or high potential to occur (e.g., California Natural Diversity Database records searches).

Attachment 3 contains CNDDDB plant records for the project quadrangle and surrounding quadrangles.

Could maintenance disrupt the integrity of an important habitat (i.e., disruption of a wildlife corridor and/or an extensive riparian woodland:

YES



NO



EXISTING CONDITIONS

If yes, discuss which habitat could be impacted and how. If no, please provide a written rationale as to why the project would not disrupt the integrity of an important habitat:

A portion of the Pilot Channel between the junction with SG Channel and the east end of the Pilot Channel contains native riparian scrub vegetation. In this area, the channel appears to be less clearly defined, as if it has been at least several years since extensive flow passed through. Clearing of the channel in this area would result in removal of young native riparian trees and shrubs. However, because this was historically a channel through riparian habitat, and extensive surrounding native riparian vegetation would not be removed, loss of the young trees and shrubs within the channel is not expected to disrupt the integrity of the habitat or its function as a wildlife corridor. Installation of temporary 3- to 5-foot tall fencing around the active section(s) of the project footprint to exclude clapper rails may be a small-scale temporary obstacle within the larger riparian habitat, but this fencing will not be extensive enough to disrupt the integrity of the habitat or its function as a wildlife corridor.

Could work be conducted during the avian breeding season (January 15 – August 31 without the need for pre-construction nesting surveys:

YES

☐

NO

☒

If yes, discuss which habitat could be impacted and how. If no, please provide a written rationale:

NOTE: PEIR Mitigation Measure 4.3.19 states: If SWD choose not to do the required surveys, then it shall be assumed that the appropriate avian species are present and all necessary protection and mitigation measures shall be required as described in Mitigation Measure 4.3.21.

Is it anticipated that maintenance activities would generate noise in excess of 60 dB(A) L_{eq} ?

YES

☒

NO

☐

If yes, what measures should be taken to avoid adverse impacts on avian bird breeding within or adjacent to the maintenance?

EXISTING CONDITIONS

As described in the INA, temporary construction noise from the use of heavy equipment would generate noise in excess of 60 dB(A) Leq during the maintenance period. Maintenance conducted outside the breeding/nesting season for protected avian species would not result in a significant indirect noise impact and no noise attenuation mitigation is required.

As described above, Light-Footed Clapper Rail is considered to have a low potential to occur in or adjacent to the project area, and the USFWS BO has established conservation measures that will avoid and minimize potential impacts to this species, including the requirement that maintenance be performed outside the Light-Footed Clapper Rail breeding season. The Master Program PEIR Mitigation Measure 4.1.2 requires protocol surveys if maintenance is proposed during the vireo breeding season (March 15 – September 15) or flycatcher breeding season (May 1 – September 1). Therefore, channel maintenance excavations will not be conducted between March 15 and September 15 (based on the BO Enclosure).

The City is currently requesting concurrence from the Corps, USFWS, and CDFW that pumping can take place during the latter part of the breeding season, if surveys indicate that active nesting of special-status species has been completed or that active nests are far enough away from the proposed pumps that noise levels would not exceed 60dB(A) Leq at the active nest locations. No channel maintenance (i.e., excavation) would occur during the breeding season, but in order to ensure that conditions are dry enough to allow for maintenance, pumping may occur between approximately August 1 and September 15, in coordination with the wildlife agencies. Additional pumping may also occur, as needed, during the normal excavation work period between September 15 and March 15.

In compliance with Master Program PEIR Mitigation Measure 4.3.21, if work is proposed between January 15 (start of the raptor nesting season) and March 15 (start of the clapper rail breeding season), a pre-maintenance survey for active raptor nests shall be conducted by a qualified biologist in areas supporting suitable habitat, such as within the mature tall black willows and occasional eucalyptus trees along the Pilot Channel; if active raptor nests are found, maintenance shall not occur within 300 feet of a Cooper's Hawk (*Accipiter cooperii*) nest, 900 feet of a Northern Harrier's nest, or 500 feet of any other raptor's nest until any fledglings have left the nest.

In compliance with PEIR Mitigation Measure 4.1.2, 4.1.4, and 4.1.8, protocol surveys are required if maintenance and noise levels exceeding 60 dB(A) will occur within the MHPA during the Coastal California Gnatcatcher breeding season (March 1 – August 15). Therefore, if maintenance is proposed between March 1 and March 15 (start of the clapper rail breeding season), protocol surveys for Coastal California Gnatcatcher will be required within the area of suitable habitat subject to noise levels exceeding 60 dB(A). If Coastal California Gnatcatchers are present, the project must comply with all applicable noise control measures in PEIR Mitigation Measure 4.1.8.

EXISTING CONDITIONS

Biological Resource Conditions Relative to Original Survey Conducted for MASTER PROGRAM Final Program EIR (May 2010) (vegetation communities present, including adjacent uplands; general habitat quality/level of disturbance):

Biological resource conditions appear to be similar to 2010-2011 conditions as described in the PEIR and 2012 conditions as described in the 2012 version of this IBA, with some reductions in riparian habitat due to recent maintenance. The majority of the wetland vegetation communities have been converted to non-wetland waters (i.e., open channel and open water) due to removal of vegetation within the channels. The most recent work was conducted in Fall of 2014 which included a non-native species mitigation effort that removed the vast majority of invasive plant species along the SG Channel embankments and areas adjacent to the confluence area.

Vegetation categories were modified to reflect relatively minor distributional shifts or growth form shifts, but these changes do not constitute a substantive change in impacts as described in previous project documentation. Some vegetation originally mapped as Southern Willow Scrub was reclassified as Southern Riparian Forest because of the height/stature of the dominant mature black willows (“forest” rather than shrubby “scrub”) and subcanopy density that is dense in areas of invasive infestation, but more moderate to open in areas with less invasive plant infestation. Freshwater Marsh was removed from the eastern branch of the Pilot Channel between the junction with SG Channel and the Hollister Street Bridge because freshwater marsh was not observed in that location during the 2012 and 2015 surveys. The category of Open Water was used for the areas of standing water.

Uplands impacts are to Disturbed Habitat, which is a Tier IV and does not require mitigation per the MSCP and PEIR. Potential wetland and upland impacts have been adequately addressed in the PEIR, no new impacts were identified, and no new biological mitigation is required. The proposed project substantially conforms to the MMP PEIR, applicable mitigation measures, and maintenance protocols.

MAINTENANCE IMPACTS

Maintenance Methodology (based on IMP)

Pre-maintenance meeting to be held on site prior to commencement of any maintenance activity. Qualified specialists including a biologist shall identify and indicate by flagging any sensitive resources to be avoided during maintenance. The biologist will also review specific measures to be implemented to minimize direct/indirect impacts and direct crews of other personnel to protect sensitive resources. Training will be conducted for personnel responsible for the proper installation, inspection, and maintenance of on-site BMPs. Construction BMPs will be installed in accordance with the water pollution control plan.

The SG Channel north of the Disney Crossing will be completed first, then the Pilot Channel east of the confluence towards Hollister Street Bridge, the Pilot Channel west of the confluence to Saturn Boulevard will follow, and the maintenance will end with the southern portion of the SG Channel towards Monument Road.

Equipment will access the northern portion of SG by an access ramp north of Disney Crossing and the existing access route that continues north along the eastern bank. The SG portion south of the Disney Crossing will also be accessed from the existing access route at locations to be verified by the biologist in the field to avoid unnecessary impacts. The Pilot Channel will be accessed through the SG Channel at the confluence.

Bulldozers will push removed materials to a central location where an excavator will scoop out material and load into rock trucks. The rock trucks will use existing access routes to haul materials to Staging Area B. Materials will be transported daily to Staging Area D for sorting and then properly disposed of at a city approved facility.

Vegetation/Land Cover Impacts:

13.42 acres (including unvegetated uplands in staging areas and access routes)

Wetland/Waters:

4.31 acres

Upland:

9.11 acres

Jurisdictional Areas:

U.S. Army Corps of Engineers, Regional Water Quality Control Board, California Department of Fish and Wildlife

Wetlands:

0.04 acres

Non-wetland Waters of the U.S.:

4.27 acres

MAINTENANCE IMPACTS					
Other Jurisdictional Areas:					
California Department of Fish and Wildlife/City of San Diego:					
Wetlands:			0.04 acres		
Streambed/Unvegetated Waters:			4.27 acres		
Is there moderate or high potential for listed animal species to be impacted?			YES	<input checked="" type="checkbox"/>	NO <input type="checkbox"/>
If yes, which species (check all that apply):					
<input checked="" type="checkbox"/>	Least Bell's vireo		<input type="checkbox"/>	Riverside fairy shrimp	
<input checked="" type="checkbox"/>	Southwestern willow flycatcher		<input type="checkbox"/>	California least tern	
<input type="checkbox"/>	Arroyo toad		<input type="checkbox"/>	Light-footed clapper rail	
<input checked="" type="checkbox"/>	Coastal California gnatcatcher		<input type="checkbox"/>	Western snowy plover	
<input type="checkbox"/>	San Diego fairy shrimp		<input type="checkbox"/>	Other:	
<p>Although Least Bell's Vireo, Southwestern Willow Flycatcher, and Coastal California Gnatcatcher have a moderate to high potential to occur in or adjacent to the impact area, there is very low potential that these species would be impacted by the project because no maintenance activity (i.e., channel excavation) will take place between March 15 and September 15. Any maintenance activity between January 15 and March 1 will be subject to applicable raptor nesting and Coastal California Gnatcatcher mitigation measures, and mitigation and minimization and avoidance measures will be implemented in accordance with the PEIR, BO, and project permits and guidelines. Pumping may occur between approximately August 1 and September 15, if focused surveys indicate the absence of active vireo and flycatcher nests, and the absence of light-footed clapper rails from within the 60 dB(A) Leq noise contour of the pumps and with concurrence from the wildlife agencies (see Attachment 1, Attachment 2, and Attachment 2 of the IMP).</p>					

MITIGATION

Applicable Maintenance Protocols (list the applicable maintenance protocols based on the biological resources occurring or likely to occur on-site – include any special protocols required):

Bio-1 Restrict vehicles to access designated in the master program plan.

Bio-2 Flag and delineate all sensitive biological resources to remain within or adjacent to the maintenance area prior to initiation of maintenance activities in accordance with the site-specific IBA, IHHA, and/or IMP.

Bio-3 Conduct a pre-maintenance meeting on-site prior to the start of any maintenance activity that occurs within or adjacent to sensitive biological resources. The pre-maintenance meeting shall include the qualified biologist, field engineer/planner, equipment operators/superintendent and any other key personnel conducting or involved with the channel maintenance activities. The qualified biologist shall point out or identify sensitive biological resources to be avoided during maintenance, flag/delineate sensitive resources to be avoided, review specific measures to be implemented to minimize direct/indirect impacts, and direct crews or other personnel to protect sensitive biological resources as necessary. The biologist shall also review the proposed erosion control methods to confirm that they would not pose a risk to wildlife (e.g., non-biodegradable blankets which may entangle wildlife).

Bio-4 Avoid introduction of invasive plant species with physical erosion control measures (e.g., fiber mulch, rice straw, etc.).

Bio-5 Conduct appropriate pre-maintenance protocol surveys if maintenance is proposed during the breeding season of a special-status animal species. If sensitive animal species covered by the PEIR are identified, then applicable measures from the MMRP shall be implemented under the direction of a qualified biologist to avoid significant direct and/or indirect impacts to identified sensitive animal species. If sensitive animal species are identified during pre-maintenance surveys that are not covered by the PEIR, the SWD shall contact the appropriate wildlife agencies and additional environmental review under CEQA will be required.

Bio-6 Remove arundo through one, or a combination of, the following methods: (1) foliar spray (spraying herbicide on leaves and stems without cutting first) when arundo occurs in monotypic stands, or (2) cut and paint (cutting stems close to the ground and spraying or painting herbicide on cut stem surface) when arundo is intermixed with native plants. When sediment supporting arundo must be removed, the sediment shall be excavated to a depth sufficient to remove the rhizomes, wherever feasible. Following removal of sediment containing rhizomes, loose rhizome material shall be removed from the channel and disposed offsite. After the initial treatment, the area of removal shall be inspected on a quarterly basis for up to two years, or until no resprouting is observed during an inspection. If resprouting is observed, the cut and paint method shall be applied to all resprouts.

Bio-7 Avoid mechanized maintenance within 300 feet of a Cooper's hawk nest, 900 feet of a

MITIGATION
<p>northern harrier's nest, or 500 feet of any other raptor's nest until any fledglings have left the nest.</p>
<p>Applicable PEIR mitigation measures:</p> <p>General Mitigation 1, 2, 3, and 4;</p> <p>Biological Resources 4.3.1, 4.3.2, 4.3.3, 4.3.4, 4.3.5, 4.3.6, 4.3.7, 4.3.8, 4.3.9, 4.3.10, 4.3.13, 4.3.14, 4.3.15, 4.3.16, 4.3.17, 4.3.18, 4.3.19, 4.3.20, 4.3.21, 4.3.22, 4.3.24, 4.3.25*;</p> <p>Land Use 4.1.1, 4.1.2, 4.1.3, 4.1.4, 4.1.5, 4.1.6, 4.1.7. and 4.1.8.</p> <p>*but may occur between January 15 and March 15 if 4.3.21, 4.1.2, 4.1.3, 4.1.4, 4.1.5, and 4.1.8 are followed</p> <p>Applicable PEIR Mitigation Measures have been included in their entirety in Attachment 2.</p>
<p>Other mitigation measures:</p> <p>Additional mitigation measures and conditions apply from the following sources :</p> <ol style="list-style-type: none"> 1. United States Fish and Wildlife Service Formal Section 7 Consultation on the Tijuana River Valley Channel Maintenance Project, San Diego County, California (Biological Opinion) 2. California Department of Fish and Wildlife Streambed Alteration Agreement 1600-2011-0271-R5, Tijuana River Valley Channel Maintenance Project 3. Department of the Army Permit SPL-2009-00719-RRS, Tijuana River Valley Pilot Channel and Smugglers Gulch Channel Maintenance Project 4. California Coastal Commission Coastal Development Permit and Amendment, #A-6-NOC-11-086 (San Diego Master Storm Water Maintenance Program) 5. California Regional Water Quality Control Board 401 Water Quality Certification for Tijuana River Valley Channel Maintenance Project, 09C-077 <p>These additional measures are provided as an Attachment 2 to the IMP.</p>
<p>Environmental Mitigation Requirements (including wetland enhancement, restoration, creation, and/or purchase of wetland credits in a mitigation bank; off-site upland habitat acquisition/payment into the City's habitat acquisition fund):</p>
<p>The project will not result in impacts to upland habitat that would require mitigation. The project will not result in impacts to jurisdictional wetlands or waters beyond the acreage previously permitted and mitigated. The sections below describe mitigation that has been implemented for the construction of the channel and the mitigation that is in progress to compensate for ongoing maintenance.</p>

MITIGATION
ACOE/RWQCB Jurisdictional Wetlands:
<p><u>ACOE</u></p> <p>Mitigation for original jurisdictional impacts in the Pilot Channel was successfully completed in 2000 at the 11.02-acre mitigation site near the western end of the Pilot Channel. Mitigation was not required for construction of the SG Channel because it was a historical agricultural ditch constructed prior to environmental regulation of the loss of wetlands and waters. However, maintenance of the two channels was not previously permitted. Verification that the site continues to meet its performance criteria has been documented (Dudek 2015).</p> <p>Mitigation for ongoing maintenance impacts consists of exotics removal and control at a ratio of 2:1. Because the ACOE Permit SPL-2009-00719-RRS permits impacts to 4.31 acres of waters of the U.S., that permit requires mitigation through rehabilitation/enhancement of 8.62 acres of waters of the U.S. within a 96-acre area in and adjacent to the Pilot Channel, as described in the Final Wetlands Mitigation and Monitoring Plan (Dudek 2013). Mitigation occurs within the maintenance channels themselves (4.31 acres of “in-channel” mitigation) and in areas directly adjacent the channels (4.31 acres of “out-of-channel” mitigation).</p> <p><u>RWQCB</u></p> <p>In accordance with the California RWQBC 401 Water Quality Certification amendment for the Project (09C-077), mitigation consists of eradication of exotic invasive species within the project footprint (4.31 acres) and the additional eradication of 4.31 acres of exotic invasive species adjacent to the project footprint, with successful eradication to be maintained in perpetuity.</p>
CDFW-only Jurisdictional Wetlands:
<p>Original CDFG-jurisdictional impacts to the Pilot Channel were successfully mitigated at the 11.02-acre site. Mitigation was not required for construction of the SG Channel because it was a historical agricultural ditch constructed prior to environmental regulation of the loss of wetlands and waters. Though Streambed Alteration Agreement 1600-2011-0271-R5 does not require mitigation for maintenance impacts to 4.31 acres of CDFG-jurisdictional streambed, it does require reporting associated with ACOE permit mitigation requirements. .</p>
Other Mitigation Requirements:
<p><u>USFWS</u></p> <p>In accordance with USFWS BO FWS-SDG-08B0600-10F0001, mitigation consists of enhancing 8.62 acres of wetlands within a 96-acre area in and along the Pilot Channel over a five year period; and using the remaining 0.11 acre of wetland creation from the City’s Tijuana River mitigation site that was completed under BO FWS-1-6-93-F-35.</p>

MITIGATION
Mitigation Description/Location:
<p>As required by the various Resource Agency permits and described in the Final Wetlands Mitigation and Monitoring Plan (Dudek 2013), mitigation for ongoing maintenance consists of restoration/enhancement of 4.31 acres within a 96-acre area adjacent to the Pilot Channel as well as up to 4.31 acres of restoration/enhancement in the channel. A complete description of the mitigation is described in the project's Final Wetlands Mitigation and Monitoring Plan. This is consistent with the PEIR Mitigation Measures 4.3.9 and 4.3.10, and no additional mitigation is required.</p>
ADDITIONAL COMMENTS OR RECOMMENDATIONS
<p>To avoid and minimize potential impacts to eight individuals of singlewhorl burrobrush (<i>Ambrosia monogyra</i>) located outside of but adjacent to the maintenance area, these shrubs will be cordoned off and marked with flagging, and maintenance vehicles moving from Staging Area B into the SG Channel will avoid driving directly in front of the shrubs.</p>
Individual Biological Assessment Report Attachments:
<p>Attachment 1: MSCP Conformance Review Table</p> <p>Attachment 2: Applicable PEIR Mitigation Measures</p> <p>Attachment 3: CNDDDB RareFind5 Records Search of Imperial Beach and Surrounding Quadrangles</p> <p>References:</p> <p>Army Corps of Engineers. 2012. Tijuana River Valley Pilot Channel and Smugglers Gulch Permit SPL-2009-00719-RRS. October 31, 2012.</p> <p>California Coastal Commission. 2012. Addendum to Item Th23a, Coastal Commission Permit Application #A-6-NOC-11-086 (San Diego Master Storm Water Maintenance Program). November 13, 2012.</p> <p>California Department of Fish and Game (CDFG). 2011. Streambed Alteration Agreement 1600-2011-0271-R5. San Diego, California: November 2011.</p> <p>California Department of Fish and Wildlife (CDFW, formerly CDFG). 2015. California Natural Diversity Database (CNDDDB). Rarefind, Version 5 (Commercial Subscription). Sacramento, California: CDFW, Biogeographic Data Branch. Accessed March 2015. http://www.dfg.ca.gov/biogeodata/cnddb/mapsanddata.asp.</p> <p>California Regional Water Quality Control Board. 2012. Water Quality Certification 09C-077. San Diego, California: April 2012.</p>

MITIGATION

- City of San Diego. 1997. Multiple Species Conservation Program City of San Diego MSCP Subarea Plan. San Diego, California: March 1997.
- City of San Diego. 2000. San Diego Municipal Code Land Development Code Biology Guidelines. San Diego, California: June 2000.
- City of San Diego. 2002. Guidelines for Conduction Biological Surveys. San Diego, California: October 1998, revised July 2002.
- City of San Diego. 2011a. Master Storm Water Maintenance Program. San Diego, California: October 2011.
- City of San Diego. 2011b. Final Recirculated Master Storm Water System Maintenance Program PEIR. San Diego, California: October 2011.
- Dudek. 2011a. Final Monitoring Report for the Tijuana River Valley Channel Maintenance Project. Encinitas, California: February 2011.
- Dudek. 2011b. Errata, Biological Resource Technical Report and Conceptual Wetlands Mitigation Plan, Tijuana River Valley Channel Maintenance Project No. 230815. Encinitas, California: July 2011.
- Dudek. 2013. Final Wetland Mitigation and Monitoring Plan for Tijuana River Valley Channel Maintenance Project. Encinitas, CA: February.
- Dudek. 2015. Current Condition Verification for the Tijuana River Emergency Channel Maintenance Wetland Mitigation Project, San Diego County, California. May 2015.
- Holland, R.F. 1986. Preliminary Descriptions of the Terrestrial Natural Communities of California. California Department of Fish and Game, Sacramento, California.
- Oberbauer 2008. Draft Vegetation Communities of San Diego County Based on Preliminary Descriptions of the Terrestrial Natural Communities of California (Holland 1986). San Diego, California: March 2008.
- United States Fish and Wildlife Service. 2012. Formal Section 7 Consultation on the Tijuana River Valley Channel Maintenance Project (FWS-SDG-08B0600-10F0001). Date-stamped August 24, 2012.
- URS Corporation 2012. Substantial Conformance Review Package for the Pilot Channel and Smuggler's Gulch Channel Maintenance Areas. October.

2015 Site Photos



Photo 1: Pilot Channel facing west. Arundo and mustard present along channel embankment.



Photo 2: At the confluence of the Pilot Channel and SG Channel, facing east. Trash present along banks and within standing water.



Photo 3: Hollister Street bridge facing west, dense vegetation along the Pilot channel where it crosses under the bridge.



Photo 4: Trash accumulation adjacent to the north-western portion of Pilot channel.



Photo 5: SG Channel facing south, toward Monument Road. Castor bean and other non-native species have been removed from the bank.



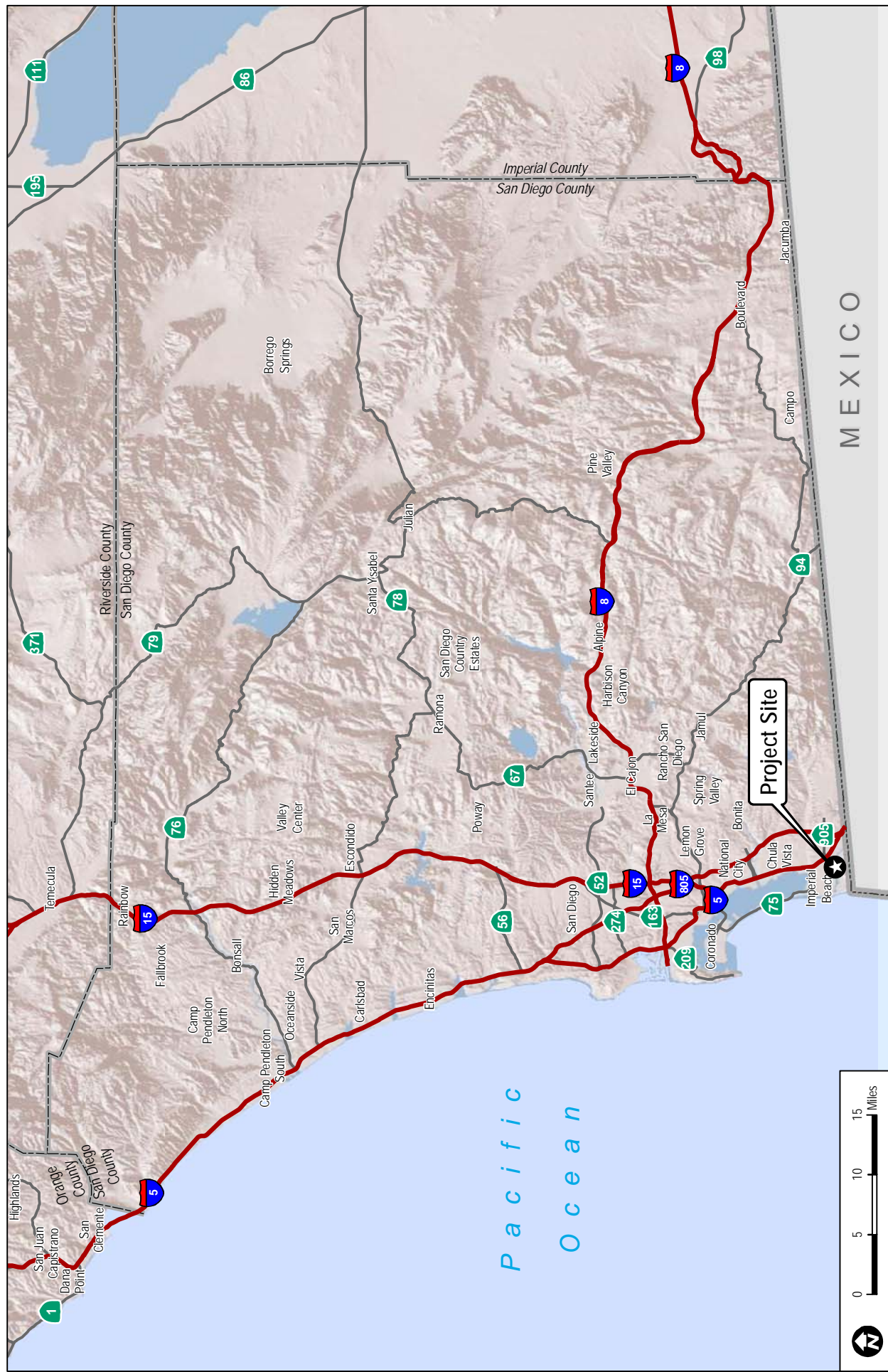
Photo 6: SG Channel, facing north at the Disney crossing. A few scattered willows and mule fat shrubs line the embankment.

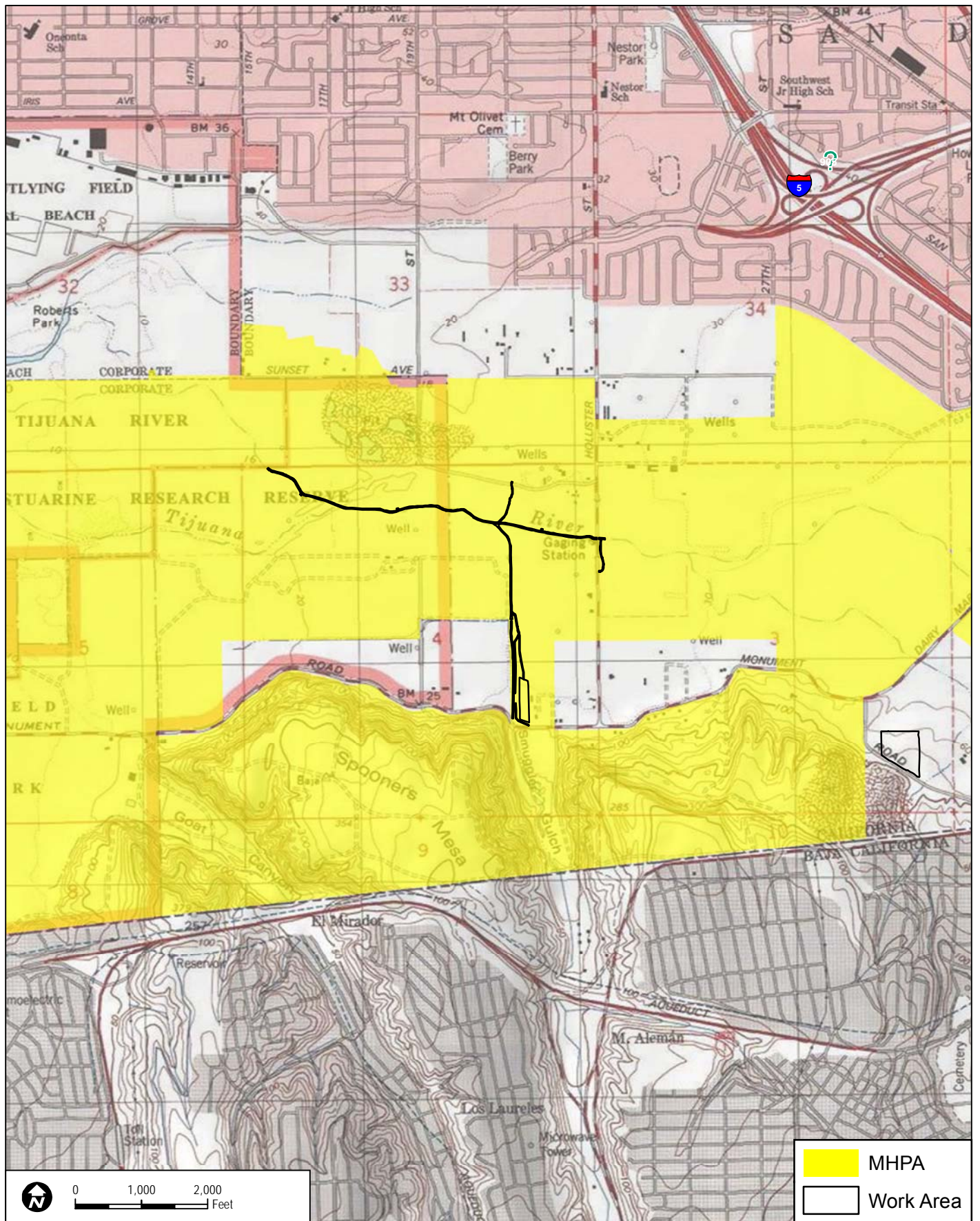


Photo 7: Racking and trash accumulation within SG Channel at the Disney Crossing.



Photo 8: Staging Area D with mostly bare ground and compacted soil.





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SOURCE: USGS 7.5-Minute Series Imperial Beach Quadrangle.

Tijuana River Pilot Channel and Smuggler's Gulch Channel Maintenance Project

FIGURE 2
Vicinity Map

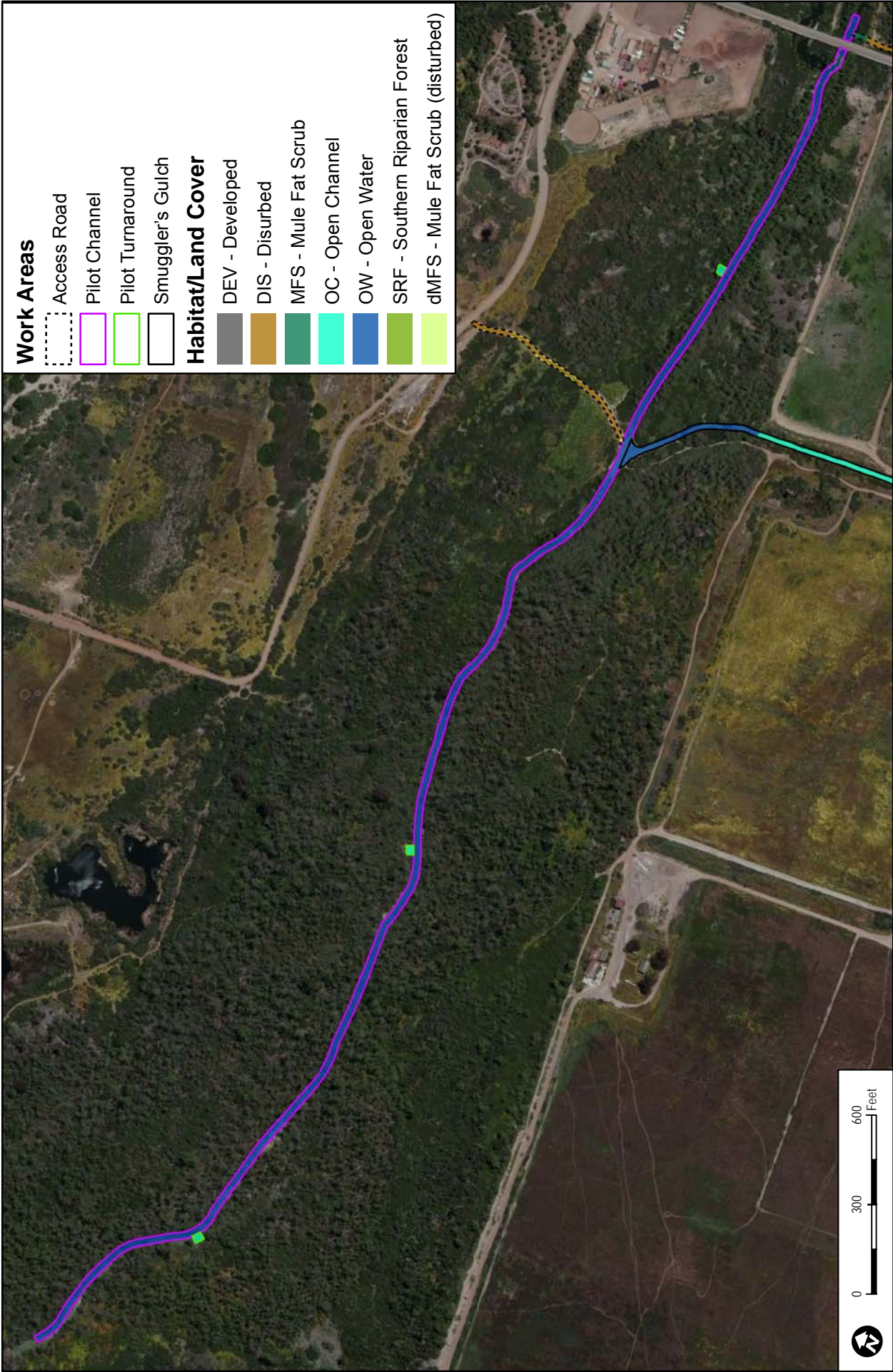


FIGURE 3a

Biological Resources

Tijuana River Pilot Channel and Smuggler's Gulch Channel Maintenance Project



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SOURCE: BING 2015

Tijuana River Pilot Channel and Smuggler's Gulch Channel Maintenance Project

FIGURE 3b
Biological Resources



FIGURE 3c

Biological Resources

Tijuana River Pilot Channel and Smuggler's Gulch Channel Maintenance Project

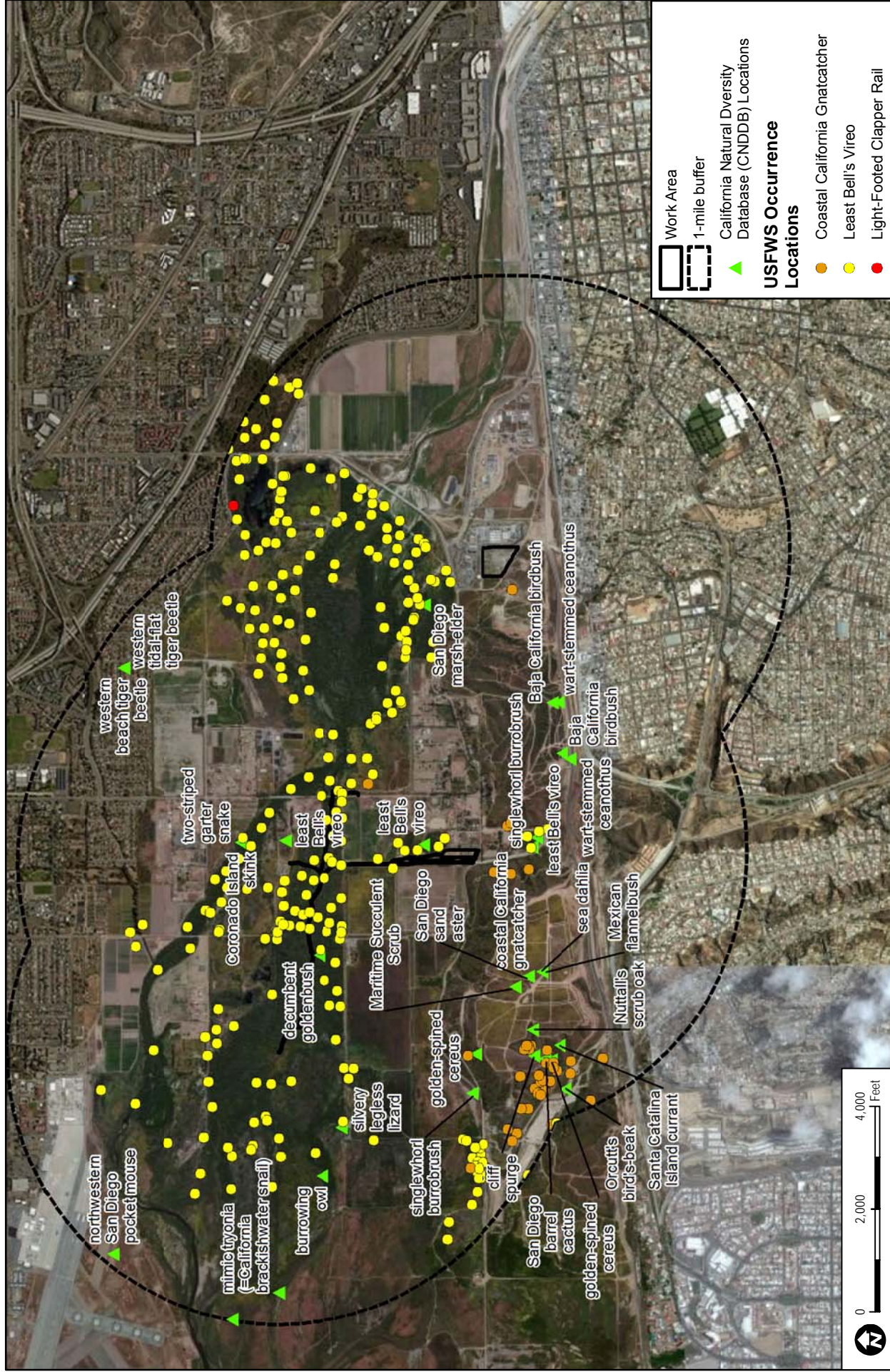


FIGURE 4
CNDDB/USFWS Occurrences

SOURCE: BING Maps 2015

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Tijuana River Pilot Channel and Smuggler's Gulch Channel Maintenance Project

Attachment 1

MSCP Conformance Review: Sections 1.4.2 and Section 1.4.3

Based on Biological Resources Technical Report and Conceptual Wetlands Mitigation Plan
Errata (Dudek 2011)

Section 1.4.2 - General Planning Policies and Design Guidelines	
Roads and Utilities - Construction and Maintenance Policies:	Compliance
1. All proposed utility lines (e.g., sewer, water, etc.) should be designed to avoid or minimize intrusion into the MHPA. These facilities should be routed through developed or developing areas rather than the MHPA, where possible. If no other routing is feasible, then the lines should follow previously existing roads, easements, rights-of-way and disturbed areas, minimizing habitat fragmentation.	The project follows existing constructed flood control channels and utilizes access routes and turnarounds, which minimize impacts to native plant communities.
2. All new development for utilities and facilities within or crossing the MHPA shall be planned, designed, located and constructed to minimize environmental impacts. All such activities must avoid disturbing the habitat of MSCP covered species, and wetlands. If avoidance is infeasible, mitigation will be required.	The project follows existing constructed flood control channels and utilizes access routes and turnarounds, which minimize impacts to native plant communities.
3. Temporary construction areas and roads, staging areas, or permanent access roads must not disturb existing habitat unless determined to be unavoidable. All such activities must occur on existing agricultural lands or in other disturbed areas rather than in habitat. If temporary habitat disturbance is unavoidable, then restoration of, and/or mitigation for, the disturbed area after project completion will be required.	Project staging areas are located within existing disturbed areas, and access routes utilize existing roads to the extent feasible.
4. Construction and maintenance activities in wildlife corridors must avoid significant disruption of corridor usage. Environmental documents and mitigation monitoring and reporting programs covering such development must clearly specify how this will be achieved, and construction plans must contain all the pertinent information and be readily available to crews in the field. Training of construction crews and field workers must be conducted to ensure that all conditions are met. A responsible party must be specified.	The project includes avoidance and minimization measures to reduce impacts to wildlife usage within the river valley, including environmental awareness training.
5. Roads in the MHPA will be limited to those identified in Community Plan Circulation Elements, collector streets essential for area circulation, and necessary maintenance/emergency access roads. Local streets should not cross the MHPA except where needed to access isolated development areas.	Not applicable.
6. Development of roads in canyon bottoms should be avoided whenever feasible. If an alternative location outside the MHPA is not feasible, then the road must be designed to cross the shortest length possible of the MHPA in order to minimize impacts and fragmentation of sensitive species and habitat. If roads cross the MHPA, they should provide for fully functional wildlife movement capability. Bridges are the preferred method of providing for movement, although culverts in selected locations may be acceptable. Fencing, grading and plant cover should be provided where needed to protect and shield animals, and guide them away from roads to appropriate crossings.	Not applicable.
7. Where possible, roads within the MHPA should be narrowed from existing design standards to minimize habitat fragmentation and disruption of wildlife movement and breeding areas. Roads must be located in lower quality habitat or disturbed areas to the extent possible.	Not applicable.
8. For the most part, existing roads and utility lines are considered a compatible use within the MHPA and, therefore, will be maintained. Exceptions may occur where underutilized or duplicative road systems are determined not to be necessary as identified in the Framework Management	Not applicable.

MSCP Conformance Review, continued

Fencing, Lighting, and Signage	Compliance
1. Fencing or other barriers will be used where it is determined to be the best method to achieve conservation goals and adjacent to land uses incompatible with the MHPA. For example, use chain link or cattle wire to direct wildlife to appropriate corridor crossings, natural rocks/boulders or split rail fencing to direct public access to appropriate locations, and chain link to provide added protection of certain sensitive species or habitats (e.g., vernal pools).	Silt fencing and/or construction fencing will be used on a temporary basis, as appropriate, around work areas and staging areas.
2. Lighting shall be designed to avoid intrusion into the MHPA and effects on wildlife. Lighting in areas of wildlife crossings should be of low-sodium or similar lighting. Signage will be limited to access and litter control and educational purposes.	No lighting will be installed as part of the project.
Materials Storage	Compliance
Prohibit storage of materials (e.g., hazardous or toxic, chemicals, equipment, etc.) within the MHPA and ensure appropriate storage per applicable regulations in any areas that may impact the MHPA, especially due to potential leakage.	Temporary storage of hazardous materials such as equipment fuel will follow all applicable rules and guidelines.
Mining, Extraction, and Processing Facilities	Compliance
1. Mining operations include mineral extraction, processing and other related mining activities (e.g. asphaltic processing). Currently permitted mining operations that have approved restoration plans may continue operating in the MHPA. New or expanded mining operations on lands conserved as part of the MHPA are incompatible with MSCP preserve goals for covered species and their habitat unless otherwise agreed to by the wildlife agencies at the time the parcel is conserved. New operations are permitted in the MHPA if: 1) impacts have been assessed and conditions incorporated to mitigate biological impacts and restore mined areas; 2) adverse impacts to covered species in the MHPA have been mitigated consistent with the Subarea Plan; and 3) requirements of other City land use policies and regulations (e.g. Adjacency Guidelines, Conditional Use Permit) have been satisfied. Existing and any newly permitted operations adjacent to or within the MHPA shall meet noise, air quality and water quality regulation requirements, as identified in the conditions of any existing or new permit, in order to adequately protect adjacent preserved areas and covered species. Such facilities shall also be appropriately restored upon cessation of mining activities.	Not applicable.
2. All mining and other related activities must be consistent with the objectives, guidelines, and recommendations in the MSCP plan, the City of San Diego's Environmentally Sensitive Lands Ordinance, all relevant long-range plans, as well as with the State Surface Mining and Reclamation Act (SMARA) of 1975.	Not applicable.
3. Any sand removal activities should be monitored for noise impacts to surrounding sensitive habitats, and all new sediment removal or mining operations proposed in proximity to the MHPA, or changes in existing operations must include noise reduction methods that take into consideration the breeding and nesting seasons of sensitive bird species.	Not applicable.
4. All existing and future mined lands adjacent to or within the MHPA shall be reclaimed pursuant to SMARA. Ponds are considered compatible uses where they provide native wildlife and wetland habitats and do not conflict with conservation goals of the MSCP and Subarea Plan.	Not applicable.
5. Any permitted mining activity including reclamation of sand must consider changes and impacts to water quality, water table level, fluvial hydrology, flooding, and wetland and habitats upstream and downstream, and provide adequate mitigation.	Not applicable.

MSCP Conformance Review, continued

Flood Control	Compliance
1. Flood control should generally be limited to existing agreements with resource agencies unless demonstrated to be needed based on a cost benefit analysis and pursuant to a restoration plan. Floodplains within the MHPA, and upstream from the MHPA if feasible, should remain in a natural condition and configuration in order to allow for the ecological, geological, hydrological, and other natural processes to remain or be restored.	The project is consistent with flood control maintenance that occurred when the MSCP was established. Flood control maintenance involves the minimum amount of sediment/trash removal in order to allow for natural processes and to minimize erosion and sedimentation. The staging areas were permitted through previous and existing regulatory permits (ACOE 404 and RWQCB 401).
2. No berming, channelization, or man-made constraints or barriers to creek, tributary, or river flows should be allowed in any floodplain within the MHPA unless reviewed by all appropriate agencies, and adequately mitigated. Review must include impacts to upstream and downstream habitats, flood flow volumes, velocities and configurations, water availability, and changes to the water table level.	The project does not include the construction of man-made barriers or substantial modification of the channels.
3. No riprap, concrete, or other unnatural material shall be used to stabilize river, creek, tributary, and channel banks within the MHPA. River, stream, and channel banks shall be natural, and stabilized where necessary with willows and other appropriate native plantings. Rock gabions may be used where necessary to dissipate flows and should incorporate design features to ensure wildlife	The project does not include the placement of riprap, concrete, or other unnatural materials. The existing rock gabion structure at the confluence may be repaired if necessary.
Section 1.4.3 – Land Use Adjacency Guidelines	
Drainage	Compliance
1. All new and proposed parking lots and developed areas in and adjacent to the preserve must not drain directly into the MHPA. All developed and paved areas must prevent the release of toxins, chemicals, petroleum products, exotic plant materials and other elements that might degrade or harm the natural environment or ecosystem processes within the MHPA. This can be accomplished using a variety of methods including natural detention basins, grass swales or mechanical trapping devices. These systems should be maintained approximately once per year, or as often as needed, to ensure proper functioning. Maintenance should include dredging out of sediments if needed, removing exotic plant materials, and adding chemical-neutralizing compounds (e.g. clay compounds) when necessary and appropriate.	All maintenance of construction equipment (e.g., refueling, oil changing, hydraulic maintenance) will be conducted within designated BMP fortified areas in the staging areas or off site in a manner that will not allow the release of toxins, chemicals, petroleum.
Toxics	Compliance
2. Land uses, such as recreation and agriculture, that use chemicals or generate by-products such as manure, that are potentially toxic or impactive to wildlife, sensitive species, habitat, or water quality need to incorporate measures to reduce impacts caused by the application and/or drainage of such materials into the MHPA. Such measures should include drainage/detention basins, swales, or holding areas with non-invasive grasses or wetland-type native vegetation to filter out the toxic materials. Regular maintenance should be provided. Where applicable, this requirement should be incorporated into leases on publicly owned property as leases come up for renewal.	See response above. No domestic pets are allowed on the construction site.
Lighting	Compliance
3. Lighting of all developed areas adjacent to the MHPA should be directed away from the MHPA. Where necessary, development should provide adequate shielding with non-invasive plant materials (preferably native), berming, and/or other methods to protect the MHPA and sensitive species from night lighting.	No lighting will be installed as part of the project.

MSCP Conformance Review, continued

Noise	Compliance
4. Uses in or adjacent to the MHPA should be designed to minimize noise impacts. Berms or walls should be constructed adjacent to commercial areas, recreational areas, and any other use that may introduce noises that could impact or interfere with wildlife utilization of the MHPA. Excessively noisy uses or activities adjacent to breeding areas must incorporate noise reduction measures and be curtailed during the breeding season of sensitive species. Adequate noise reduction measures should also be incorporated for the remainder of the year.	Project activities will be conducted outside the sensitive bird breeding season in order that the effects of noise are not adverse.
Barriers	Compliance
5. New development adjacent to the MHPA may be required to provide barriers (e.g., non-invasive vegetation, rocks/boulders, fences, walls, and/or signage) along the MHPA boundaries to direct public access to appropriate locations and reduce domestic animal predation.	Not applicable.
Invasives	Compliance
6. No invasive non-native plant species shall be introduced into areas adjacent to the MHPA.	The project will not include introduction of invasive species, and does include removal of invasive species.
Brush Management	Compliance
7. New residential development located adjacent to and topographically above the MHPA (e.g., along canyon edges) must be set back from slope edges to incorporate Zone 1 brush management areas on the development pad and outside of the MHPA. Zones 2 and 3 will be combined into one zone (Zone 2) and may be located in the MHPA upon granting of an easement to the City (or other acceptable agency) except where narrow wildlife corridors require it to be located outside of the MHPA. Zone 2 will be increased by 30 feet, except in areas with a low fire hazard severity rating where no Zone 2 would be required. Brush management zones will not be greater in size that is currently required by the City's regulations. The amount of woody vegetation clearing shall not exceed 50 percent of the vegetation existing when the initial clearing is done. Vegetation clearing shall be done consistent with City standards and shall avoid/minimize impacts to covered species to the maximum extent possible. For all new development, regardless of the ownership, the brush management in the Zone 2 area will be the responsibility of a homeowners association or other private party. For existing project and approved projects, the brush management zones, standards and locations, and clearing techniques will not change from those required under existing regulations.	Not applicable.
Grading/Land Development	Compliance
8. Manufactured slopes associated with site development shall be included within the development footprint for projects within or adjacent to the MHPA.	Not applicable.

Attachment 2

Applicable PEIR Mitigation Measures

GENERAL

General Mitigation 1: Prior to commencement of work, the Assistant Deputy Director (ADD) Environmental Designee of the Entitlements Division shall verify that mitigation measures for impacts to biological resources (Mitigation Measures 4.3.1 through 4.3.20), historical resources (Mitigation Measures 4.4.1 and 4.4.2), land use policy (Mitigation Measures 4.1.1 through 4.1.13), paleontological resources (Mitigation Measure 4.7.1), and water quality (Mitigation Measures 4.8.1 through 4.8.3) have been included in entirety on the submitted maintenance documents and contract specifications, and included under the heading, "Environmental Mitigation Requirements." In addition, the requirements for a Pre-maintenance Meeting shall be noted on all maintenance documents.

General Mitigation 2: Prior to the commencement of work, a Pre-maintenance Meeting shall be conducted and include, as appropriate, the MMC, SWD Project Manager, Biological Monitor, Historical Monitor, Paleontological Monitor, Water Quality Specialist, and Maintenance Contractor, and other parties of interest.

General Mitigation 3: Prior to the commencement of work, evidence of compliance with other permitting authorities is required, if applicable. Evidence shall include either copies of permits issued, letters of resolution issued by the Responsible Agency documenting compliance, or other evidence documenting compliance and deemed acceptable by the ADD Environmental Designee.

BIOLOGICAL RESOURCES

Mitigation Measure 4.3.1: Prior to commencement of any activity within a specific annual maintenance program, a qualified biologist shall prepare an IBA for each area proposed to be maintained. The IBA shall be prepared in accordance with the specifications included in the Master Program.

Mitigation Measure 4.3.2: No maintenance activities within a proposed annual maintenance program shall be initiated before the City's Assistant Deputy Director (ADD) Environmental Designee and state and federal agencies with jurisdiction over maintenance activities have approved the IMPs and IBAs including proposed mitigation for each of the proposed activities. In their review, the ADD Environmental Designee and agencies shall confirm that the appropriate maintenance protocols have been incorporated into each IMP.

Mitigation Measure 4.3.3: No maintenance activities within a proposed annual maintenance program shall be initiated until the City's ADD Environmental Designee and Mitigation Monitoring Coordinator (MMC) have approved the qualifications for biologist(s) who shall be responsible for monitoring maintenance activities which may impact sensitive biological resources.

Mitigation Measure 4.3.4: Prior to undertaking any maintenance activity included in an annual maintenance program, a mitigation account shall be established to provide sufficient funds to implement

all biological mitigation associated with the proposed maintenance activities. The fund amount shall be determined by the ADD Environmental Designee. The account shall be managed by the City's SWD, with quarterly status reports submitted to DSD. The status reports shall separately identify upland and wetland account activity. Based upon the impacts identified in the IBAs, money shall be deposited into the account, as part of the project submittal, to ensure available funds for mitigation.

Mitigation Measure 4.3.5: Prior to commencing any activity that could impact wetlands, evidence of compliance with other permitting authorities is required, if applicable. Evidence shall include copies of permits issued, letters of resolution issued by the Responsible Agency documenting compliance, or other evidence documenting compliance and deemed acceptable by the ADD Environmental Designee.

Mitigation Measure 4.3.6: Prior to commencing any activity where the IBA indicates significant impacts to biological resources may occur, a pre-maintenance meeting shall be held on site with the following in attendance: City's SWD Maintenance Manager (MM), MMC, and Maintenance Contractor (MC). The biologist selected to monitor the activities shall be present. At this meeting, the monitoring biologist shall identify and discuss the maintenance protocols that apply to the maintenance activities. At the pre-maintenance meeting, the monitoring biologist shall submit to the MMC and MC a copy of the maintenance plan (reduced to 11"x17") that identifies areas to be protected, fenced, and monitored. This data shall include all planned locations and design of noise attenuation walls or other devices. The monitoring biologist also shall submit a maintenance schedule to the MMC and MC indicating when and where monitoring is to begin and shall notify the MMC of the start date for monitoring.

Mitigation Measure 4.3.7: Within three months following the completion of mitigation monitoring, two copies of a written draft report summarizing the monitoring shall be prepared by the monitoring biologist and submitted to the MMC for approval. The draft monitoring report shall describe the results including any remedial measures that were required. Within 90 days of receiving comments from the MMC on the draft monitoring report, the biologist shall submit one copy of the final monitoring report to the MMC.

Mitigation Measure 4.3.8: Within six months of the end of an annual storm water facility maintenance program, the monitoring biologist shall complete an annual report which shall be distributed to the following agencies: the City of San Diego DSD, CDFG, RWQCB, USFWS, and Corps. At a minimum, the report shall contain the following information:

- Tabular summary of the biological resources impacted during maintenance and the mitigation;
- Master table containing the following information for each individual storm water facility or segment which is regularly maintained;
- Date and type of most recent maintenance;
- Description of mitigation which has occurred; and
- Description of the status of mitigation which has been implemented for past maintenance activities.

Mitigation Measure 4.3.9: Wetland impacts resulting from maintenance shall be mitigated in one of the following two ways: (1) habitat creation, restoration, and/or enhancement, or (2) mitigation credits. The amount of mitigation shall be in accordance with ratios in Table 4.3-10 unless different mitigation ratios are required by state or federal agencies with jurisdiction over the impacted wetlands. In this event, the mitigation ratios required by these agencies will supersede, and not be in addition to, the ratios defined in Table 4.3-10. No maintenance shall commence until the ADD Environmental Designee has determined

that mitigation proposed for a specific maintenance activity meets one of these two options.

Table 4.3-10 WETLAND MITIGATION RATIOS	
WETLAND TYPE	MITIGATION RATIO
Southern riparian forest	3:1
Southern sycamore riparian forest	3:1
Riparian woodland	3:1
Coastal saltmarsh	4:1
Coastal brackish marsh	4:1
Southern willow scrub	2:1
Mule fat scrub	2:1
Riparian scrub ¹	2:1
Freshwater marsh ²	2:1
Cismontane alkali marsh	4:1
Disturbed wetland	2:1
Streambed/natural flood channel	2:1

¹ Mitigation ratio within the Coastal Zone will be 3:1

² Mitigation ratio within the Coastal Zone will be 4:1

Mitigation locations for wetland impacts shall be selected using the following order of preference, based on the best mitigation value to be achieved.

1. Within impacted watershed, within City limits.
2. Within impacted watershed, outside City limits on City-owned or other publicly-owned land.
3. Outside impacted watershed, within City limits.
4. Outside impacted watershed, outside City limits on City-owned or other publically-owned land.

In order to mitigate for impacts in an area outside the limits of the watershed within which the impacts occur, the SWD must demonstrate to the satisfaction of the ADD Environmental Designee in consultation with the Resource Agencies that no suitable location exists within the impacted watershed.

Mitigation Measure 4.3.10: Whenever maintenance will impact wetland vegetation, a wetland mitigation plan shall be prepared in accordance with the Conceptual Wetland Restoration Plan contained in Appendix H of the Biological Technical Report, included as Appendix D.3 of the PEIR.

Mitigation which involves habitat enhancement, restoration or creation shall include a wetland mitigation plan containing the following information:

- Conceptual planting plan including planting zones, grading, and irrigation;
- Seed mix/planting palette;
- Planting specifications;
- Monitoring program including success criteria; and
- Long-term maintenance and preservation plan.

Mitigation which involves the use of mitigation credits shall include the following:

- Location of the mitigation bank;

- Description of the credits to be acquired including support for the conclusion that the acquired habitat mitigates for the specific maintenance impact; and
- Documentation that the credits are associated with a mitigation bank which has been approved by the appropriate Resource Agencies.

(Mitigation Measure 4.3.11 not applicable)

(Mitigation Measure 4.3.12 not applicable)

Mitigation Measure 4.3.13: Prior to commencing any maintenance activity which may impact sensitive biological resources, the monitoring biologist shall verify that the following actions have been taken, as appropriate:

- Fencing, flagging, signage, or other means to protect sensitive resources to remain after maintenance have been implemented;
- Noise attenuation measures needed to protect sensitive wildlife are in place and effective; and/or
- Nesting raptors have been identified and necessary maintenance setbacks have been established if maintenance is to occur between January 15 and August 31.

The designated biological monitor shall be present throughout the first full day of maintenance, whenever mandated by the associated IBA. Thereafter, through the duration of the maintenance activity, the monitoring biologist shall visit the site weekly to confirm that measures required to protect sensitive resources (e.g., flagging, fencing, noise barriers) continue to be effective. The monitoring biologist shall document monitoring events via a Consultant Site Visit Record. This record shall be sent to the MM each month. The MM will forward copies to MMC.

Mitigation Measure 4.3.14: Whenever off-site mitigation would result in a physical disturbance to the proposed mitigation area, the City will conduct an environmental review of the proposed mitigation plan in accordance with CEQA. If the off-site mitigation would have a significant impact on biological resources associated with the mitigation site, mitigation measures will be identified and implemented in accordance with the MMRP resulting from that CEQA analysis.

Mitigation Measure 4.3.15: Impacts to listed or endemic sensitive plant species shall be offset through implementation of one or a combination of the following actions:

- Impacted plants would be salvaged and relocated;
- Seeds from impacted plants would be collected for use at an off-site location;
- Off-site habitat that supports the species impacted shall be enhanced and/or supplemented with seed collected on site; and/or
- Comparable habitat at an off-site location shall be preserved.

Mitigation which involves relocation, enhancement or transplanting sensitive plants shall include the following:

- Conceptual planting plan including grading and, if appropriate, temporary irrigation;
- Planting specifications;
- Monitoring Program including success criteria; and
- Long-term maintenance and preservation plan.

Maintenance Measure 4.3.16: Maintenance activities shall not occur within the following areas:

- 300 feet from any nesting site of Cooper's hawk (*Accipiter cooperii*);
- 1,500 feet from known locations of the southern pond turtle (*Clemmys marmorata pallida*);
- 900 feet from any nesting sites of northern harriers (*Circus cyaneus*);
- 4,000 feet from any nesting sites of golden eagles (*Aquila chrysaetos*); or
- 300 feet from any occupied burrow or burrowing owls (*Athene cunicularia*).

(Mitigation Measure 4.3.17 not applicable)

Mitigation Measure 4.3.18: If a subject species is not detected during the protocol survey, the qualified biologist shall submit substantial evidence to the ADD Environmental Designee and an applicable resource agency which demonstrates whether or not mitigation measures such as noise walls are necessary between the dates stated for each species. If this evidence concludes that no impacts to this species are anticipated, no mitigation measures would be necessary.

Mitigation Measure 4.3.19: If the SWD chooses not to do the required surveys, then it shall be assumed that the appropriate avian species are present and all necessary protection and mitigation measures shall be required as described in Mitigation Measure 4.3.21.

Mitigation Measure 4.3.20: If no surveys are completed and no sound attenuation devices are installed, it will be assumed that the habitat in question is occupied by the appropriate species and that maintenance activities would generate more than 60dB(A) L_{eq} within the habitat requiring protection. All such activities adjacent to protected habitat shall cease for the duration of the breeding season of the appropriate species and a qualified biologist shall establish a limit of work.

Mitigation Measure 4.3.21: If maintenance occurs during the raptor breeding season (January 15 to August 31), a pre-maintenance survey for active raptor nests shall be conducted in areas supporting suitable habitat. If active raptor nests are found, maintenance shall not occur within 300 feet of a Cooper's hawk nest, 900 feet of a northern harrier's nest, or 500 feet of any other raptor's nest until any fledglings have left the nest.

Mitigation Measure 4.3.22: If removal of any eucalyptus trees or other trees used by raptors for nesting within a maintenance area is proposed during the raptor breeding season (January 15 through August 31), a qualified biologist shall ensure that no raptors are nesting in such trees. If maintenance occurs during the raptor breeding season, a pre-maintenance survey shall be conducted and no maintenance shall occur within 300 feet of any nesting site of Cooper's hawk or other nesting raptor until the young fledge. Should the biologist determine that raptors are nesting, the trees shall not be removed until after the breeding season. In addition, if removal of grassland or other habitat appropriate for nesting by northern harriers, a qualified biologist shall ensure that no harriers are nesting in such areas. If maintenance occurs during the raptor breeding season, a pre-maintenance survey shall be conducted and no maintenance shall occur within 900 feet of any nesting site of northern harrier until the young fledge.

(Mitigation Measure 4.3.23 not applicable)

Mitigation Measure 4.2.24: If maintenance activities will occur within areas supporting listed and/or

narrow endemic plants, the boundaries of the plant populations designated sensitive by the resource agencies will be clearly delineated with flagging or temporary fencing that must remain in place for the duration of the activity.

Mitigation Measure 4.2.25: In order to avoid impacts to nesting avian species, including those species not covered by the MSCP, maintenance within or adjacent to avian nesting habitat shall occur outside of the avian breeding season (January 15 to August 31) unless postponing maintenance would result in a threat to human life or property.

LAND USE

Mitigation Measure 4.1.1: Prior to commencing maintenance on any storm water facility within, or immediately adjacent to, a Multi-Habitat Planning Area (MHPA), the ADD Environmental Designee shall verify that all MHPA boundaries and limits of work have been delineated on all maintenance documents.

(Mitigation Measure 4.1.2: A qualified biologist (possessing a valid Endangered Species Act Section 10(a)(1)(a) recovery permit) shall survey those habitat areas inside and outside the MHPA suspected to serve as habitat (based on historical records of site conditions) for the coastal California gnatcatcher, least Bell's vireo and/or other listed species. Surveys for the appropriate species shall be conducted pursuant to the protocol survey guidelines established by the U.S. Fish and Wildlife Service. When other sensitive species, including, but not limited to, the arroyo toad, burrowing owl, or Quino checkerspot butterfly are known or suspected to be present all appropriate protocol surveys and mitigation measures identified in Subchapter 4.3, Biological Resources, required shall be implemented.

Mitigation Measure 4.1.3: If a listed species is located within 500 feet of a proposed maintenance activity and maintenance would occur during the associated breeding season, an analysis of the noise generated by maintenance activity shall be completed by a qualified acoustician (possessing current noise engineer license or registration with monitoring noise level experience with listed animal species) and approved by the ADD Environmental Designee. The analysis shall identify the location of the 60dB(A) L_{eq} noise contour on the maintenance plan. The report shall also identify measures to be undertaken during maintenance to reduce noise levels.

Mitigation Measure 4.1.4: Based on the location of the 60 dB(A) L_{eq} noise contour and the results of the protocol surveys, the Project Biologist shall determine if maintenance has the potential to impact breeding activities of listed species. If one or more of the following species are determined to be significantly impacted by maintenance, then maintenance (inside and outside the MHPA) shall avoid the following breeding seasons unless it is determined that maintenance is needed to protect life or property.

- Coastal California gnatcatcher (between March 1 and August 15 inside the MHPA only; no restrictions outside MHPA);
- Least Bell's vireo (between March 15 and September 15); and
- Southwestern willow flycatcher (between May 1 and September 1).

Mitigation Measure 4.1.5: If maintenance is required during the breeding season for a listed bird to protect life or property, then the following conditions must be met:

- At least two weeks prior to the commencement of maintenance activities, under the direction of a

qualified acoustician, noise attenuation measures (e.g., berms, walls) shall be implemented to ensure that noise levels resulting from maintenance activities shall not exceed 60 dB(A) hourly average at the edge of occupied habitat. Concurrent with the commencement of maintenance activities and the maintenance of necessary noise attenuation facilities, noise monitoring shall be conducted at the edge of the occupied habitat area to ensure that noise levels do not exceed 60 dB(A) hourly average. If the noise attenuation techniques implemented are determined to be inadequate by the qualified acoustician or biologist, then the associated maintenance activities shall cease until such time that adequate noise attenuation is achieved or until the end of the breeding season of the subject species, as noted above.

- Maintenance noise shall continue to be monitored at least twice weekly on varying days, or more frequently depending on the maintenance activity, to verify that noise levels at the edge of occupied habitat are maintained below 60 dB(A) hourly average. If not, other measures shall be implemented in consultation with the biologist and the ADD, as necessary, to reduce noise levels to below 60 dB(A) hourly average or to the ambient noise level if it already exceeds 60 dB(A) hourly average. Such measures may include, but are not limited to, limitations on the placement of maintenance equipment and the simultaneous use of equipment.
- Prior to the commencement of maintenance activities that would disturb sensitive resources during the breeding season, the biologist shall ensure that all fencing, staking and flagging identified as necessary on the ground have been installed properly in the areas restricted from such activities.
- If noise attenuation walls or other devices are required to assure protection to identified wildlife, then the biologist shall make sure such devices have been properly constructed, located, and installed.

Mitigation Measure 4.1.6: A pre-maintenance meeting shall be held with the Maintenance Contractor, City representative and the Project Biologist. The Project Biologist shall discuss the sensitive nature of the adjacent habitat with the crew and subcontractor. Prior to the pre-maintenance meeting, the following shall be completed:

- The Storm Water Division (SWD) shall provide a letter of verification to the Mitigation Monitoring Coordination Section stating that a qualified biologist, as defined in the City of San Diego Biological Resources Guidelines, has been retained to implement the projects MSCP monitoring Program. The letter shall include the names and contact information of all persons involved in the Biological Monitoring of the project. At least thirty days prior to the pre-maintenance meeting, the qualified biologist shall submit all required documentation to MMC, verifying that any special reports, maps, plans and time lines, such as but not limited to, revegetation plans, plant relocation requirements and timing, MSCP requirements, avian or other wildlife protocol surveys, impact avoidance areas or other such information has been completed and updated.
- The limits of work shall be clearly delineated. The limits of work, as shown on the approved maintenance plan, shall be defined with orange maintenance fencing and checked by the biological monitor before initiation of maintenance. All native plants or species of special concern, as identified in the biological assessment, shall be staked, flagged and avoided within Brush Management Zone 2, if applicable.

Mitigation Measure 4.1.7: Maintenance plans shall be designed to accomplish the following.

- Invasive non-native plant species shall not be introduced into areas adjacent to the MHPA.

Landscape plans shall contain non-invasive native species adjacent to sensitive biological areas, as shown on the approved maintenance plan.

- All lighting adjacent to, or within, the MHPA shall be shielded, unidirectional, low pressure sodium illumination (or similar) and directed away from sensitive areas using appropriate placement and shields. If lighting is required for nighttime maintenance, it shall be directed away from the preserve and the tops of adjacent trees with potentially nesting raptors, using appropriate placement and shielding.
- All maintenance activities (including staging areas and/or storage areas) shall be restricted to the disturbance areas shown on the approved maintenance plan. The project biologist shall monitor maintenance activities, as needed, to ensure that maintenance activities do not encroach into biologically sensitive areas beyond the limits of work as shown on the approved maintenance plan.
- No trash, oil, parking or other maintenance-related activities shall be allowed outside the established maintenance areas including staging areas and/or storage areas, as shown on the approved maintenance plan. All maintenance related debris shall be removed off-site to an approved disposal facility.
- Access roads through MHPA-designated areas shall comply with the applicable policies contained in the "Roads and Utilities Construction and Maintenance Policies" identified in Section 1.4.2 of the City's Subarea Plan.

Mitigation Measure 4.1.8: Prior to commencing any maintenance in, or within 500 feet of any area determined to support coastal California gnatcatchers, the ADD Environmental Designee shall verify that the MHPA boundaries and the following project requirements regarding the coastal California gnatcatcher are shown on the maintenance plans:

NO MAINTENANCE ACTIVITIES SHALL OCCUR BETWEEN MARCH 1 AND AUGUST 15, THE BREEDING SEASON OF THE COASTAL CALIFORNIA GNATCATCHER, UNTIL THE FOLLOWING REQUIREMENTS HAVE BEEN MET TO THE SATISFACTION OF THE ADD ENVIRONMENTAL DESIGNEE:

- a. A QUALIFIED BIOLOGIST (POSSESSING A VALID ENDANGERED SPECIES ACT SECTION 10(a)(1)(A) RECOVERY PERMIT) SHALL SURVEY THOSE HABITAT AREAS WITHIN THE MHPA THAT WOULD BE SUBJECT TO MAINTENANCE NOISE LEVELS EXCEEDING 60 DECIBELS [dB(A)] HOURLY AVERAGE FOR THE PRESENCE OF THE COASTAL CALIFORNIA GNATCATCHER. SURVEYS FOR THE COASTAL CALIFORNIA GNATCATCHER SHALL BE CONDUCTED PURSUANT TO THE PROTOCOL SURVEY GUIDELINES ESTABLISHED BY THE U.S. FISH AND WILDLIFE SERVICE WITHIN THE BREEDING SEASON PRIOR TO THE COMMENCEMENT OF ANY MAINTENANCE. IF GNATCATCHERS ARE PRESENT, THEN THE FOLLOWING CONDITIONS MUST BE MET:
 1. BETWEEN MARCH 1 AND AUGUST 15, MAINTENANCE OF OCCUPIED GNATCATCHER HABITAT SHALL BE PERMITTED. AREAS RESTRICTED FROM SUCH ACTIVITIES SHALL BE STAKED OR FENCED UNDER THE SUPERVISION OF A QUALIFIED BIOLOGIST; AND
 2. BETWEEN MARCH 1 AND AUGUST 15, NO MAINTENANCE ACTIVITIES SHALL OCCUR WITHIN ANY PORTION OF THE SITE WHERE MAINTENANCE ACTIVITIES WOULD RESULT IN NOISE LEVELS EXCEEDING 60 dB(A)

HOURLY AVERAGE AT THE EDGE OF OCCUPIED GNATCATCHER HABITAT. AN ANALYSIS SHOWING THAT NOISE GENERATED BY MAINTENANCE ACTIVITIES WOULD NOT EXCEED 60 dB(A) HOURLY AVERAGE AT THE EDGE OF OCCUPIED HABITAT MUST BE COMPLETED BY A QUALIFIED ACOUSTICIAN (POSSESSING CURRENT NOISE ENGINEER LICENSE OR REGISTRATION WITH MONITORING NOISE LEVEL EXPERIENCE WITH LISTED ANIMAL SPECIES) AND APPROVED BY THE CITY MANAGER AT LEAST TWO WEEKS PRIOR TO THE COMMENCEMENT OF MAINTENANCE ACTIVITIES. PRIOR TO THE COMMENCEMENT OF MAINTENANCE ACTIVITIES DURING THE BREEDING SEASON, AREAS RESTRICTED FROM SUCH ACTIVITIES SHALL BE STAKED OR FENCED UNDER THE SUPERVISION OF A QUALIFIED BIOLOGIST; OR

3. AT LEAST TWO WEEKS PRIOR TO THE COMMENCEMENT OF MAINTENANCE ACTIVITIES, UNDER THE DIRECTION OF A QUALIFIED ACOUSTICIAN, NOISE ATTENUATION MEASURES (e.g., BERMS, WALLS) SHALL BE IMPLEMENTED TO ENSURE THAT NOISE LEVELS RESULTING FROM MAINTENANCE ACTIVITIES WILL NOT EXCEED 60 dB(A) HOURLY AVERAGE AT THE EDGE OF HABITAT OCCUPIED BY THE COASTAL CALIFORNIA GNATCATCHER. CONCURRENT WITH THE COMMENCEMENT OF MAINTENANCE ACTIVITIES AND THE MAINTENANCE OF NECESSARY NOISE ATTENUATION FACILITIES, NOISE MONITORING* SHALL BE CONDUCTED AT THE EDGE OF THE OCCUPIED HABITAT AREA TO ENSURE THAT NOISE LEVELS DO NOT EXCEED 60 dB(A) HOURLY AVERAGE. IF THE NOISE ATTENUATION TECHNIQUES IMPLEMENTED ARE DETERMINED TO BE INADEQUATE BY THE QUALIFIED ACOUSTICIAN OR BIOLOGIST, THEN THE ASSOCIATED MAINTENANCE ACTIVITIES SHALL CEASE UNTIL SUCH TIME THAT ADEQUATE NOISE ATTENUATION IS ACHIEVED OR UNTIL THE END OF THE BREEDING SEASON (AUGUST 16).

* Maintenance noise shall continue to be monitored at least twice weekly on varying days, or more frequently depending on the maintenance activity, to verify that noise levels at the edge of occupied habitat are maintained below 60 dB(A) hourly average or to the ambient noise level if it already exceeds 60 dB(A) hourly average. If not, other measures shall be implemented in consultation with the biologist and the ADD environmental designee, as necessary, to reduce noise levels to below 60 dB(A) hourly average or to the ambient noise level if it already exceeds 60 dB(A) hourly average. Such measures may include, but are not limited to, limitations on the placement of maintenance equipment and the simultaneous use of equipment.

- b. IF COASTAL CALIFORNIA GNATCATCHERS ARE NOT DETECTED DURING THE PROTOCOL SURVEY, THE QUALIFIED BIOLOGIST SHALL SUBMIT SUBSTANTIAL EVIDENCE TO THE CITY MANAGER AND APPLICABLE RESOURCE AGENCIES WHICH DEMONSTRATES WHETHER OR NOT MITIGATION MEASURES SUCH AS NOISE WALLS ARE NECESSARY BETWEEN MARCH 1 AND AUGUST 15 AS FOLLOWS:
 1. IF THIS EVIDENCE INDICATES THE POTENTIAL IS HIGH FOR COASTAL

CALIFORNIA GNATCATCHER TO BE PRESENT BASED ON HISTORICAL RECORDS OR SITE CONDITIONS, THEN CONDITION A.III SHALL BE ADHERED TO AS SPECIFIED ABOVE.

2. IF THIS EVIDENCE CONCLUDES THAT NO IMPACTS TO THIS SPECIES ARE ANTICIPATED, NO MITIGATION MEASURES WOULD BE NECESSARY.



Selected Elements by Scientific Name

California Department of Fish and Wildlife

California Natural Diversity Database



Query Criteria: Quad is (Imperial Beach (3211751) or Otay Mesa (3211658) or Jamul Mountains (3211668) or National City (3211761) or Point Loma (3211762))

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
<i>Acanthomintha ilicifolia</i> San Diego thorn-mint	PDLAM01010	Threatened	Endangered	G1	S1	1B.1
<i>Accipiter cooperii</i> Cooper's hawk	ABNKC12040	None	None	G5	S4	WL
<i>Acmispon prostratus</i> Nuttall's acmispon	PDFAB2A0V0	None	None	G1	S1	1B.1
<i>Adolphia californica</i> California adolphia	PDRHA01010	None	None	G3	S2	2B.1
<i>Agave shawii</i> var. <i>shawii</i> Shaw's agave	PMAGA010P1	None	None	G2G3T2T3	S1	2B.1
<i>Agelaius tricolor</i> tricolored blackbird	ABPBXB0020	None	Endangered	G2G3	S1S2	SSC
<i>Aimophila ruficeps canescens</i> southern California rufous-crowned sparrow	ABPBX91091	None	None	G5T3	S2S3	WL
<i>Ambrosia chenopodiifolia</i> San Diego bur-sage	PDAST0C080	None	None	G2G3	S1	2B.1
<i>Ambrosia monogyra</i> singlewhorl burrobrush	PDAST50010	None	None	G5	S2	2B.2
<i>Ambrosia pumila</i> San Diego ambrosia	PDAST0C0M0	Endangered	None	G1	S1	1B.1
<i>Anaxyrus californicus</i> arroyo toad	AAABB01230	Endangered	None	G2G3	S2S3	SSC
<i>Anniella pulchra pulchra</i> silvery legless lizard	ARACC01012	None	None	G3G4T3T4Q	S3	SSC
<i>Antrozous pallidus</i> pallid bat	AMACC10010	None	None	G5	S3	SSC
<i>Aphanisma blitoides</i> aphanisma	PDCHE02010	None	None	G3G4	S3	1B.2
<i>Arctostaphylos otayensis</i> Otay manzanita	PDERI040Y0	None	None	G2	S2	1B.2
<i>Artemisia palmeri</i> San Diego sagewort	PDAST0S160	None	None	G3G4	S3?	4.2
<i>Artemisiospiza belli belli</i> Bell's sage sparrow	ABPBX97021	None	None	G5T2T4	S2?	WL
<i>Aspidoscelis hyperythra</i> orangethroat whiptail	ARACJ02060	None	None	G5	S2	SSC
<i>Aspidoscelis tigris stejnegeri</i> coastal whiptail	ARACJ02143	None	None	G5T3T4	S2S3	



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Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
<i>Astragalus deanei</i> Dean's milk-vetch	PDFAB0F2R0	None	None	G1	S1	1B.1
<i>Astragalus tener var. titi</i> coastal dunes milk-vetch	PDFAB0F8R2	Endangered	Endangered	G2T1	S1	1B.1
<i>Athene cunicularia</i> burrowing owl	ABNSB10010	None	None	G4	S3	SSC
<i>Atriplex coulteri</i> Coulter's saltbush	PDCHE040E0	None	None	G2	S2	1B.2
<i>Atriplex pacifica</i> south coast saltscale	PDCHE041C0	None	None	G3G4	S2	1B.2
<i>Bergerocactus emoryi</i> golden-spined cereus	PDCAC11010	None	None	G2	S2	2B.2
<i>Bloomeria clevelandii</i> San Diego goldenstar	PMLIL1H010	None	None	G2	S2	1B.1
<i>Branchinecta sandiegonensis</i> San Diego fairy shrimp	ICBRA03060	Endangered	None	G2	S2	
<i>Brodiaea orcuttii</i> Orcutt's brodiaea	PMLIL0C0B0	None	None	G2	S2	1B.1
<i>Buteo swainsoni</i> Swainson's hawk	ABNKC19070	None	Threatened	G5	S3	
<i>California macrophylla</i> round-leaved filaree	PDGER01070	None	None	G2	S2	1B.1
<i>Callophrys thornei</i> Thorne's hairstreak	IILEPE2150	None	None	G1	S1	
<i>Calochortus dunnii</i> Dunn's mariposa-lily	PMLIL0D0C0	None	Rare	G2?	S2?	1B.2
<i>Campylorhynchus brunneicapillus sandiegonensis</i> coastal cactus wren	ABPBG02095	None	None	G5T3Q	S3	SSC
<i>Ceanothus cyaneus</i> Lakeside ceanothus	PDRHA04070	None	None	G2	S2	1B.2
<i>Ceanothus otayensis</i> Otay Mountain ceanothus	PDRHA04430	None	None	G1	S1	1B.2
<i>Ceanothus verrucosus</i> wart-stemmed ceanothus	PDRHA041J0	None	None	G3	S2	2B.2
<i>Chaenactis glabriuscula var. orcuttiana</i> Orcutt's pincushion	PDAST20095	None	None	G5T1	S1	1B.1
<i>Chaetodipus fallax fallax</i> northwestern San Diego pocket mouse	AMAFD05031	None	None	G5T3T4	S3S4	SSC
<i>Charadrius alexandrinus nivosus</i> western snowy plover	ABNNB03031	Threatened	None	G3T3	S2	SSC
<i>Charina trivirgata</i> rosy boa	ARADA01020	None	None	G4G5	S3S4	



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<i>Chelonia mydas</i> green turtle	ARAAA02010	Threatened	None	G3	S1	
<i>Chloropyron maritimum ssp. maritimum</i> salt marsh bird's-beak	PDSCR0J0C2	Endangered	Endangered	G4?T1	S1	1B.2
<i>Choeronycteris mexicana</i> Mexican long-tongued bat	AMACB02010	None	None	G4	S1	SSC
<i>Chorizanthe orcuttiana</i> Orcutt's spineflower	PDPGN040G0	Endangered	Endangered	G1	S1	1B.1
<i>Chorizanthe polygonoides var. longispina</i> long-spined spineflower	PDPGN040K1	None	None	G5T3	S3	1B.2
<i>Cicindela gabbii</i> western tidal-flat tiger beetle	IICOL02080	None	None	G2G4	S1	
<i>Cicindela hirticollis grvida</i> sandy beach tiger beetle	IICOL02101	None	None	G5T2	S1	
<i>Cicindela latesignata latesignata</i> western beach tiger beetle	IICOL02113	None	None	G2G4T1T2	S1	
<i>Cicindela senilis frosti</i> senile tiger beetle	IICOL02121	None	None	G2G3T1T3	S1	
<i>Circus cyaneus</i> northern harrier	ABNKC11010	None	None	G5	S3	SSC
<i>Clarkia delicata</i> delicate clarkia	PDONA050D0	None	None	G3	S3	1B.2
<i>Clinopodium chandleri</i> San Miguel savory	PDLAM08030	None	None	G2	S2	1B.2
<i>Coccyzus americanus occidentalis</i> western yellow-billed cuckoo	ABNRB02022	Threatened	Endangered	G5T3Q	S1	
<i>Coelus globosus</i> globose dune beetle	IICOL4A010	None	None	G1G2	S1S2	
<i>Comarostaphylis diversifolia ssp. diversifolia</i> summer holly	PDERI0B011	None	None	G3T2	S2	1B.2
<i>Corethrogyne filaginifolia var. incana</i> San Diego sand aster	PDAST2M025	None	None	G4T1Q	S1	1B.1
<i>Corynorhinus townsendii</i> Townsend's big-eared bat	AMACC08010	None	Candidate Threatened	G3G4	S2	SSC
<i>Crotalus ruber</i> red-diamond rattlesnake	ARADE02090	None	None	G4	S2?	SSC
<i>Cylindropuntia californica var. californica</i> snake cholla	PDCAC0D2Y1	None	None	G3T2	S1	1B.1
<i>Danaus plexippus</i> monarch butterfly	IILEPP2010	None	None	G5	S3	
<i>Deinandra conjugens</i> Otay tarplant	PDAST4R070	Threatened	Endangered	G1	S1	1B.1



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<i>Diadophis punctatus similis</i> San Diego ringneck snake	ARADB1001A	None	None	G5T2T3	S2?	
<i>Dicranostegia orcuttiana</i> Orcutt's bird's-beak	PDSCR0J0G0	None	None	G2?	S1	2B.1
<i>Dudleya attenuata ssp. attenuata</i> Orcutt's dudleya	PDCRA04032	None	None	G4T2	S1	2B.1
<i>Dudleya blochmaniae ssp. blochmaniae</i> Blochman's dudleya	PDCRA04051	None	None	G2T2	S2	1B.1
<i>Dudleya variegata</i> variegated dudleya	PDCRA040R0	None	None	G2	S2	1B.2
<i>Dudleya viscida</i> sticky dudleya	PDCRA040T0	None	None	G2	S2	1B.2
<i>Empidonax traillii extimus</i> southwestern willow flycatcher	ABPAE33043	Endangered	Endangered	G5T2	S1	
<i>Eremophila alpestris actia</i> California horned lark	ABPAT02011	None	None	G5T3Q	S3	WL
<i>Ericameria palmeri var. palmeri</i> Palmer's goldenbush	PDAST3L0C1	None	None	G4T2?	S1	1B.1
<i>Eryngium aristulatum var. parishii</i> San Diego button-celery	PDAP10Z042	Endangered	Endangered	G5T1	S1	1B.1
<i>Eumops perotis californicus</i> western mastiff bat	AMACD02011	None	None	G5T4	S3S4	SSC
<i>Euphorbia misera</i> cliff spurge	PDEUP0Q1B0	None	None	G5	S2	2B.2
<i>Euphydryas editha quino</i> quino checkerspot butterfly	IILEPK405L	Endangered	None	G5T1T2	S1	
<i>Falco peregrinus anatum</i> American peregrine falcon	ABNKD06071	Delisted	Delisted	G4T4	S3S4	FP
<i>Ferocactus viridescens</i> San Diego barrel cactus	PDCAC08060	None	None	G3	S3	2B.1
<i>Frankenia palmeri</i> Palmer's frankenia	PDFRA01040	None	None	G3G4	S1	2B.1
<i>Fremontodendron mexicanum</i> Mexican flannelbush	PDSTE03020	Endangered	Rare	G1	S1	1B.1
<i>Galium proliferum</i> desert bedstraw	PDRUB0N1V0	None	None	G5	S2	2B.2
<i>Geothallus tuberosus</i> Campbell's liverwort	NBHEP1C010	None	None	G1	S1	1B.1
<i>Grindelia hallii</i> San Diego gumplant	PDAST470D4	None	None	G2	S2	1B.2
<i>Harpagonella palmeri</i> Palmer's grapplinghook	PDBOR0H010	None	None	G4	S3	4.2



Selected Elements by Scientific Name
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<i>Hesperocyparis forbesii</i> Tecate cypress	PGCUP040C0	None	None	G2	S2	1B.1
<i>Heterotheca sessiliflora ssp. sessiliflora</i> beach goldenaster	PDAST4V0K2	None	None	G4T2T3	S1	1B.1
<i>Icteria virens</i> yellow-breasted chat	ABPBX24010	None	None	G5	S3	SSC
<i>Isocoma menziesii var. decumbens</i> decumbent goldenbush	PDAST57091	None	None	G3G5T2T3	S2	1B.2
<i>Iva hayesiana</i> San Diego marsh-elder	PDAST580A0	None	None	G3?	S2	2B.2
<i>Lasionycteris noctivagans</i> silver-haired bat	AMACC02010	None	None	G5	S3S4	
<i>Lasiurus blossevillii</i> western red bat	AMACC05060	None	None	G5	S3	SSC
<i>Lasiurus cinereus</i> hoary bat	AMACC05030	None	None	G5	S4	
<i>Lasiurus xanthinus</i> western yellow bat	AMACC05070	None	None	G5	S3	SSC
<i>Lasthenia glabrata ssp. coulteri</i> Coulter's goldfields	PDAST5L0A1	None	None	G4T2	S2	1B.1
<i>Lateralus jamaicensis coturniculus</i> California black rail	ABNME03041	None	Threatened	G3G4T1	S1	FP
<i>Lepechinia ganderi</i> Gander's pitcher sage	PDLAM0V040	None	None	G3?	S3	1B.3
<i>Lepidium virginicum var. robinsonii</i> Robinson's pepper-grass	PDBRA1M114	None	None	G5T3	S3	4.3
<i>Leptosyne maritima</i> sea dahlia	PDAST2L0L0	None	None	G3	S1	2B.2
<i>Lepus californicus bennettii</i> San Diego black-tailed jackrabbit	AMAEB03051	None	None	G5T3T4	S3S4	SSC
<i>Lycaena hermes</i> Hermes copper butterfly	IILEPC1160	Candidate	None	G1	S1	
<i>Maritime Succulent Scrub</i> Maritime Succulent Scrub	CTT32400CA	None	None	G2	S1.1	
<i>Melitta californica</i> California mellitid bee	IIHYM74010	None	None	G4?	S2?	
<i>Mobergia calculiformis</i> light gray lichen	NLT0018660	None	None	G1	S1	3
<i>Monardella hypoleuca ssp. lanata</i> felt-leaved monardella	PDLAM180A2	None	None	G4T3	S3	1B.2
<i>Monardella stoneana</i> Jennifer's monardella	PDLAM180Y0	None	None	G2	S1	1B.2



Selected Elements by Scientific Name
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<i>Monardella viminea</i> willow monardella	PDLAM18140	Endangered	Endangered	G1	S1	1B.1
<i>Myosurus minimus ssp. apus</i> little mousetail	PDRAN0H031	None	None	G5T2Q	S2	3.1
<i>Myotis ciliolabrum</i> western small-footed myotis	AMACC01140	None	None	G5	S3	
<i>Myotis evotis</i> long-eared myotis	AMACC01070	None	None	G5	S3	
<i>Myotis yumanensis</i> Yuma myotis	AMACC01020	None	None	G5	S4	
<i>Nama stenocarpum</i> mud nama	PDHYD0A0H0	None	None	G4G5	S1S2	2B.2
<i>Navarretia fossalis</i> spreading navarretia	PDPLM0C080	Threatened	None	G1	S1	1B.1
<i>Navarretia prostrata</i> prostrate vernal pool navarretia	PDPLM0C0Q0	None	None	G2	S2	1B.1
<i>Nemacaulis denudata var. denudata</i> coast woolly-heads	PDPGN0G011	None	None	G3G4T2	S2	1B.2
<i>Nemacaulis denudata var. gracilis</i> slender cottonheads	PDPGN0G012	None	None	G3G4T3?	S2	2B.2
<i>Neotoma lepida intermedia</i> San Diego desert woodrat	AMAFF08041	None	None	G5T3T4	S3S4	SSC
<i>Nyctinomops femorosaccus</i> pocketed free-tailed bat	AMACD04010	None	None	G4	S3	SSC
<i>Nyctinomops macrotis</i> big free-tailed bat	AMACD04020	None	None	G5	S3	SSC
<i>Orcuttia californica</i> California Orcutt grass	PMPOA4G010	Endangered	Endangered	G1	S1	1B.1
<i>Ornithostaphylos oppositifolia</i> Baja California birdbush	PDERI0W010	None	Endangered	G4	S1	2B.1
<i>Orobancha parishii ssp. brachyloba</i> short-lobed broomrape	PDORO040A2	None	None	G4?T4	S3	4.2
<i>Pandion haliaetus</i> osprey	ABNKC01010	None	None	G5	S4	WL
<i>Panoquina errans</i> wandering (=saltmarsh) skipper	IILEP84030	None	None	G4G5	S2	
<i>Passerculus sandwichensis beldingi</i> Belding's savannah sparrow	ABPBX99015	None	Endangered	G5T3	S3	
<i>Pelecanus occidentalis californicus</i> California brown pelican	ABNFC01021	Delisted	Delisted	G4T3	S3	FP
<i>Perognathus longimembris pacificus</i> Pacific pocket mouse	AMAFD01042	Endangered	None	G5T1	S1	SSC



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<i>Phacelia stellaris</i> Brand's star phacelia	PDHYD0C510	None	None	G1	S1	1B.1
<i>Phalacrocorax auritus</i> double-crested cormorant	ABNFD01020	None	None	G5	S4	WL
<i>Phrynosoma blainvillii</i> coast horned lizard	ARACF12100	None	None	G3G4	S3S4	SSC
<i>Plestiodon skiltonianus interparietalis</i> Coronado Island skink	ARACH01114	None	None	G5T2T3Q	S1S2	SSC
<i>Pogogyne abramsii</i> San Diego mesa mint	PDLAM1K010	Endangered	Endangered	G1	S1	1B.1
<i>Pogogyne nudiuscula</i> Otay Mesa mint	PDLAM1K040	Endangered	Endangered	G1	S1	1B.1
<i>Polioptila californica californica</i> coastal California gnatcatcher	ABPB08081	Threatened	None	G3T2	S2	SSC
<i>Quercus dumosa</i> Nuttall's scrub oak	PDFAG050D0	None	None	G3	S3	1B.1
<i>Rallus longirostris levipes</i> light-footed clapper rail	ABNME05014	Endangered	Endangered	G5T1T2	S1	FP
<i>Ribes viburnifolium</i> Santa Catalina Island currant	PDGRO021P0	None	None	G2?	S2?	1B.2
<i>Rosa minutifolia</i> small-leaved rose	PDROS1J1B0	None	Endangered	G3	SX	2B.1
<i>Salvadora hexalepis virgultea</i> coast patch-nosed snake	ARADB30033	None	None	G5T4	S2S3	SSC
<i>Salvia munzii</i> Munz's sage	PDLAM1S140	None	None	G3	S2	2B.2
<i>San Diego Mesa Claypan Vernal Pool</i> San Diego Mesa Claypan Vernal Pool	CTT44322CA	None	None	G2	S2.1	
<i>Senecio aphanactis</i> chaparral ragwort	PDAST8H060	None	None	G3?	S2	2B.2
<i>Setophaga petechia</i> yellow warbler	ABPBX03010	None	None	G5	S3S4	SSC
<i>Southern Coastal Salt Marsh</i> Southern Coastal Salt Marsh	CTT52120CA	None	None	G2	S2.1	
<i>Southern Interior Cypress Forest</i> Southern Interior Cypress Forest	CTT83230CA	None	None	G2	S2.1	
<i>Southern Riparian Scrub</i> Southern Riparian Scrub	CTT63300CA	None	None	G3	S3.2	
<i>Southern Willow Scrub</i> Southern Willow Scrub	CTT63320CA	None	None	G3	S2.1	
<i>Spea hammondi</i> western spadefoot	AAABF02020	None	None	G3	S3	SSC



Selected Elements by Scientific Name
California Department of Fish and Wildlife
California Natural Diversity Database



Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
<i>Sphaerocarpus drewei</i> bottle liverwort	NBHEP35030	None	None	G1	S1	1B.1
<i>Stemodia durantifolia</i> purple stemodia	PDSCR1U010	None	None	G5	S2	2B.1
<i>Sternula antillarum browni</i> California least tern	ABNNM08103	Endangered	Endangered	G4T2T3Q	S2	FP
<i>Streptanthus bernardinus</i> Laguna Mountains jewelflower	PDBRA2G060	None	None	G3	S3	4.3
<i>Streptocephalus woottoni</i> Riverside fairy shrimp	ICBRA07010	Endangered	None	G1G2	S1S2	
<i>Stylocline citroleum</i> oil neststraw	PDAST8Y070	None	None	G2	S2	1B.1
<i>Suaeda esteroa</i> estuary seablite	PDCHE0P0D0	None	None	G3	S2	1B.2
<i>Taxidea taxus</i> American badger	AMAJF04010	None	None	G5	S3	SSC
<i>Tetracoccus dioicus</i> Parry's tetracoccus	PDEUP1C010	None	None	G3?	S2	1B.2
<i>Thamnophis hammondi</i> two-striped garter snake	ARADB36160	None	None	G4	S3S4	SSC
<i>Tortula californica</i> California screw moss	NBMUS7L090	None	None	G2?	S2	1B.2
<i>Tryonia imitator</i> mimic tryonia (=California brackishwater snail)	IMGASJ7040	None	None	G2	S2	
<i>Vireo bellii pusillus</i> least Bell's vireo	ABPBW01114	Endangered	Endangered	G5T2	S2	

Record Count: 158

Attachment B
2014 Final Monitoring Report for the Tijuana River Valley Channel Maintenance
Project

FINAL MONITORING REPORT
for the
TIJUANA RIVER VALLEY
CHANNEL MAINTENANCE PROJECT (2013–2014)

Prepared for:

City of San Diego
Transportation & Storm Water Department
2781 Caminito Chollas, MS 44
San Diego, California 92105
Contact: Anne Jarque
ajarque@sandiego.gov

Prepared by:

DUDEK
605 Third Street
Encinitas, California 92024

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.


Contact: Vipul Joshi
vjoshi@dudek.com

MAY 2014

Final Monitoring Report for the Tijuana River Valley Channel Maintenance Project (2013–2014)

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Tijuana River Valley Channel Maintenance Project (2013–2014)**

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Final Monitoring Report for the Tijuana River Valley Channel Maintenance Project (2013–2014)

1.0 INTRODUCTION

The Tijuana River Valley Channel Maintenance Project (Project) site is located in the City of San Diego California in the U.S. Geological Survey 7.5-minute Imperial Beach quadrangle, Section 4, Township 19 South, Range 2 West (Figures 1 and 2) and on properties owned by the County of San Diego and the City of San Diego.

This final monitoring report summarizes the channel maintenance and compliance monitoring conducted during the 2013-2014 maintenance period. Channel maintenance for this period was conducted between September 23, 2013 and January 31, 2014. Subsequent monitoring and reporting was performed following channel maintenance by Dudek biologists through March 14, 2014 due to ongoing mitigation (i.e. enhancement) activities conducted.

The purpose of this final monitoring report is to document compliance with the permit conditions set forth in the following:

- Department of the Army Permit File Number SPL-2009-00719-RRS issued by the U.S. Army Corps of Engineers (ACOE) October 30, 2012
- U.S. Fish and Wildlife Service (USFWS) Biological Opinion, File Number FWS-SDG-08B0600-10F0001 issued by the United States Department of the Interior August 24, 2012
- Streambed Alteration Agreement, Notification No. 1600-2011-0271-R5 issued by the California Department of Fish and Wildlife (CDFW) November 17, 2011 (revised January 28, 2013)
- Water Quality Certification 09C-077 issued by the Regional Water Quality Control Board (RWQCB) April 17, 2012
- Site Development Permit issued by the City of San Diego Development Services Department based on the Programmatic Environmental Impact Report (PEIR) for the Master Maintenance Program (MMP) and Mitigation, Monitoring and Reporting Program (MMRP) and Mitigation, Monitoring and Reporting Program (MMRP) No. 42891 (LDR/PTS #42891 and (LDR/PTS #320787, SDP No. 1134892, IO No. 21002863) August 28, 2013
- Coastal Development Permit #A-6-NOC-11-086 issued by the California Coastal Commission (CCC) November 15, 2012

The Project proponent is the City of San Diego Transportation & Storm Water Department (City). The Project involved channel maintenance activities to restore flood control facilities in the Tijuana River Valley during the 2013-2014 season to reduce the chance of flooding that

Final Monitoring Report for the Tijuana River Valley Channel Maintenance Project (2013–2014)

threatens surrounding life and properties. Specifically, the Project included the excavation of Smuggler's Gulch channel and the Tijuana River Pilot Channel (Pilot Channel) to facilitate channel flows and prevent flooding (Figure 3). Also included in the project was repair and maintenance of two previously built turnarounds within the Pilot Channel, as well as an access ramp into Smuggler's Gulch. A third turnaround, in the eastern section of the Pilot Channel, was established as part of this year's maintenance work.

This report is specifically focused on the channel maintenance activities and associated compliance monitoring. Separate reports will be prepared to address mitigation monitoring requirements, receiving waters monitoring requirements, and providing an annual summary of channel maintenance activities throughout the City of San Diego.

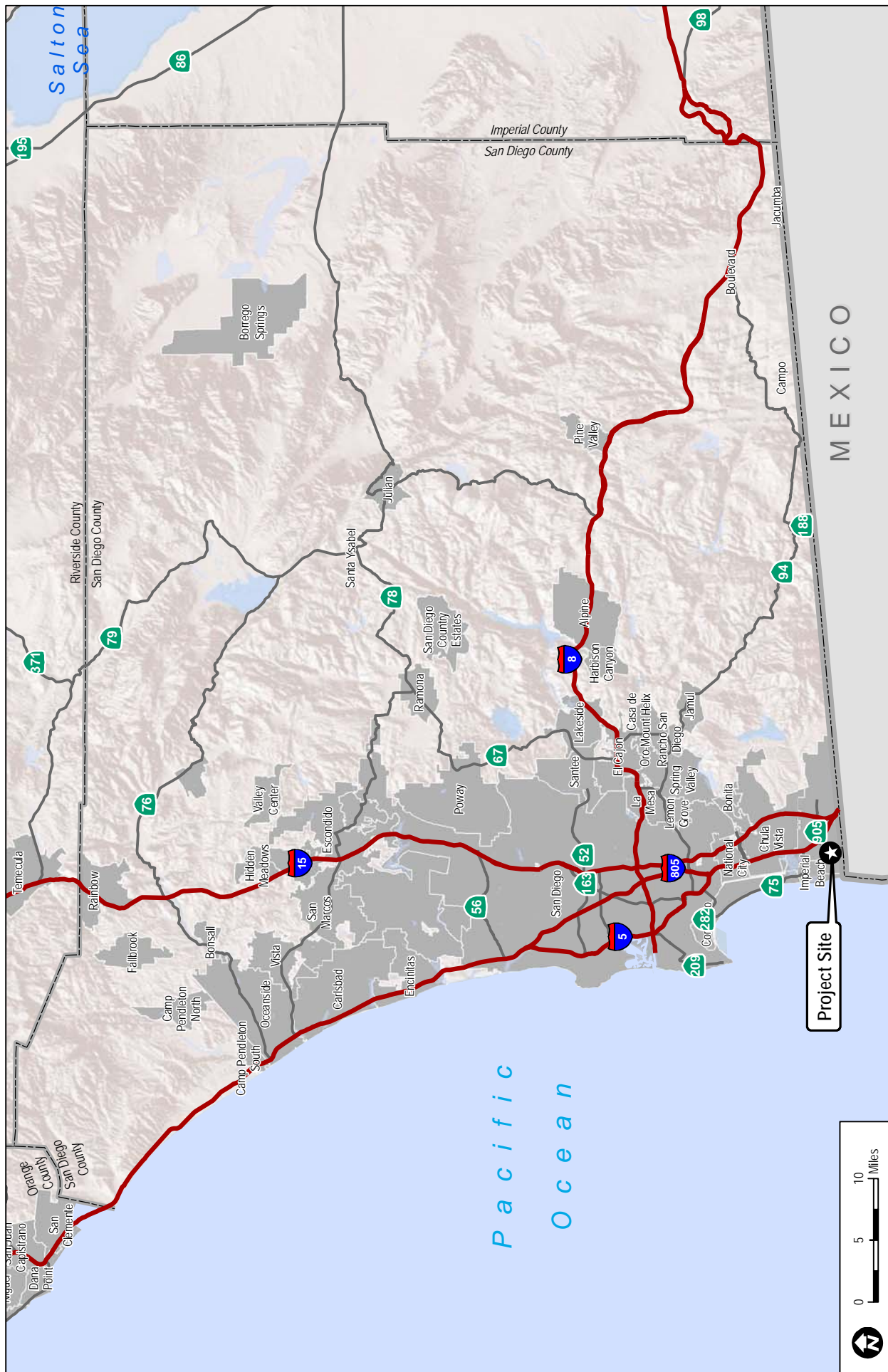


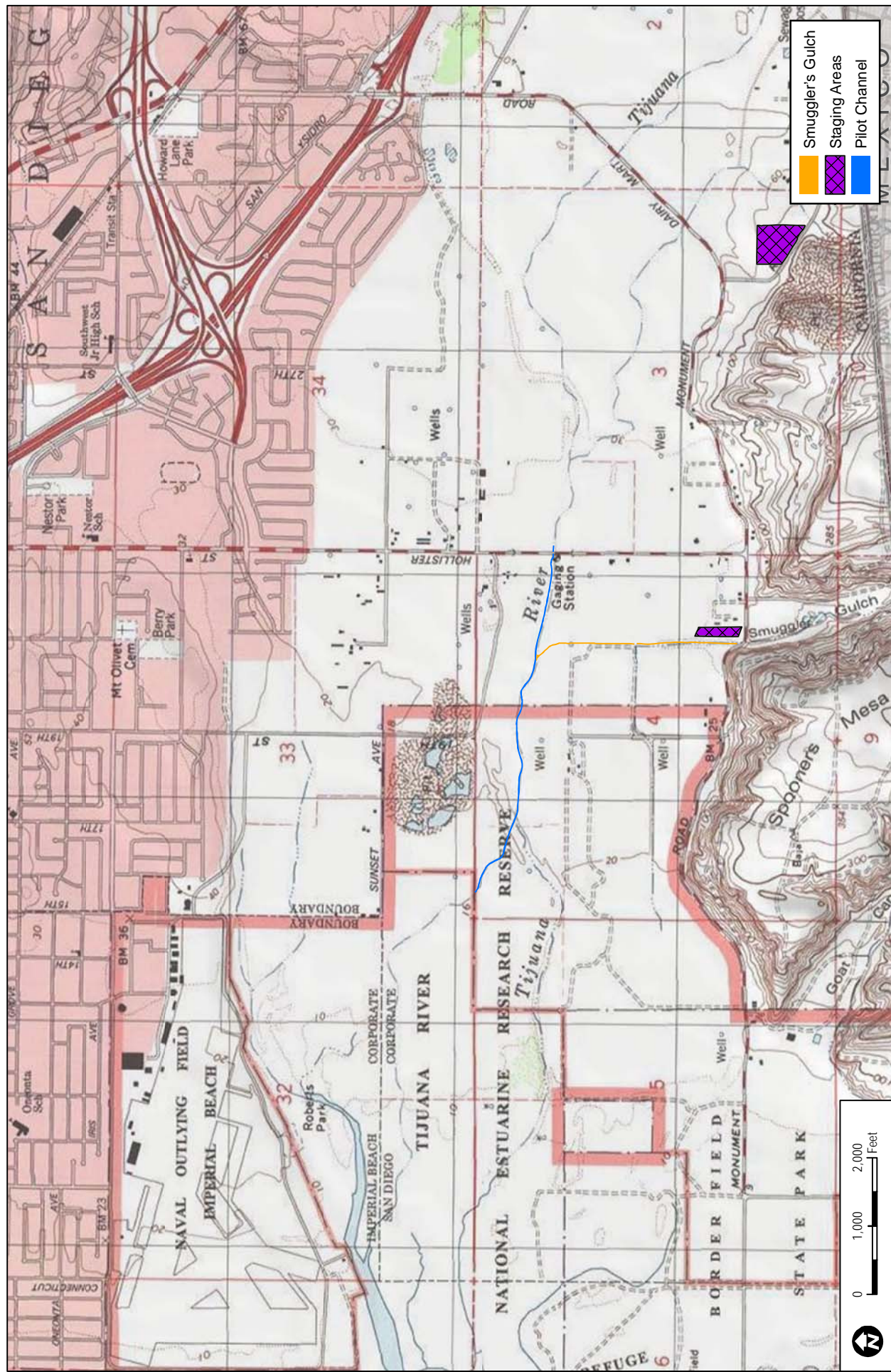
FIGURE 1
Regional Map

DUDEK

7643-10-1A
APRIL 2014

**Final Monitoring Report for the
Tijuana River Valley Channel Maintenance Project (2013–2014)**

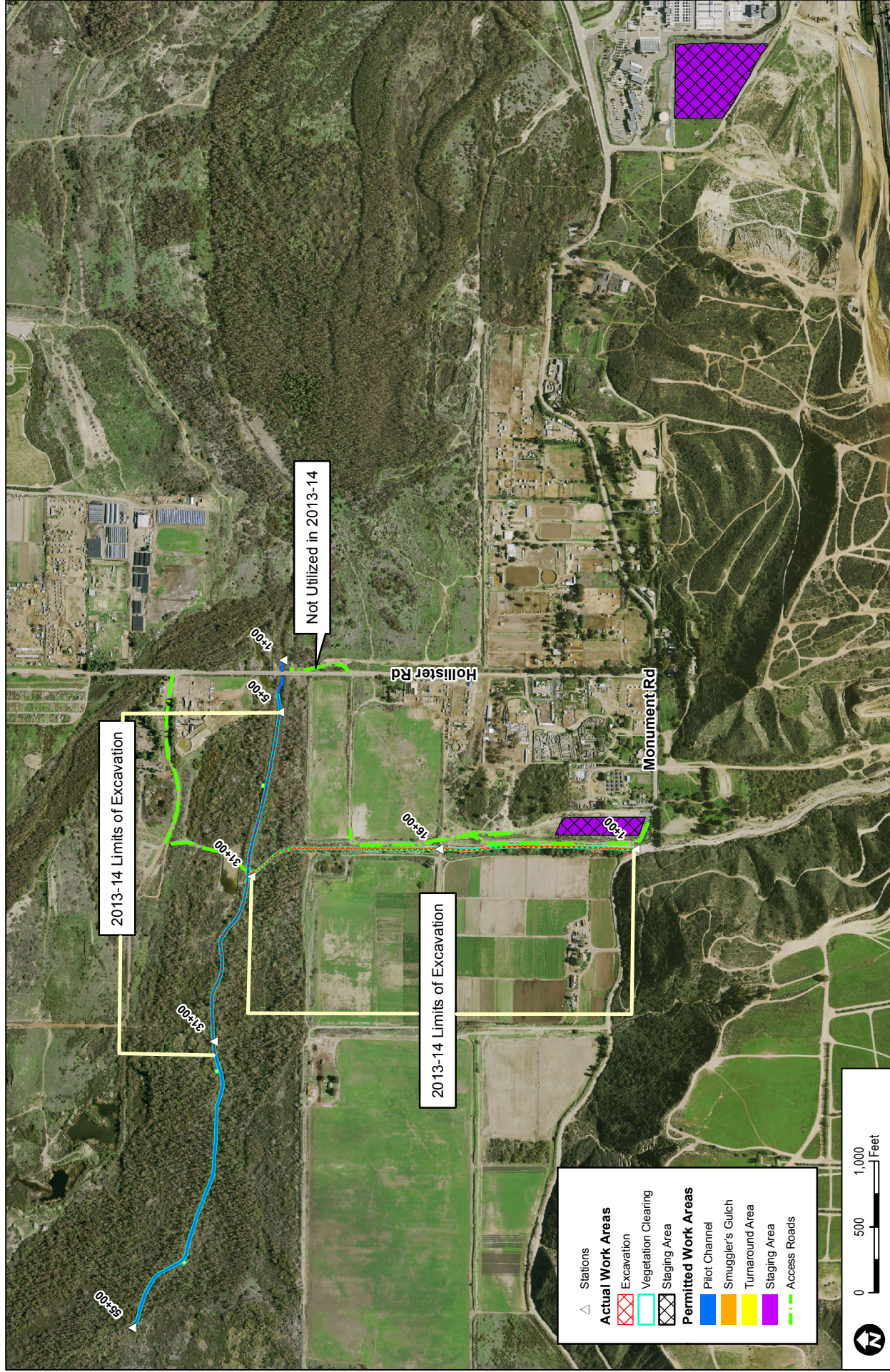
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SOURCE: URS 2012; USGS 7.5-Minute Series Imperial Beach Beach Quadrangle.

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SOURCE: Digital Globe 2008

FIGURE 3
2013-14 Project Work Areas

DUDEK

7643-10-1A
APRIL 2014

Tijuana River Valley Channel Maintenance Project - 2013-2014 Final Monitoring Report

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2.0 PRE-MAINTENANCE COMPLIANCE NOTIFICATIONS

Four notification submittals were made prior to the start of channel maintenance activities. All notifications are attached as Appendix A and include submittal of a monitoring biologist resumes on August 16, 2013; project construction and monitoring schedule made on September 6 and 12, 2013; and the results of pre-maintenance surveys made on September 17, 2013 discussed in more detail below.

2.1 Pre-Construction Surveys

In accordance with the project permit requirements (i.e., ACOE 404 Permit Special Condition #7, CDFW Streambed Alteration Agreement Avoidance and Minimization Measure 2.1 & 2.2, USFWS Biological Opinion Conservation Measure #3, and PEIR MMRP measures 4.3.17, 4.3.22, 4.3.25, and 4.1.2), pre-construction focused surveys for light-footed clapper rail (*Rallus longirostris levipes*) and other protected wildlife species were conducted by approved Dudek biologists.

The pre-construction surveys focused on identification of light-footed clapper rail (*Rallus longirostris levipes*) and were performed within 72 hours prior to any construction activities within the Pilot Channel. Survey results were provided to the ACOE within 24 hours of construction commencement. Additionally, continuous surveys were conducted daily by the biological monitor for the channel work areas prior to implementing construction activities each day. Details of the surveys are discussed below.

Three focused surveys for light-footed clapper rail were conducted for the Project by USFWS - approved Dudek biologists Paul Lemons, Thomas Liddicoat, Emily Wier and URS biologist Ryan Randall. The biologists conducted the surveys along Smuggler's Gulch and the Pilot Channel in September 2013. Survey information and field conditions are presented in Table 1.

Table 1
Clapper Rail Surveys

Date	Hours	Personnel	Conditions
Sep 10, 2013	0630-1040	Paul Lemons	100-5% cloud cover, 0-5 mph winds, 64-75 °F
Sep 13, 2013	0840-1130	Thomas Liddicoat and Ryan Randall	100-0% cloud cover, 2-4 mph winds, 68-78 °F
Sep 16, 2013	0700-1100	Emily Wier	0-100% cloud cover, 2-3 mph winds, 66-90 °F

The surveys for light-footed clapper rail were conducted by walking meandering transects through the survey area for 100% visual and audible coverage of the area. A field map of the

Final Monitoring Report for the Tijuana River Valley Channel Maintenance Project (2013–2014)

survey was carried in the field and binoculars (8x42) were used to assist with bird and other wildlife species identification. Detailed information about these surveys can be viewed in the Dudek letter regarding *Results of Pre-Maintenance Surveys and Permit Compliance* (September 17, 2013, Appendix A).

No clapper rails or other protected species were observed or detected during any of the three surveys. Due to the timing of the start of maintenance (on September 16) there was no potential for nesting raptors.

2.2 Continuous Surveys

In accordance with the project permit guidelines (i.e., CDFW 1600 Avoidance and Minimization Measure 2.1, 404 Permit Special Condition #9, CDFW Stream Alteration Agreement Conservation Measure #3, USFWS Biological Opinion Conservation Measure #2.8, and PEIR MMRP measures 4.3.17, 4.3.22, 4.3.25, and 4.1.2) an USFWS-approved biological monitor was on site during Project construction activities. Each day, prior to the start of construction, the biological monitor conducted a brief survey of the channels to evaluate whether clapper rail had entered the work areas and that the dredged channels did not trap any wildlife (e.g., snakes or small mammals). Brief surveys of the channels were also conducted each day after lunch break for the same purposes stated above.

Starting January 15, weekly nesting raptor surveys were conducted to identify any active raptor nests within 900 feet of the areas of construction activity expected during the upcoming week. One potential red-shouldered hawk (*Buteo lineatus*) nest was identified on February 6, 2014 after channel maintenance activities were completed, but during ongoing mitigation efforts in the area. This nest was located more than 1,000 feet from project activities at the time and was later determined to be inactive (see Weekly Monitoring Reports #20 and #21).

Information and results of these daily pre-construction surveys are presented within the weekly monitoring reports (Appendix B).

Final Monitoring Report for the Tijuana River Valley Channel Maintenance Project (2013–2014)

3.0 CONSTRUCTION AND MONITORING ACTIVITIES

The project permits describe all of the construction work areas and the corresponding approved activities. The approved project work areas include site access routes, staging areas, Smuggler's Gulch, and the Pilot Channel. Details regarding each authorized work area, the permitted activities, the actual activities, and the Best Management Practices (BMPs) are discussed by work area in the sections below.

In compliance with the agency permit guidelines, a biological monitor was present throughout the duration of the project during on-site maintenance activities. Detailed summaries of the current project activities on site were reported and submitted to the agencies weekly (Appendix B).

3.1 Access Routes

As required by the project permit access for construction was via existing paved roads, through upland staging areas, excavation areas, two off-road routes, and an existing access ramp into Smuggler's Gulch. All of the access routes used during the duration of the project are discussed below. A third off-road access route located east of Hollister Street was not utilized during the 2013-2014 maintenance period.

Two public roadways were used during project construction, Monument Road and Hollister Street (Figure 3). Monument Road spans between the two Staging Areas and was used for hauling excavated materials from Staging Area B to Staging Area D. Hollister Street was traveled for transit between Staging Area B and the designated access route to the Pilot Channel confluence within the Tijuana River Valley Regional Park (TJRVRP). Throughout the project there were no construction-related road closures and both roads remained open during construction activities. BMPs were implemented while using these roads by covering the material being hauled in the trucks to prevent fallback onto the City streets.

Throughout implementation of the project, both excavated Smuggler's Gulch and Pilot Channels were used for construction access and for hauling excavated materials. Impacts to the two excavated channels are permitted for this project. Impacts to the two dredged channels are permitted for this project and are described later in Section 3.3 for Smuggler's Gulch and Section 3.4 for the Pilot Channel. The BMPs installed for the channels during construction are also described in those two Sections.

Two off-road access routes were used during construction. One off-road route runs parallel to Smuggler's Gulch north of Staging Area B and allows crews access into Smuggler's Gulch channel via an existing access ramp on the east bank, immediately downstream of the Disney

Final Monitoring Report for the Tijuana River Valley Channel Maintenance Project (2013–2014)

Bridge Crossing (Disney Bridge) (Figure 3). This road is within an uplands area (i.e., non-jurisdictional) associated with the east berm of Smuggler's Gulch and is located north of Disney Bridge immediately east of Smuggler's Gulch, directly west of a County-owned fallow agriculture field. The access ramp (approximately 15 feet wide by 75 feet long) into the Smuggler's Gulch channel near station 15+50 was utilized to provide construction equipment access to the channels during excavation. The access ramp was constructed as part of the permitted channel maintenance activities that were previously conducted in 2009–2010. The daily use of this access ramp was authorized in the current permit; however, no additional impacts were permitted. Minor repairs and general maintenance to the ramp was needed throughout the project due to the frequent use. There were no additional impacts related to the use of the existing access ramp into Smuggler's Gulch.

Another off-road access route runs west from Hollister Street to the TJRVRP entrance and then turns south to the confluence of the Pilot Channel and Smuggler's Gulch (Figure 3). Light trucks and foot traffic used this route; while no road improvements, vegetation trimming, or other impacts occurred as a result of using this access route.

A third authorized off-road access route runs parallel with Hollister Street to the east and allows crews access to the portion of the Pilot Channel east of the Hollister Street bridge (Figure 3). No maintenance activities were necessary east of the Hollister Street Bridge, so the third access route was not utilized. In accordance with agency permit guidelines, no permanent impacts occurred as a result of the use of the access roads.

3.2 Staging Areas

Two staging areas were authorized in the permit for use during construction activities (i.e., B and D). Staging Area B is accessed and located immediately north of Monument Road, approximately 1,000 feet west of the Monument Road and Hollister Street intersection (Figure 3). No excavation or grading was necessary for Staging Area B as this staging area was previously impacted, utilized for construction equipment staging, and utilized for soil stockpiling during the previous channel maintenance activities. Spoils from the current excavation activities associated with Smuggler's Gulch and the Pilot Channel were hauled directly to Miramar Landfill. Hazardous materials, such as tires, were hauled and disposed of by a licensed hauler with manifests on file. No unauthorized impacts occurred as a result of the use of Staging Area B.

The limits of the staging area were clearly identifiable throughout the maintenance period. Areas of native vegetation directly adjacent to the staging area were clearly demarcated with flagging and/or fencing. Multiple BMPs were installed within Staging Area B to confine project materials

Final Monitoring Report for the Tijuana River Valley Channel Maintenance Project (2013–2014)

(e.g., tires, sediment and trash debris) from leaving the site and to minimize construction effects to adjacent property owners (APOs). In accordance with the project permit requirements, crews properly installed BMPs (silt fencing, visqueen, etc.) around the upland staging areas to prevent unauthorized runoff, under the supervision of the on-site biologist. Additionally, crews installed and implemented the following good house-keeping measures including, but not limited to: environmental fencing (i.e., silt fencing) along the entire east perimeter of the work limits; gravel at the entrance/exit gate off Monument Road; plastic sheeting on top and silt fencing around the dredged material spoil pile; trash receptacles with lids; a water truck for dust control; and portable restroom facilities on-site during construction.

Staging Area D is accessed and located immediately off of Monument Road (Figure 3). This designated staging area is within a vacant disturbed lot directly behind and south of the City's South Bay International Wastewater Treatment Plant. Staging Area D was previously impacted and utilized for construction equipment staging and soil stockpiling for the previous channel maintenance activities conducted in 2009-2010 and 2010-2011. For the current 2013-2014 channel excavation activities, crews did not haul any material or spoils from Staging Area B to Staging Area D. However, crews were able to remove, or dispose of the previous stockpile material at the Miramar Landfill. Hazardous materials, such as tires, were hauled and disposed of by a licensed hauler with manifests on file. No unauthorized impacts occurred as a result of the use of Staging Area B.

Multiple BMPs were installed within Staging Area D to prepare the site to receive potential materials (e.g., sediment and trash debris). Specifically, silt fencing was installed around the entire western and northern perimeter of the staging area; gravel and shaker plates were installed at the entrance/exit road; a water truck was utilized often for dust control; and silt fencing was installed around the staging area.

3.3 Smuggler's Gulch

The full length of Smuggler's Gulch, authorized by the agency permits, was cleared of vegetation and excavated according to the approved maintenance plans during the 2013-2014 maintenance period. This included maintenance clearing of the culverts beneath Disney Bridge. The permit authorized the cleaning of the Smuggler's Gulch channel culverts (Monument Road and Disney Bridge) and excavation of the channel approximately 3,040 feet long by 20 feet wide (Figure 3). The total permitted impacts authorized was 1.306 acres, which consisted entirely of jurisdictional waters of the U.S. (i.e., open channel) (Figure 3).

Prior to and during initial vegetation clearing, the project footprint width was measured from the channel centerline using a GPS unit mounted on a dozer which traveled down the center line of

Final Monitoring Report for the Tijuana River Valley Channel Maintenance Project (2013–2014)

the channel to crush/trample any vegetation in the channel before the initiation of the maintenance activities. The work limits were then flagged and staked, as appropriate. To further ensure that work did not exceed the permitted footprint of 20-foot limit, measurements were taken approximately every 10–20 feet. All overhanging limbs from adjacent vegetation potentially within the pathway of the large construction machinery working in the channel were trimmed by hand crews using shears or a chainsaw. Flagging was also placed where appropriate, including around three environmentally sensitive areas (ESA) adjacent to the channel (two containing *Ambrosia monogyra* and one of mulefat scrub).

Jurisdictional impacts within Smuggler's Gulch were in accordance with the project permits and consisted of removing excavated materials (i.e., sediment and trash debris) from between the channel berms. The primary methods used for the excavation in the Smuggler's Gulch channel consisted of a dozer pushing channel materials (i.e., sediment and trash debris) to a staged excavator, which loaded the dredged materials into rock trucks that then hauled loads to Staging Area B. During one heavy rainstorm, a part of the East side berm (near Station 21+50) sloughed off into the channel area. This was repaired the next day (October 8, 2013 – Weekly Monitoring Report #4) using a backhoe to re-contour and compact the berm back to its original form and function. No unauthorized impacts occurred as a result of this repair.

3.4 Tijuana River Pilot Channel

The Pilot Channel is one of the main channels incorporated into the project and flows from east to west (Figure 3). The permits authorize the clearing and excavation of approximately 5,400 linear feet of the Pilot Channel and three turnarounds totaling 2.878 acres. During the 2013-2014 maintenance period, only a portion of the permitted Pilot Channel length was maintained. Approximately 5,098 linear feet of the Pilot Channel, from Station 4+00 to 54+98, including all three turnarounds was cleared of vegetation. Within this area, between Stations 5+25 and 36+20, approximately 3,095 linear feet was excavated during this maintenance period. This section was excavated to an approximate depth of five (5) feet. Approximately 2.692 acres of jurisdictional area were actually impacted during maintenance activities within the Pilot Channel (Figure 3). Approximately 0.186 acre of the permitted work area limits (302 linear feet) were not impacted during the project due to standing water in the channel from seasonal rainstorms.

Actual jurisdictional impacts within the Pilot Channel were in accordance with the project permits and consisted of collecting excavated materials (i.e., sediment and trash debris) from within the designated channel berms. Dredging of the channel was performed by a dozer and front-end loader pushing channel materials (i.e., sediment and trash debris) to a staged excavator, which loaded the dredged materials into rock trucks that then hauled loads to Staging Area B.

Final Monitoring Report for the Tijuana River Valley Channel Maintenance Project (2013–2014)

Three turnarounds, two of which were built in past maintenance years, were demarcated and used in the 2013-2014 year effort.

Concurrent with the initial vegetation clearing impacts, several BMPs were implemented to ensure the impact footprint was confined. A dozer carrying a GPS unit, accompanied by a biologist, traveled down the center line of the Pilot Channel, with adjustments made per the direction of the biologist, to avoid mature native vegetation. Stakes and flagging were placed to delineate the work area, based on the authorized 23-foot width. Periodically along the alignment, a number of limbs from adjacent vegetation that hung within the pathway of construction machinery within the channel were trimmed using shears or a chainsaw under the supervision of a biologist.

As noted in Weekly Monitoring Report #2, on September 23, 2013, during vegetation crushing/trampling within the Pilot Channel, two areas were inadvertently cleared wider than the authorized impact area (one area 5 feet by 12 feet at Station 44+50 and a second area 20 by 15 feet at Station 47+80). The biologist confirmed that both of these areas were entirely dominated by giant reed (*Arundo donax*) and there were no impacts to native vegetation or species.

3.5 Summary of Monitoring and Compliance Certification

Channel excavation work ceased on January 31, 2014. Subsequent monitoring and reporting was performed by a Dudek monitoring biologists through March 14, 2014 due to ongoing mitigation (i.e. enhancement) activities being conducted by the Southwest Wetlands Interpretative Association (SWIA), primarily along the banks of Smuggler's Gulch and at the confluence. Monitoring related with work conducted by SWIA will be presented in a separate mitigation monitoring report.

Pre-and post-maintenance photo documentation is provided in the Stream Photo Documentation Report (Appendix C).

As required by the ACOE permit, a signed Certification of Compliance is included as Appendix D.

**Final Monitoring Report for the
Tijuana River Valley Channel Maintenance Project (2013–2014)**

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Final Monitoring Report for the Tijuana River Valley Channel Maintenance Project (2013–2014)

4.0 RECORD OF CHANNEL MAINTENANCE (AS-BUILT)

Several permit conditions require preparation and submittal of as-built drawings of the channel maintenance work areas. Because the project was not maintained in its entirety, an Interim As-Built plan set has been prepared as an interim step towards completion of an as-built. A Final As-Built will be prepared when the project is completely maintained or when project permits are expected to expire prior to the next maintenance period.

Appendix E contains the Interim As-Built drawings which illustrate the project maintenance plans and the portions of which were subject to maintenance during the 2013-2014 maintenance period. Appendix F provides the Individual Maintenance Activity Report (IMAR), which documents the channel maintenance activities conducted according to the requirements of the Master Maintenance Program.

**Final Monitoring Report for the
Tijuana River Valley Channel Maintenance Project (2013–2014)**

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APPENDIX A

Pre-Maintenance Notifications

August 16, 2013

7165-66-09000

Anne Jarque
City of San Diego
Transportation and Storm Water Department
2781 Caminito Chollas, MS 44
San Diego, California 92105

Subject: Qualifications of Biological Monitors: Tijuana River Valley Channel Maintenance Project, San Diego County, California

Dear Ms. Jarque:

Please find the attached resumes of the qualified biologists that will be conducting monitoring during the upcoming implementation of the Tijuana River Valley Channel Maintenance Project. This submittal of resumes is required in accordance with the following permit conditions:

- U.S. Fish and Wildlife Service (USFWS) Biological Opinion for Formal Section 7 Consultation (Corps File No. SPL 2009-00719-RRS; FWS-SDG-08B0600-10F0001) – Conservation Measure (CM) 3: *“The City will staff a biologist knowledgeable of vireo biology and ecology who will be responsible for overseeing compliance with conservation measures for the vireo and its designated critical habitat. This biologist will be approved by the Agencies. The City will submit the biologist’s name, address, telephone number, and work schedule on the project to the Agencies at least 30 days prior to initiating project impacts.”*
- City of San Diego Programmatic Environmental Impact Report (PEIR) Biological Mitigation Measure (BIO-MM) 4.3.3: *“No maintenance activities within a proposed annual maintenance program shall be initiated until the City’s Assistant Deputy Director Environmental Designee and Mitigation Monitoring Coordinator (MMC) have approved the qualifications for biologist(s) who shall be responsible for monitoring maintenance activities which may impact sensitive biological resources.”*

Each of the biologists provided in this list has at least three (3) year experience conducting general biological compliance monitoring as well as avian surveys and nest monitoring throughout Southern California. The following biologists have been previously approved by USFWS staff and have worked on this project in past maintenance years: Callie Ford, Chris

Ms. Anne Jarque

Subject: Qualifications of Biological Monitors

Oesch, Danielle Mullen, Doug Gettinger, Emily Wier, Jeffrey Priest, Melissa Blundell, Patricia Schuyler, Paul Lemons, and Thomas Liddicoat. The following additional biologists have not been previously approved but have the necessary qualifications: Julie Stout, Laura Swadell, Rick Bailey, and Ryan Randall. Resumes for all biologists are attached. These biologists will be conducting required pre-maintenance surveys as well as daily monitoring during maintenance activities.

All of the biologists listed have reviewed and are familiar with permits for this project assigned by the U.S. Army Corps of Engineers (SPL-2009-00719-RSS), California Coastal Commission (A-6-NOC-11-086), California Department of Fish and Game (1600-2011-0271-R5), U.S. Fish and Wildlife Service (FWS-SDG-08B0600-10F0001), California Regional Water Quality Control Board (09C-077), and the Master Storm Water System Maintenance Program – Program Environmental Report (SCH. No. 2005101032, Project No.42891).

Finally, CM-3 of the Biological Opinion also requires submittal of the address and telephone number of the monitoring biologist as well as a work schedule. As has occurred during maintenance activities since 2009, Vipul Joshi (Dudek) will be overseeing biological compliance and will be the principal point of contact for the Resource Agencies regarding completion of required biological surveys and monitoring. His contact information is as follows:

Vipul Joshi
Dudek
605 Third Street
Encinitas, California 92024
Office: (760) 479-4284
Mobile: (619) 985-2149
Email: vjoshi@dudek.com

The currently planned work schedule is for channel maintenance to be conducted from approximately 7 AM to 3 PM starting September 16, 2013 and potentially continuing daily, through the weekend (i.e., Monday through Sunday), until February 14, 2014. Dudek will provide required notifications regarding changes to the proposed maintenance schedule as well as weekly monitoring reports during all maintenance activities.

Ms. Anne Jarque

Subject: Qualifications of Biological Monitors

Please contact me if you should have any questions regarding this letter and attached resumes.

Sincerely,



Vipul Joshi
Senior Project Manager/Ecologist

Att.: Staff Resumes

*cc: Robert Smith, US Army Corps of Engineers
Patrick Gower, US Fish and Wildlife Service
Krassimir Tzonov, City of San Diego Development Services Department
Bryn Evans, URS Corporation
Corrine Lytle Bonnie, URS Corporation*

Callie Ford – Biologist, Environmental Analyst

Callie Ford is a biologist with over 6 years' professional experience as an environmental analyst specializing in field monitoring, field surveys, and report preparation.

Ms. Ford is committed to professional management of environmental resources, including land conservation. As a biologist with Dudek, she has conducted research and prepared biological sections for environmental impact reports (EIRs), biological technical reports (BTRs), and focused survey reports. She has also performed jurisdictional delineations and wildlife and plant surveys throughout Southern California.

EDUCATION

California Polytechnic State University,
San Luis Obispo
BS, Environmental Management and
Protection/Minor in GIS, 2006, *Cum Laude*

PROFESSIONAL AFFILIATIONS

The Wildlife Society – Western

PROJECT EXPERIENCE

Development

City of San Marcos, County of San Diego, California. Served as project biologist. Conducted focused surveys for least Bell's vireo (*Vireo bellii pusillus*) along San Marcos Creek in 2011 and 2012. Several special-status species were detected, including least Bell's vireo, yellow-breasted chat (*Icteria virens*), and yellow warbler (*Dendroica petechia*). Assisted in preparation of a Regional General Permit for the City.

Camelot Property, Integral Communities, San Diego County, California. Served as project assistant. Conducted general biological reconnaissance surveys throughout the 67-acre site. Several special-status species were mapped, including white-tailed kite (*Elanus leucurus*), northern harrier (*Circus cyaneus*), loggerhead shrike (*Lanius ludovicianus*), and California adolphia (*Adolphia californica*). Conducted a formal wetlands jurisdictional delineation and mapped wetlands and stream channels.

City of San Diego, Pamo Valley Control Site, San Diego County, California. Conducted riparian bird and nesting bird surveys along Santa Ysabel Creek.

Energy

Multiple Solar Projects, San Diego County, California. Performed vegetation mapping, rare plant surveys (multiple passes), and jurisdictional delineations for multiple project sites in southeastern San Diego County. Prepared a BTR in accordance with the County of San Diego's guidelines for format and determining significance. Assisted with the biological section of related EIR.

Tehachapi Renewable Transmission Project (TRTP), SCE, Los Angeles and San Bernardino Counties, California. Served as biological monitor in 2011 for construction-related activities for the TRTP. Attended construction-monitoring workshop and Worker Environmental Awareness Program/Safety training. Construction-monitoring activities included morning and evening sweeps of the construction areas, and monitoring crews for compliance during vegetation removal, mobilization, and tower setup activities. Other activities included establishing Environmentally Sensitive Areas (ESAs) for active nests, and monitoring and updating active nests. Reported new nests observed. Field Reporting Environmental Database reports were completed each day to discuss daily monitoring activities and nest updates. In addition, assisted senior botanists in conducting surveys for special-status plant species and vegetation mapping for Segments 8 and 11 in 2010. This included mapping vegetation communities and plant species using

the Trimble Yuma geographic information system (GIS)/GPS Data Collection System. Worked on this project for 2 weeks in 2010.

Hazard Tree Removal Project, SCE, San Bernardino and San Jacinto Mountains, San Bernardino and Riverside Counties, California. Serves as biologist for SCE's Hazard Tree Removal Project occurring in the San Bernardino National Forest and surroundings. The project area encompasses 106 square miles, an estimated 62,000 acres of tree removal, more than 22,000 power poles, and 538 linear miles of utility lines. Performs biological monitoring for trees affected by bark beetle infestations, including special-status plant surveys and nesting wildlife species, and provides recommendations for removing trees in environmentally sensitive areas (i.e., riparian zones). In addition, assisted in biological monitoring for trees affected by the 2007 fires in the Lake Arrowhead area.

Holcomb Valley Boy Scout Ranch Emergency Tower Repair, SCE, San Bernardino County, California. Served as biological monitor for pole installation activities in biologically sensitive areas to ensure avoidance of impacts to potentially occurring U.S. Forest Service threatened, endangered, and sensitive species such as ash-gray paintbrush (*Castilleja cinerea*), southern mountain buckwheat (*Eriogonum kennedyi* var. *austromontanum*), and California dandelion (*Taraxacum californicum*). Project lasted two seasons for approximately 1 to 2 weeks each season.

Transportation

Mid-County Parkway Project, County of Riverside, California. Served as field biologist for the Mid-County Parkway study area, which ranges from approximately 1.1 to 4 miles in width and is approximately 32 miles in length. Performed multiple focused surveys for least Bell's vireo (and other special-status wildlife surveys for the mitigation areas in 2008. Identified nests for Cooper's hawk (*Accipiter cooperi*) and red-tailed hawk (*Buteo jamaicensis*). Conducted general plants surveys with a focus on special-status plant species for the mitigation areas.

Water/Wastewater

South Orange County Wastewater Authority, Laguna Niguel, Orange County, California. Conducted biological construction monitoring for the emergency repair of export sludge, force main pipelines adjacent to Aliso Creek to ensure compliance with conditions within the Coastal Development Permit and Regional General Permit.

San Timoteo Creek Alternative Discharge Outfall, Yucaipa Valley Water District, Riverside and San Bernardino Counties, California. Conducted biological construction monitoring for construction of the non-potable water outfall on San Timoteo Creek to ensure compliance with conditions within the Section 1602 Streambed Alteration Agreement. Monitoring included photo documentation and completion of a detailed Site Observation Report.

Tijuana River Valley Emergency Maintenance Project, Stormwater Department, City of San Diego, California. Conducted construction monitoring and ensured permit compliance for channel maintenance activities. Maintenance activities included using large earthmoving machinery to remove a vast amount of trash and several hundred thousand tons of sediment material from the river valley, and to create new, large drainage channels within the Tijuana River Valley to better direct stormwater and reduce flooding during storm events. Species of concern included avoidance of least Bell's vireo (*Vireo bellii pusillus*), which is present on the project site, and avoidance of light-footed clapper rail (*Rallus longirostris levipes*), which is present upstream and downstream of the project site

Miramar Trunk Sewer Replacement and Permanent Access Project, City of San Diego Metropolitan Wastewater Department (MWWD), San Diego, California. Served as field

assistant. Performed construction monitoring for the sewer replacement in Rose Canyon. Monitored for special-status wildlife species.

Relevant Studies

- Association of Environmental Professionals CEQA Workshop. November 2006.
- Friends of the Jepson Herbarium. "Introduction to the Morphology and Identification of Flowering Plants." University of California, Berkeley Sciences Building. March 18–19, 2007.
- Friends of the Jepson Herbarium. "Plant Terminology and Identification in San Diego County." San Diego State University and Field. April 10–13, 2008.
- Sea & Sage Audubon Society. "Observing Birds Workshop." Huntington Beach, California. January–March, 2008.
- Sea & Sage Audubon Society. "Birds of Southern California." Huntington Beach, California. November 2008 through January 2009.
- San Diego Natural History Museum. "Rhamnaceae." San Diego, California. February 2009.
- Sea & Sage Audubon Society. "Basic Raptor Identification: Southern California Diurnal Raptors." Huntington Beach, California. February 2009.
- Orange County Trackers. "Basic Tracking and Observing Class." Irvine, California. October 2009.
- Wildlife Society Conference – Western Section. 2010 Annual Conference. Visalia, California. January 2010.
- Rancho Santa Ana Botanical Garden. "Plant Families Identification: Series IV." Claremont, California. 2010.
- Desert Institute. "Flora of Joshua Tree." Joshua Tree National Park, California. 2010.
- Wildlife Society Conference – Western Section. 2011 Annual Conference. Riverside, California. February 2011.
- Wetland Training Institute. "40-hour Wetland Delineation Training." July 2011.
- Desert Tortoise Council Workshop. "Introduction to Desert Tortoise Surveying, Monitoring, and Handling Techniques Workshop." Ridgecrest, California. November 7–8, 2011.
- Arid Saline Wetlands Workshop. Coachella Valley and Salton Sea. January 2012.
- Desert Wetlands and Washes Workshop. Coachella Valley and Salton Sea. January 2013.

Christopher Oesch – Habitat Restoration Specialist, Biologist

Christopher Oesch is a habitat restoration specialist and biologist with 8 years' experience working on a variety of habitat restoration projects with Dudek. He is routinely involved in project management, writing and preparation of conceptual mitigation plans and annual biological monitoring reports, biological inventories, and field data collection, as well as long-term biological and construction monitoring.

Upon completing his BA, Mr. Oesch worked on sustainable agriculture restoration and development projects in Guatemala and Honduras. In 2003, he completed his graduate research in hardscaped urban stream channel restoration, modeled for the hardscaped channel west of Interstate 5 on Rose Creek in San Diego, California.

EDUCATION

Humboldt State University
MS, Environmental Systems, 2003

Eastern Mennonite University
BA, Sustainable Agriculture
Development, 1998

CERTIFICATIONS

Portland State University/ Wetland
Training Institute, Professional
Certificate of Completion in Basic
Wetland Delineation Training, 2005

Mr. Oesch's thesis work focused on hardscaped stream channel naturalization. The study examines modification of cement channelized stream sections, commonly found in urban settings, for mitigating their negative impacts to native plant and animal populations. This is achieved by incorporating aspects of natural stream hydrology and morphology into an existing hardscaped channel. This approach is intended for improving habitat in existing hardscaped channels when total removal of the hardscape structure is not an option.

Mr. Oesch is currently working on a variety of habitat restoration projects involving freshwater marsh, salt marsh, riparian, urbanized/disturbed, chaparral, stream channel, and coastal sage scrub habitats.

PROJECT EXPERIENCE

Development

Lake Val Sereno/La Jolla Crossroads Off-Site Mitigation, Garden Communities, Encinitas, California. Project monitor for the La Jolla Crossroads off-site mitigation located at Lake Val Sereno. This project involves the enhancement of 5.37 acres of freshwater wetlands to fulfill the requirements of the following agency permits: U.S. Army Corps of Engineers (ACOE) Nationwide Permit 12, California Department of Fish and Game (CDFG) 1601 agreement, and Regional Water Quality Control Board (RWQCB) 401 certification. Duties include advising on the removal of exotic and invasive plant species, documenting progress of planted native plants, collecting quantitative transect data, and recommending courses of action to improve site success in meeting performance standards.

Meadowbrook Villages Development Wetland Mitigation Project, Stewardship Foundation, Escondido, California. Assisted in design of the stormwater detention/wetland creation basin for a retirement development. The basin created opportunity for on-site wetland mitigation and provided increased storm flow storage capacity along Reidy Creek to prevent flooding. Also assisted in preliminary soil sampling and biotic surveying.

Vista Sorrento Parkway Alkali Marsh Mitigation Project, Newland Communities, San Diego, California. Biological monitor responsible for collecting transect data and making recommendations on weed removal and native plant mortality. The project entails creation/enhancement of 1 acre of coastal sage scrub, mulefat scrub, and salt marsh habitats as

mitigation for impacts from the California Department of Transportation (Caltrans) Right-of-Way project.

Altair Housing Development, William Lyon Homes Inc., Santee, California. Served as biological monitor for the on-site wetland mitigation creation. This project is in mitigation for non-vegetated, non-wetland waters of the U.S. jurisdictional to ACOE and RWQCB. Biological monitoring includes direction to the maintenance contractor regarding weed control, native plant establishment, and erosion control.

Energy

Emergency Forest Fire Transmission Infrastructure Repair Monitoring, SCE, San Gabriel, California. Performed regulatory compliance monitoring for replacement of power transmission infrastructure damaged by fire and/or other natural disasters. Tasks include familiarization with regulatory permits, coordination with SCE and emergency repair crews, and field monitoring during repair work for compliance.

Municipal

Famosa Slough Salt Marsh/Sorrento Creek Dredging Mitigation, City of San Diego, California. Authored a conceptual plan for a 0.5-acre enhancement area of salt marsh. This enhancement is to fulfill mitigation requirements from the Sorrento Creek maintenance dredging performed by the City of San Diego Engineering and Capital Projects Department. This project is designed to fulfill the criteria of permits CDFG 1601 and ACOE 404. The enhancement area will include middle and lower salt marsh plant species, bordered by a coastal sage scrub habitat buffer strip.

Sorrento Valley Utilities Improvement, City of San Diego, California. Monitored work crews in the removal of non-native plant species in biologically sensitive salt marsh, freshwater marsh, and coastal sage scrub habitats.

Sorrento Creek Channel Maintenance Dredging Project, City of San Diego, California. Monitored City of San Diego work crews in removal of sediment from the channel bottoms of Carroll Canyon, Los Peñasquitos, and Sorrento creeks. Monitoring was to ensure the least possible impacts to surrounding vegetation and aquatic and terrestrial animal habitats. The project site contained potential clapper rail (*Rallus longirostris*) habitat, which required flushing prior to beginning work in the channel areas. Duties also included taking water samples daily and testing for total suspended solids (TSS) to ensure that discharge downstream of the project met TSS level requirements.

Tecolote Canyon Tree-of-Heaven Removal Project, City of San Diego, California. Monitored work crews in removal of tree-of-heaven (*Ailanthus altissima*) and other exotics from a section of Tecolote Canyon. Monitoring duties included advisement of routes of least impact to surrounding native habitats, felling trees, and cutting biomass dispersal.

El Cuervo Norte Wetland Mitigation Project, City of San Diego, California. Performed biological monitoring for the approximately 30-acre wetland mitigation site. This project provides wetland mitigation for multiple impacts to CDFG and ACOE jurisdictional wetland resources exacted by the implementation of State Route 56. This project provides critical habitat corridor linkage and habitat extension for wetland wildlife. Duties include transect data collection, qualitative monitoring, and project management.

Water/Wastewater

Tijuana River Valley Emergency Maintenance Project, Stormwater Department, City of San Diego, California. Conducted construction monitoring and ensured permit compliance for channel maintenance activities. Maintenance activities included using large earthmoving machinery to remove a vast amount of trash and several hundred thousand tons of sediment material from the river valley, and to create new, large drainage channels within the Tijuana River Valley to better direct stormwater and reduce flooding during storm events. Species of concern included avoidance of least Bell's vireo (*Vireo bellii pusillus*), which is present on the project site, and avoidance of light-footed clapper rail (*Rallus longirostris levipes*), which is present upstream and downstream of the project site.

Upper Chiquita Reservoir, Santa Margarita Water District, Orange County, California. Performed regulatory compliance monitoring during initial grading and construction of an emergency water storage reservoir. In addition, authored the conceptual mitigation plan to compensate temporary impacts. This project involves the excavation of an existing box canyon and construction of a dam face to create a water-storage reservoir. Tasks also include coordination with contractor, client, and project engineers.

Danielle Mullen – Environmental Specialist

Danielle Mullen began working as an environmental consultant, wildlife biologist, in 2010. At Dudek she has prepared biological sections for technical studies, habitat conservation plans, jurisdictional delineations, and focused survey reports. She is also familiar with preparing and submitting permit applications to the Regional Water Quality Control Board (RWQCB) for Section 401 Water Quality Certification, California Department of Fish and Game (CDFG) for a Section 1602 Streambed Alteration Agreement, and the U.S. Army Corps of Engineers (ACOE) for a Section 404 Individual Permit. She is involved in ongoing wildlife surveys and biological monitoring in construction-related activities on transmission line projects. She has spent close to 200 hours surveying for arroyo toad (*Bufo Californicus*), mountain yellow-legged frog (*Rana muscosa*), and California red-legged frog (*Rana aurora draytonii*).

EDUCATION

University of California, Santa Cruz
BS, Biology, 2008

SPECIAL TRAINING

Introduction to Desert Tortoise
Surveying, Monitoring and Handling
Techniques Workshop (2012)
Intermediate Birding Course, San Diego
Audubon Society (2011)
Plants and Communities of San Diego
County, Jepson Herbarium (2011)
WEAP/safety training session (2011)
TRTP Construction Monitoring
Workshop (2010)

PROJECT EXPERIENCE

Development

Newhall Ranch, County of Los Angeles, California. During the summer of 2012, conducted focused surveys within the project development footprint for special-status plant species, including the San Fernando Valley Spineflower (*Chorizanthe parryi* var. *fernandina*), burrowing owl, American badger (*Taxidea taxus*), and/or the sign and burrows for these species. Special-status species locations were mapped using a GPS.

Copley Press 25 Acres, City of San Diego Development Services, San Diego County, California. Conducted biological resources monitoring for geotechnical activities conducted on a proposed development site to ensure avoidance and minimization of impacts to sensitive biological resources to the maximum extent feasible and ensure specific measures for the protection of sensitive habitats. Monitoring included holding an environmental awareness meeting with the crew prior to work activities, photo documentation, and completion of a site observation report.

Davidson Fairbanks Country Villas, San Diego, County of San Diego, California. Conducted construction monitoring to ensure construction activities were following permit compliance for coastal California gnatcatcher (*Polioptila californica californica*). Monitoring involved supervising grading, ensuring effective barriers between the Multi-Habitat Planning Area (MHPA) and construction, photo documentation, and completion of a site observation report.

Energy

West of Devers, Southern California Edison (SCE), San Bernardino County, California. Conducted focused surveys for burrowing owls, their sign, and burrows. Surveys were conducted within the impact area of the transmission line. Any individuals found or sign observed was recorded using GPS. Surveys were conducted periodically throughout spring and summer 2012.

Hazard Tree Removal Project, SCE, San Bernardino and San Jacinto Mountains, Riverside and San Bernardino Counties, California. Performed general amphibian surveys along designated creeks with detailed observation for all species and careful observations of special status species (e.g., mountain yellow-legged frog). Determined potential environmental impacts of

designated felling trees infested with bark beetles. Monitored the cutting of hazard trees to protect sensitive biological resources in the surrounding areas, including sensitive vegetation communities and habitat for special-status wildlife and plant species from August 2010 to present

Sensitive Amphibian Surveys, SCE, San Bernardino, California. Since 2010, Ms. Wier has conducted approximately 140 hours of nocturnal and diurnal surveys for arroyo toad, California red-legged frog, and mountain yellow-legged frog in selected drainages within the San Bernardino Mountains. The surveys were conducted to ensure avoidance of impacts to special-status amphibian species and their habitats.

SCE As-Needed Contract Work, SCE, San Bernardino and Riverside Counties, California. Conducted surveys for sensitive plants, wildlife, and other resources in areas that will be impacted during SCE maintenance activities. Surveys have been ongoing since 2011.

Confidential Project, Confidential Client, County of San Diego California. In accordance with state guidelines as described within *California Guidelines for Reducing Impacts to Birds and Bats from Wind Energy Development*, assisted with surveys on the large project site using the bird use count survey methodology. This is a modified point-count survey method used to obtain a baseline index of bird use within the area. Monitoring data collected include basic condition information such as start and ending time, precipitation, wind, cloud cover, and temperature, as well as survey-specific data such as time, the number and species of birds observed, distance and flight height estimate in general, distance and height estimate near proposed tower locations, habitat, flight pattern and direction, perch height, and behavior of raptors. This project began in 2010 and is ongoing.

Tehachapi Renewable Transmission Project (TRTP), Southern California. Starting in March 2011, Ms. Mullen provided monitoring for construction of the transmission line to ensure that sensitive biological resources are not impacted during necessary construction activities. Construction areas are surveyed for permit compliance with respect to trash, keeping within the project area limits, and minimizing potential impacts. Morning and evening sweeps of the areas were conducted, as well as detailing construction events in daily site observation reports.

Also conducted nesting bird surveys and provided updates on the status of established nests along the work areas of the transmission line. Activities included locating bird nests according to Global Positioning System (GPS) coordinates, observing the nest for signs of activity and filling out a daily report based on the observations made that day.

Military

Hal Hays Tank Repair, Camp Pendleton, San Diego County, California. Conducted biological resources monitoring for construction activities occurring near arroyo toad habitat. Silt fencing was erected to prevent arroyo toads from entering the project site. Ms. Mullen performed daily evening surveys to check fencing for holes or tears and instructed crew to repair fencing when necessary.

Water/Wastewater

Tijuana River Valley Emergency Maintenance Project, Stormwater Department, City of San Diego, California. Conducted construction monitoring and ensured permit compliance for channel maintenance activities. Maintenance activities included using large earthmoving machinery to remove a vast amount of trash and several hundred thousand tons of sediment material from the river valley, and to create new, large drainage channels within the Tijuana River Valley to better direct stormwater and reduce flooding during storm events. Species of concern included avoidance of least Bell's vireo (*Vireo bellii pusillus*), which is present on the project site, and

avoidance of light-footed clapper rail (*Rallus longirostris levipes*), which is present upstream and downstream of the project site.

San Vicente and Dulzura Water Transfer Project, City of San Diego Public Utilities Department, City of San Diego, California. Sections of creek known to be habitat for arroyo toad were monitored for changing water levels that result from a water transfer along the San Vicente and Dulzura Creeks in the City of San Diego. Data on water flow levels and width of the stream were recorded at locations where arroyo toad had been documented. Photo documentation and site reports were also prepared.

Douglas Gettinger – Habitat Restoration Specialist

Douglas Gettinger is a habitat restoration specialist with 23 years' experience in habitat restoration, biological surveys, and environmental compliance monitoring. He specializes in the design, implementation, and monitoring of habitat restoration projects, botanical and sensitive species surveys, and biological and environmental compliance construction monitoring.

Mr. Gettinger's project experience includes construction and environmental compliance monitoring for road, sewer, dam, and pipeline projects. Mr. Gettinger has experience working safely around the large earth-moving equipment found at construction projects and has experience working at hazardous materials and unexploded ordinance sites requiring Occupational Safety and Health Administration (OSHA) 40-hour hazardous waste operations and emergency response (HAZWOPER) training.

PROJECT EXPERIENCE

Development

The Crossings at Carlsbad Golf Course Project, Recreation Department, Carlsbad, California. Served as assistant project manager. Provided biological construction monitoring for the municipal golf course project in Carlsbad, California, during construction. Performed construction monitoring and scheduled other construction monitors to assist with the work. Prepared project progress reports and field directives and reported permit violations to agencies during construction. Project included oversight of subcontractors performing cultural and paleontological monitoring and recovery, as well as installing monitoring wells.

Village 11 Development Project, Brookfield Homes, Chula Vista, California. Served as a project manager and biological construction monitor for grading of the Village 11 project in Otay Ranch in Chula Vista. Grading of the approximately 500-acre site in the eastern portion of the Otay Valley was adjacent to the Salt Creek Open Space Preserve containing wetlands and habitat for the federally listed threatened coastal California gnatcatcher. Dudek directed and monitored soil and biomass salvaging from suitable habitat areas within the project footprint and monitored installation and 5-year botanical and horticultural monitoring of the wetland mitigation area. Project has been completed.

Rolling Hills Ranch Wetland Mitigation Monitoring Project, McMillin Land Development, Chula Vista, California. Served as a task manager. Biological construction monitor for the installation and long-term monitoring of Phases I and II of the wetland mitigation for the Rolling Hills Ranch development. Rolling Hills Ranch is an approximately 300-acre mixed-use project. The wetland mitigation program involved expanding wetland habitat along Salt Creek and controlling invasive, exotic salt cedar (*Tamarix ramosissima*) on the project site. Project has been completed.

Municipal

Buena Vista Creek Channel Maintenance Project, Engineering Department, Carlsbad and Oceanside, California. Serve as the project manager. Working as a subcontractor to

EDUCATION

California State Polytechnic University at Pomona

BS, Landscape Architecture, 1979

BS, Ornamental Horticulture, 1980

CERTIFICATIONS

California Agricultural Pest Control Adviser License, Permit No. 70366 (exp. 12/31/14)

OSHA 40-hour HAZWOPER Training

California Rapid Assessment Method of Wetlands Training

Certified Erosion, Sediment, and Storm Water Inspector (CESSWI) No. 3026

Qualified SWPPP Practitioner (QSP) No. 23241

PROFESSIONAL AFFILIATIONS

Society for Ecological Restoration

California Invasive Plant Council

California Agricultural Production Consultants' Association

American Public Works Association

Natures Image, Inc. for the City of Carlsbad, Dudek is providing biological monitoring and reporting services while vegetation is removed annually from a portion of the approximately 0.5-mile-long creek channel that comprises the project area.

Alameda Creek Flood Control Project, Philip Williams & Associates, Ltd., Martinez, California. Served as a task manager. Biological construction monitor for a creek widening project to increase channel capacity and reduce flooding in downtown Martinez. Work included overseeing a subcontractor for the removal of fish and western pond turtles (*Clemmys marmorata*) living in the project area and revegetation of creek banks with native vegetation. Project has been completed.

Resource Management

Twin Oaks Valley Ranch Wetland Mitigation Project, Ryland Homes, San Marcos, California. Served as a task manager. Provided biological construction monitoring, mitigation installation supervision, and long-term biological monitoring at a large wetland mitigation project located in a drainage running through a golf course development at Twin Oaks Valley Ranch. Project has been completed.

Olympic Training Center Boathouse Project, San Diego Sports Training Foundation, Chula Vista, California. Served as a task manager and project manager. Biological construction monitor to protect sensitive habitat during project grading of the Olympic Training Center Boathouse Project. Directed planting of the coastal sage scrub and wetland mitigation areas and acted as project manager for biological monitoring during the 5-year monitoring program. The federally listed threatened coastal California gnatcatcher began foraging in the coastal sage scrub mitigation area after 2 years. Project has been completed.

Water/Wastewater

Tijuana River Valley Emergency Maintenance Project, Stormwater Department, City of San Diego, California. Served as a project biologist for construction monitoring and permit compliance management for the channel maintenance activities. Maintenance activities included using large earthmoving machinery to remove a vast amount of trash, to remove several hundred thousand tons of sediment material from the river valley, and to create new, large drainage channels within the Tijuana River Valley to better direct stormwater and reduce flooding during storm events.

As-Needed Biological Services Contract 2000–2005, San Diego Metropolitan Wastewater Department, San Diego, California. Served as a biological construction monitor on numerous emergency sewer repair and maintenance projects in sensitive habitat areas located in canyons. Tasks included emergency projects repairing sewers where sewage was flowing into live stream conditions, requiring immediate response from Dudek staff; monitoring emergency sewer cleaning activities where temporary equipment access was needed in sensitive habitat canyon areas; and scheduling and coordinating the work of other biological monitors, as needed. Initial assessment reports, biological resources reports, and/or impact assessment reports were then prepared for each task, depending on project requirements. Contract was completed.

Emily Wier – Environmental Specialist

Emily Wier is a biologist with over 3 years of professional experience specializing in wildlife surveys and biological monitoring. Ms. Wier has previously conducted construction monitoring for the Tijuana River Estuary channel maintenance project during fall 2010. She also has experience conducting focused surveys for a variety of projects involving arroyo toad (*Bufo californicus*), mountain yellow-legged frog (*Rana muscosa*), California red-legged frog (*Rana draytonii*), burrowing owl (*Athene cunicularia*), southwestern willow flycatcher (*Empidonax traillii extimus*), raptors, and recently experienced using herpetological pitfall traps to survey for reptiles and conducting periodic monitoring of wildlife cameras. Recent training Ms. Wier has taken includes the Desert Tortoise Council's *Introduction to Desert Tortoise Surveying, Monitoring and Handling Techniques Workshop*, the Jepson Herbarium's *Plants and Communities of San Diego County*, and the San Diego Audubon Society's *Intermediate Birding Course*.

PROJECT EXPERIENCE

Development

Newhall Ranch, County of Los Angeles, California. During the summer of 2012, conducted focused surveys within the project development footprint for special-status plant species, including the San Fernando Valley Spineflower (*Chorizanthe parryi* var. *fernandina*), burrowing owl, American badger (*Taxidea taxus*), and/or the sign and burrows for these species. Special-status species locations were mapped using a GPS.

Davidson Fairbanks Country Villas, County of San Diego, California. Conducted a nesting bird survey, primarily for coastal California gnatcatcher (*Polioptila californica californica*). The survey was in accordance with regulations for the Multiple Habitat Planning Area (MHPA), which borders the project area. From February 2011 to the present, conducted construction monitoring to ensure construction activities were following permit compliance for coastal California gnatcatcher. Monitoring involved supervising grading and ensuring effective barriers between the MHPA and construction.

Copley Press 25 Acres, City of San Diego Development Services, San Diego County, California. In 2011, conducted biological resources monitoring for geotechnical activities conducted on a proposed development site to ensure avoidance and minimization of impacts to sensitive biological resources and to ensure specific measures for the protection of sensitive habitats. Monitoring included holding an environmental awareness meeting with the crew prior to work activities, photo documentation, and completion of a site observation report.

Energy

West of Devers, Southern California Edison (SCE), San Bernardino County, California. Conducted focused surveys for burrowing owls, their sign, and burrows. Surveys were conducted within the impact area of the transmission line. Any individuals found or sign observed was recorded using GPS. Surveys were conducted periodically throughout spring and summer 2012.

EDUCATION

Tufts University
BS Biology 2010, *Cum laude*

SPECIAL TRAINING

Introduction to Desert Tortoise
Surveying, Monitoring and Handling
Techniques Workshop (2012)

Intermediate Birding Course, San
Diego Audubon Society (2011)

Plants and Communities of San
Diego County, Jepson Herbarium
(2011)

WEAP/safety training session (2011)

TRTP Construction Monitoring
Workshop (2010)

PROFESSIONAL AFFILIATIONS

San Diego Audubon Society

California Native Plant Society

Hazard Tree Removal Project, SCE, San Bernardino and San Jacinto Mountains, Riverside and San Bernardino Counties, California. Performed general amphibian surveys along designated creeks with detailed observation for all species and careful observations of special status species (e.g., mountain yellow-legged frog). Determined potential environmental impacts of designated felling trees infested with bark beetles. Monitored the cutting of hazard trees to protect sensitive biological resources in the surrounding areas, including sensitive vegetation communities and habitat for special-status wildlife and plant species from August 2010 to present

SCE As-Needed Contract Work, SCE, San Bernardino and Riverside Counties, California. Conducted surveys for sensitive plants, wildlife, and other resources in areas that will be impacted during SCE maintenance activities. Surveys have been ongoing since 2011.

Confidential Project, Confidential Client, County of San Diego, California. In accordance with state guidelines described in *California Guidelines for Reducing Impacts to Birds and Bats from Wind Energy Development*, assisted surveys on the large project site using the bird use count (BUC) survey methodology. Monitoring data collected, taken from November 2010 through July 2012, include basic condition information such as start and ending time, precipitation, wind, cloud cover, and temperature, as well as survey-specific data such as time, the number and species of birds observed, distance and flight height estimate in general, distance and height estimate near proposed tower locations, habitat, flight pattern and direction, perch height, and behavior of raptors. This project is ongoing.

Sensitive Amphibian Surveys, SCE, San Bernardino, California. Since 2010, Ms. Wier has conducted approximately 140 hours of nocturnal and diurnal surveys for arroyo toad, California red-legged frog, and mountain yellow-legged frog in selected drainages within the San Bernardino Mountains. The surveys were conducted to ensure avoidance of impacts to special-status amphibian species and their habitats.

San Bernardino National Forest Pole Replacement, SCE, San Bernardino County, California. Conducted biological monitoring for pole replacement within San Bernardino National Forest. Monitoring included conducting an environmental tailboard meeting, documenting special-status species, avoiding vegetation and special-status species, and ensuring removal of all microtrash.

Tehachapi Renewable Transmission Project (TRTP), SCE, Los Angeles and San Bernardino Counties, California. Served as biological monitor for construction-related activities for the TRTP during 2011. Attended construction monitoring workshop and Worker Environmental Awareness Program (WEAP)/safety training. Construction monitoring activities included morning and evening sweeps of the construction areas and monitoring crews for compliance during tower set-up activities. Performed surveys to map tree inventory in Angeles National Forest using specific field mapping techniques and Yuma GPS device. Established environmentally sensitive areas for active bird nests, conducted daily sweeps at construction sites for new nests, monitored previously detected nests for additional activity, and established sufficient buffers for nesting birds. Compiled daily Field Reporting Environmental Database (FRED) reports.

Military

Tank Repair, Camp Pendleton, County of San Diego, California. In fall 2011, monitored for presence of arroyo toad during construction for tank repair. Ensured compliance with regulatory measures.

Water/Wastewater

Plano-Tijeras Force Main Spill Site Project, County of Orange, California. From October 2010 to January 2011, conducted construction monitoring to ensure permit compliance for sewage spill site remediation activities and berm reconstruction. Supervised habitat restoration by using willow cuttings. Wrote daily site observation reports and provided photo documentation. Measures were taken to avoid the federally and state-listed arroyo toad and least Bell's vireo, although none were detected on site. Assisted in the netting and relocation of at least 250 arroyo chub (*Gila orcutti*) and Santa Ana threespine stickleback (*Gasterosteus aculeatus santaannae*).

Tijuana River Valley Emergency Maintenance Project, Stormwater Department, City of San Diego, California. From October to November 2010, conducted construction monitoring and ensured permit compliance for channel maintenance activities. Maintenance activities included using large earthmoving machinery to remove a vast amount of trash, remove several hundred thousand tons of sediment material from the river valley, and create new large drainage channels within the Tijuana River Valley to better direct stormwater and reduce flooding during storm events. Also assisted with creating weekly site observation reports. Species of concern included avoidance of least Bell's vireo, which is present on the project site, and avoidance of light-footed clapper rail (*Rallus longirostris levipes*), which is present upstream and downstream of the project site.

San Vicente and Dulzura Water Transfer Project, City of San Diego Public Utilities Department, City of San Diego, California. Sections of creek known to be habitat for arroyo toad were monitored for changing water levels that result from a water transfer along the San Vicente and Dulzura Creeks in the City of San Diego. Data on water flow levels and width of the stream were recorded at locations where arroyo toad had been documented. Photo documentation and site reports were also prepared.

Resource Management

County of San Diego Department of Parks and Recreation. Conducted bird surveys, wildlife camera surveys, and herpetological pitfall arrays for three County properties during summer 2012. Wrote and submitted Baseline Biological Reports for County properties, and provided management recommendations.

Lake Mathews Reserve Management Plan, Metropolitan Water District of Southern California. Prepared management plan sensitive habitat and species located within a 5,000-acre Reserve located in western Riverside County that mitigates for impacts resulting from Metropolitan's operation of the Lake Mathews reservoir. Species of special concern are Stephens' kangaroo rat (*Dipodomys stephensi*) and coastal California gnatcatcher. An ongoing project to be completed in summer 2013.

Jeffrey Priest – Project Manager, Senior Wildlife Biologist

Jeffrey Priest is a project manager and senior wildlife biologist with over 17 years' professional experience in environmental planning, including more than 13 years at Dudek. He has served in a variety of management and lead biologist roles. He has performed numerous and varied biological surveys throughout Southern California, including surveys for rare, threatened, and endangered animals including the Quino checkerspot butterfly (*Euphydryas editha quino*), arroyo toad (*Bufo californicus*), California red-legged frog (*Rana draytoni*), mountain yellow-legged frog (*Rana muscosa*), southwestern willow flycatcher (*Empidonax traillii extimus*), least Bell's vireo (*Vireo bellii pusillus*), burrowing owl (*Athene cunicularia*), cactus wren (*Campylorhynchus brunneicapillus*), California gnatcatcher (*Polioptila californica*), Belding's savannah sparrow (*Passerculus sandwichensis beldingi*), and bat species.

PROJECT EXPERIENCE

Development

North Hills, County of Santa Barbara, California. Served as biological phase manager. Managed team of 12 biologists to conduct biological resource mapping; a formal wetlands delineation; and focused surveys for southwestern willow flycatcher, least Bell's vireo, California tiger salamander (*Ambystoma californiense*), raptors, and general wildlife surveys.

Warner Ranch, WHP Warner Ranch LP, County of San Diego, California. Served as biological phase manager. Managed team of 10 biologists to conduct focused surveys for quino checkerspot butterfly, California gnatcatcher, Stephens' kangaroo rat (*Dipodomys stephensi*), southwestern willow flycatcher, least Bell's vireo, and arroyo toad.

Annual Gnatcatcher Surveys, Trump National Golf Course, City of Rancho Palos Verdes, Los Angeles County, California. Served as biological phase manager and lead biologist from 2001 to 2006. Managed a team of eight biologists to conduct gnatcatcher surveys to determine the breeding status of paired birds, territory number, size and location, breeding success, and cowbird predation. Prepared annual monitoring reports.

Chevron West Coyote Hills Field Closure and Development Project, Chevron USA Production Company and Chevron Pacific Coast Homes, City of Fullerton, Orange County, California. Conducted breeding season monitoring activities and surveys for California gnatcatcher on site supporting 46 pairs of gnatcatchers. Conducted construction monitoring, impact evaluation, and regulatory compliance concerning the gnatcatcher.

Single-Family Home Developments, City of Laguna Beach, County of Orange, California. Served as project manager. Tasks included biological resource mapping, focused surveys for California gnatcatcher and rare plants, wetlands delineations, habitat assessments, impact assessments, and reporting.

Batiquitos Bluffs Development Project, Cities of Encinitas and Carlsbad, County of San Diego, California. Served as project manager. Managed team of biologists to conduct biological resource mapping; focused surveys for California gnatcatcher, least Bell's vireo, southwestern willow flycatcher, and rare plants; wetlands delineation; impact analysis; and reporting.

EDUCATION

San Diego State University
BS, Biology (emphasis in zoology), 1997

CERTIFICATIONS

USFWS Quino Checkerspot Butterfly
10(a) Permit No. TE840619-0; issued
3/12/99, expires 12/9/12

USFWS California Gnatcatcher 10(a)
Permit No. TE840619-1; issued 4/13/99,
expires 12/9/12

USFWS Southwestern Willow
Flycatcher 10(a) Permit No. TE840619-
2; issued 3/27/02, expires 12/9/12

PROFESSIONAL AFFILIATIONS

Association of Environmental
Professionals (AEP)

The Wildlife Society (TWS)

Newhall Ranch, TPM 26363, Commerce Center Drive Project, Newhall Land and Farming Company, Valencia, California. Served as biological phase manager and lead biologist. Managed team of five biologists to conduct pre-construction surveys, compliance management, contractor education, and construction monitoring and reporting.

Grimes Property, City of Encinitas, California. Served as project manager. Tasks included general botanical and wildlife surveys, focused surveys for California gnatcatcher and rare plants, wetlands delineation, a constraints analysis, and reporting.

Santa Fe Meadows, Santa Fe Valley, California. Served as project manager. Conducted general wildlife surveys and habitat assessments for endangered, threatened, and rare animals. Prepared constraints analysis and biological resources technical reports for CEQA compliance.

Eastlake Village Center North, City of Chula Vista, California. Served as project manager. Conducted general wildlife survey and habitat assessments for endangered, threatened, and rare animals and prepared a biological resources technical report for CEQA compliance.

Ferber Ranch Project, The Planning Center, County of Orange, California. Served as wildlife biologist. Conducted general wildlife surveys and habitat assessments for endangered, threatened, and rare animals. Conducted wildlife corridor. Conducted focused surveys for California gnatcatcher, southwestern willow flycatcher, and least Bell's vireo.

Tejon Mountain Village, Tejon Mountain Village LLC, County of Kern, California. Served as wildlife biologist. Conducted general wildlife surveys and habitat assessments for endangered, threatened, and rare animals. Conducted focused surveys for southwestern willow flycatcher, least Bell's vireo, yellow-billed cuckoo (*Coccyzus americanus*), and wintering birds.

LaBorde Canyon Off-Highway Vehicle Park Study, Riverside County Transportation and Land Management Agency, County of Riverside, California. Served as biologist. Conducted raptor nest surveys and general wildlife surveys.

Chocolate Mountain Ranch, San Diego County, California. Conducted focused surveys for California gnatcatcher and Quino checkerspot butterfly, general wildlife surveys, biological resource mapping, impact analysis, documentation pursuant to CEQA, and analysis.

Otay Ranch, Otay Ranch Company, City of Chula Vista, San Diego County, California. Provided biological resource surveys and documentation. Conducted vegetation mapping and focused surveys for California gnatcatcher, least Bell's vireo, and burrowing owl.

Wildlife Surveys, The Irvine Company, City of Irvine, Orange County, California. Provided focused surveys for California gnatcatcher, least Bell's vireo, and nesting raptors, as well as general wildlife surveys for over 5,000 acres of vacant land in Orange County.

Wildlife Surveys, Rancho Mission Viejo Company, Mission Viejo, California. Conducted focused surveys for arroyo toad, least Bell's vireo, southwestern willow flycatcher, and California gnatcatcher for over 5,000 acres of vacant land in Orange County, California.

Oceanside Harbor Condominiums, Concordia Homes, City of Oceanside, San Diego County, California. Conducted a focused California gnatcatcher survey for proposed project.

Arbor Creek EIR Project, D.R. Horton, City of Oceanside, San Diego County, California. Conducted focused southwestern willow flycatcher, least Bell's vireo, and California gnatcatcher surveys for the proposed project.

Energy

Southern California Edison (SCE) Hazard Tree Removal Project, San Bernardino and San Jacinto Mountains, San Bernardino and Riverside Counties, California. Currently serves as deputy project manager, managing a monitoring team of over 20 biologists, serving as team leader for annual focused sensitive frog/toad surveys since 2004. Conducts wildlife surveys, botanical surveys, habitat assessments, and surveys for sensitive and USFS threatened, endangered, and sensitive species along more than 60 miles of SCE power line routes.

Fiber-Optic Alignment, AT&T/PF.Net, Marine Corps Base Camp Pendleton, San Diego County, California. Conducted habitat assessments and focused surveys for California gnatcatcher and least Bell's vireo for an approximately 18-mile-long segment.

Utility Pole Maintenance Project, SCE, San Bernardino and San Jacinto Mountains, San Bernardino County, California. Conducted wildlife surveys and surveyed for sensitive and USFS threatened, endangered, and sensitive species at pole replacement locations.

Resource Management

Biological Monitoring and Habitat Maintenance, The Environmental Trust, San Diego, California. Served as preserve manager. Conducted management responsibilities from September 1997 to February 1999. Responsibilities include biological monitoring, habitat maintenance, and technical report writing. Developed and maintained databases of land and other client assets.

Peñasquitos Lagoon Wetland Mitigation Sensitive Species Surveys, City of San Diego, California. Conducted focused surveys for least Bell's vireo and general wildlife surveys for a 1.2-acre riparian mitigation site. The 5 years of mitigation monitoring were completed in 2003.

El Cuervo Wetland Mitigation Sensitive Species Surveys, City of San Diego, California. Conducted focused surveys and breeding season monitoring for least Bell's vireo and California gnatcatcher for a City of San Diego wetland mitigation site.

Lower Rosan Ranch, City of San Juan Capistrano, Orange County, California. Conducted nesting bird surveys for conversion of a concrete channel to a 5-acre natural-bottom flood control and wetlands mitigation area.

Lake Val Sereno Mitigation Site, Rancho Santa Fe, San Diego County, California. Conducted nesting bird surveys for a 50-acre riparian habitat area on Escondido Creek.

Transportation

Rancho Santa Fe Road Realignment, City of Carlsbad, San Diego County, California. Conducted focused surveys and breeding season monitoring for California gnatcatcher.

Water/Wastewater

Buena Vista Creek, City of Vista, San Diego County, California. Served as project manager. Managed team of seven biologists to conduct compliance monitoring, raptor surveys, and weekly focused surveys for active bird nests, southwestern willow flycatcher, and least Bell's vireo.

Melissa Blundell – Biologist

Melissa Blundell is a biologist with over 4 years' experience in surveying, banding, and monitoring endangered least Bell's vireos (*Vireo bellii pusillus*); conducting and managing vegetation mapping; biological data collection, compilation, analysis, and management.

Ms. Blundell's is highly qualified to conduct surveys and nest monitoring of endangered least Bell's vireo. She has extensive experience working with the least Bell's vireos and very familiar with vireo vocalizations and behavior. She has submitted applications for a U.S. Fish and Wildlife Service (USFWS) recovery permit to nest monitor and band the federally endangered least Bell's vireos. She is familiar with southwestern willow flycatchers (*Empidonax traillii extimus*) and directly observed nesting individuals over a breeding season. She is currently working towards obtaining a recovery permit for the southwestern willow flycatchers. Ms. Blundell is also familiar with the ecology and vocalization of a wide range of resident and migrant avian passerine species occurring throughout Southern California. She is also very familiar with Southern California native vegetation.

Mrs. Blundell has experience performing biological and construction monitoring on a confidential and sensitive project for the federally endangered Arroyo toad (*Anaxyrus californicus*) and for the federally endangered Stephens' kangaroo rat (*Dipodomys stephensi*).

PROJECT EXPERIENCE

Confidential Development Project, Confidential Client, San Diego County, California (December 2012-present). Conducted biological resources monitoring for geotechnical exploration effort. Responsibilities included biological monitoring for the federally endangered Arroyo toad and for the federally endangered Stephens' kangaroo rat, construction monitoring ensuring avoidance and minimization efforts to protect sensitive species and habitats, and biological documentation preparation (site photos and daily documentation of site events and biological conditions).

Bark Beetle Project, SCE, San Bernardino National Forest, San Bernardino and Riverside Counties, California (December 2012 – present). In process of being trained to monitor tree removal in biologically sensitive areas to ensure avoidance of impacts to jurisdictional, potentially occurring special-status species, and USFS threatened, endangered, and sensitive species.

San Jacinto Solar Energy Project, Riverside County, California (November 2012). Assisted in performing jurisdictional delineations and general wildlife and plant reconnaissance.

EDUCATION

University of California, Davis
MS, Animal Behavior, 2012

Humboldt State University, Arcata California
BS, Wildlife Management, 2008

Ventura Community College, Ventura California
AA, Liberal Arts, 2001

PROFESSIONAL AFFILIATIONS

American Ornithologists' Union SAC Chair,
2009–2010

Society for the Advancement of Chicanos &
Native Americans in Sciences

Wilson Ornithological Society

The Wildlife Society

CERTIFICATIONS

Scientific Collecting Permit (in progress)

USFWS Section 10(a)(1)(A) (in progress)

CA DFG MOU (in progress)

PROFESSIONAL EXPERIENCE

Graduate Student Researcher, University of California, Davis, California (September 2010 – October 2012). Assisted with sage-grouse documentation and video recording on a lek in Wyoming. Managed, compiled, and analyzed over 6,400 data entries with statistical software. Collected behavioral data on sage-grouse aggressive interactions. Supervised five students in following data collection protocol. Mentored one student in data analysis, result interpretation, and manuscript preparation.

Biological Science Technician (GS-07), United States Geological Survey (USGS), San Diego, California (March 2009 – August 2010). Surveyed, banded, and monitored nests of the federally endangered least Bell's vireos in Southern California. Conducted approximately 18 surveys, banded 99 nestlings, monitored approximately 54 male territories and approximately 110 vireo nests. Assessed vireo habitat quality, pair status, fledgling status, re-sighted banded individuals, and navigated using GPS, compass, and aerial imagery maps. Assisted target netting to attach unique colored leg bands on adult vireos. Banded resident and migrant birds at Monitoring Avian Productivity and Survivorship (MAPS) stations. Conducted, led, and assisted training botanical survey crews. Documented botanical composition and abundance on approximately 160 transects. Analyzed/presented poster on site fidelity and inter-annual movement of color-banded adult least Bell's vireos and site preference and dispersal distances of banded first-year vireo adults. Assisted with preparation of U.S. Fish and Wildlife Service (USFWS) 45-day reports and technical report. Produced publication.

Biological Science Technician (GS-06), United States Geological Survey, San Diego, California (May 2008 – August 2008).). Surveyed, banded, and monitored nests of the federally endangered least Bell's vireos in Southern California. Conducted approximately 3 surveys, monitored approximately 30 male territories and approximately 60 vireo nests. Assessed vireo habitat quality, pair status, fledgling status, re-sighted banded individuals, and navigated using GPS, compass, and aerial imagery maps. Became familiar with MAPS station goals and techniques of banding birds. Documented botanical composition and abundance on approx. 80 transects. Became very familiar with Southern California vegetation.

Honors Thesis Researcher, Humboldt State University, Arcata, California (September 2007 – May 2008). Collected behavioral data on begging behavior of nestling brown-headed cowbird (*Molothrus ater*), red-winged blackbird (*Agelaius phoeniceus*), and Bell's vireo (*V. bellii*) nestlings from video tapes. Assessed time to beg, latency to beg, begging intensity, quantity of food obtained, quantity of food brought to nest by parents, time parents spent at nest, time spent in various parental behaviors at nest. Analyzed data using statistical software. Presented research at two professional scientific meetings.

Undergraduate Researcher, Kansas State University, Manhattan, Kansas (May – August 2007). Conducted an independent research project through the NSF Research Experiences for Undergraduates and KSU Summer Undergraduate Research Opportunity Program. Surveyed, located and monitored nests for over fifteen grassland and riparian bird species using GPS, compass, map. Recorded nestling begging behavior with video camcorder. Collected begging behavior and parental behavior from video tapes. Managed, compiled and analyzed data using analytical software. Assisted with radio telemetry and banding of upland sandpipers (*Bartramia longicauda*). Presented findings at two summer symposia. Produced publication.

Student Researcher, Wildlife Techniques Course, Humboldt State University, Arcata, California (October 2006). Cut PVC pipe refugia for study on Northern Pacific treefrog (*Pseudacris regilla*) abundance and refugia preference. Counted treefrog abundance in 200 PVC pipes; analyzed data and produced publication. Trained on techniques to estimate animal abundance, radio telemetry and small mammal trapping techniques using Tomahawk & Havahart box traps, Sherman traps, pit fall traps.

Patricia Schuyler – Biologist

Patricia Schuyler has more than 8 years' experience as a biologist working throughout Southern California. Through her extensive field experience, Ms. Schuyler provides clients with a full spectrum of biological services focusing on vegetation mapping, rare plant surveys, focused wildlife surveys and habitat assessments, jurisdictional wetlands delineations, permit applications and regulatory agency coordination, biological monitoring, and preparation of biological technical studies.

PROJECT EXPERIENCE

Development

Merriam Mountains Specific Plan Environmental Impact Report (EIR), NNP-Stonegate Merriam LLC, San Diego, California. Conducted biological monitoring for geotechnical investigations in support of EIR.

Mission Oceanside EIR, Integral Partners Funding LLC, Oceanside, California. Performed biological assessment of the project site. Conducted a jurisdictional delineation, habitat assessment for special-status plants/wildlife, and vegetation mapping. Produced technical report.

San Timoteo Creek Alternative Discharge Outfall, Yucaipa Valley Water District, Riverside and San Bernardino Counties, California. Conducted biological construction monitoring to ensure compliance with conditions within the Section 1602 Streambed Alteration Agreement. Monitoring included photo documentation and completion of a detailed report.

Copley Press 25 Acres, City of San Diego Development Services, San Diego County, California. Conducted biological resources monitoring for geotechnical activities to ensure avoidance and minimization of impacts to sensitive biological resources and ensure specific measures for the protection of sensitive habitats. Monitoring included holding an environmental awareness meeting with the crew, photo documentation, and observation report.

Ferber Ranch, The Planning Center (Trabuco Canyon), Orange County, California. Conducted focused surveys for least Bell's vireo (*Vireo bellii pusillus*) and arroyo toad (*Anaxyrus californicus*), and habitat assessments and focused surveys for burrowing owl (*Athene cunicularia*). Conducted vegetation mapping, jurisdictional wetlands delineation, and participated in wildlife corridor study. Assisted the project manager in preparing a biological technical report.

Quail Meadows Project, City of Encinitas, San Diego County, California. Performed biological resources surveys and prepared permits, including Section 404 Nationwide Permit, Section 401 Water Quality Certification, and Section 1601 Streambed Alteration Agreement.

Lone Jack Road/Strafford Knoll Drainage Channel Improvement Project, City of Encinitas, San Diego County, California. Conducted biological monitoring for routine channel clearing. Permit preparation, including Section 404 Nationwide Permit, Section 401 Water Quality Certification, and Section 1601 Streambed Alteration Agreement.

Target Commercial Center, Target Corporation, City of Vista, California. Monitored the clearing of native habitat to ensure that clearing activities only occur within approved boundaries and that best management practices (BMPs) were implemented.

EDUCATION

Washington State University
MS, Environmental Science, 2005

University of Redlands
BA, Environmental Studies, 2003

Mira Costa College
AA, Business Administration 2001

SPECIAL TRAINING

Desert Tortoise Handling Workshop, 2010

PROFESSIONAL AFFILIATIONS

California Native Plant Society

City of San Marcos, County of San Diego, California. Served as project biologist. Conducted focused surveys for least Bell's vireo along San Marcos Creek. Several special-status species were detected, including least Bell's vireo, yellow-breasted chat (*Icteria virens*), and yellow warbler (*Dendroica petechia*).

Camelot, Integral Communities, San Diego County, California. Conducted focused surveys for least Bell's vireo within riparian habitat. All surveys were negative.

Championship Off-Road Racing Project, City of Chula Vista, California. Conducted monitoring during races to assess the impacts of race activity on known occurrences of special-status bird species. Both least Bell's vireo and California gnatcatcher were observed.

Education

Dual Magnet High Schools Project, Vista Unified School District, Oceanside, San Diego County, California. Conducted biological monitoring during construction phase to ensure that impacts to coastal California gnatcatcher (*Polioptila californica californica*) were avoided and that BMPs were implemented. Permit preparation, including Section 404, 401, and 1601.

Energy

Transmission Line Environmental Planning, CH2M Hill Inc., Palo Verde, California. Monitored geotechnical borings to ensure avoidance of impacts to special-status species and jurisdictional drainages. Conducted wetlands delineations and vegetation mapping. Assisted in the preparation of a jurisdictional delineation report. Prepared permits, including Section 404 Nationwide Permit, Section 401 Water Quality Certification, and Section 1601 Streambed Alteration Agreement.

Rugged Solar Farm Cultural Resources Services, Tierra Del Sol Farm Solar LLC, San Diego County, California. Conducted vegetation mapping, focused rare plant surveys, and assisted the permitted Quino checkerspot (*Euphydryas editha quino*) biologist during focused surveys for a 420-acre solar development site located within an unincorporated section of San Diego County. Prepared the biological resources technical report in accordance with the County of San Diego's guidelines.

Angeles National Forest Tower Staking Activities, SCE, Angeles National Forest, California. Conducted on-site biological monitoring during tower staking activities within the Angeles National Forest to ensure the avoidance of impacts to potentially occurring sensitive and U.S. Forest Service (USFS) threatened, endangered, and sensitive species. Conducted daily pre-staking site evaluations for the presence of nesting birds.

Angeles National Forest Post-Fire Monitoring, SCE, Angeles National Forest, California. Conducted on-site biological monitoring during road-grading activities to ensure avoidance and minimization of jurisdictional resources.

Borrego Springs Property, Concentrix Solar Inc., San Diego County, California. Conducted a general biological reconnaissance survey for a proposed solar development site located in Borrego Springs. The survey included vegetation mapping of the proposed project area, surveying for potential jurisdictional wetlands and waters, a complete inventory of plant and wildlife species on site and an assessment for special-status species to occur.

Borrego Solar Project, Enel Green Power North America Inc., San Diego County, California. Conducted a general biological reconnaissance survey for two proposed solar

development sites located in Borrego Springs. The surveys included vegetation mapping of the proposed project areas, surveying for potential jurisdictional wetlands and waters, a complete inventory of plant and wildlife species on site and an assessment for special-status species to occur.

Bark Beetle Project, SCE, San Bernardino National Forest, San Bernardino and Riverside Counties, California. Monitored tree removal in biologically sensitive areas to ensure avoidance of impacts to jurisdictional areas and to potentially occurring special-status species and USFS threatened, endangered, and sensitive species. Conducted rare plant, arroyo toad, red-legged frog (*Rana draytonii*), and yellow-legged frog (*Rana muscosa*) surveys within the San Bernardino Mountains.

Transportation

Mid-Coast Corridor Transit Project, San Diego Association of Governments and California Department of Transportation, San Diego County, California. Conducted focused surveys for least Bell's vireo. All surveys were negative. Conducted a jurisdictional delineation for the proposed project. Prepared a biological resources technical report.

Mid-County Parkway, Riverside County Transportation Commission, County of Riverside, California. Coordinated and conducted rare plant surveys and conducted focused surveys for least Bell's vireo. Assisted in fairy shrimp surveys. Completed burrowing owl habitat assessment for entire study area.

Water/Wastewater

Buena Vista Creek Channel Maintenance Project, Natures Image Inc., San Diego, California. Provided biological field monitoring during the removal of riparian vegetation. Ensured that the project was in compliance with conditions listed in 1601 Streambed Alteration Agreement.

Buena Vista Creek Walk, City of Vista, California Performed nesting bird surveys within riparian vegetation prior to vegetation removal for restoration activities.

Borden Bridge, City of San Marcos, California. Performed preconstruction nesting bird surveys within and adjacent to riparian habitat scheduled for removal. Focused on potential impacts to least Bell's vireo.

Pipeline Relining CEQA Services, Poseidon Resources, San Diego, California. Conducted vegetation mapping and a habitat assessment for special-status plant and wildlife species.

San Vicente Dam Raise, San Diego County Water Authority, Lakeside, California. Conducted biological monitoring during the removal of vegetation within habitat occupied by California gnatcatcher.

Tijuana River Valley Emergency Maintenance Project, Stormwater Department, City of San Diego, California. Conducted construction monitoring and ensured permit compliance for channel maintenance activities. Maintenance activities included using large earthmoving machinery to remove a vast amount of trash, remove several hundred thousand tons of sediment material from the river valley, and create new, large drainage channels within the Tijuana River Valley to better direct stormwater and reduce flooding during storm events.

Salton Sea Species Conservation Habitat Project, Cardno ENTRIX, Imperial County, California. Conducted focused surveys for least Bell's vireo along the New River. All surveys were negative. Prepared permits and assisted in preparation of the biological assessment.

Paul Lemons – Biologist

Paul Lemons is a biologist with over 8 years' professional experience as a wildlife biologist specializing in conducting general and special-status wildlife surveys, biological monitoring, project management, and the preparation of special-status wildlife reports and biological technical reports.

Mr. Lemons has performed numerous and varied biological surveys in San Diego, Orange, Los Angeles, San Bernardino, Riverside, and Kern counties, including focused surveys for special-status wildlife species. Mr. Lemons has permits to survey for the federally listed endangered Quino checkerspot butterfly (*Euphydryas editha quino*), the federally listed threatened California gnatcatcher (*Polioptila californica*), the federally listed endangered southwestern willow flycatcher (*Empidonax traillii extimus*), and federally listed vernal pool branchiopods.

Mr. Lemons also attended a bat conservation and management workshop. This workshop included a combination of lectures and discussions, field trips to examine bat habitats, and hands-on training to capture and identify bats. Mr. Lemons gained experience with various capture techniques, including mist-netting and harp-trapping, as well as experience using bat detectors, including Anabat and SonoBat echolocation-analysis software.

PROJECT EXPERIENCE

Development

Target Commercial Center, Target Corporation, City of Vista, California. Conducted focused California gnatcatcher survey and prepared the focused California gnatcatcher survey report. Responsible for monitoring the clearing of native habitat to ensure that clearing activities only occur within approved boundaries and that best management practices (BMPs) are implemented.

University Commons Development Project, Biological Monitoring, Carlsbad, California. Responsible for monitoring the clearing of native habitat to ensure that clearing activities only occur within approved boundaries and that BMPs are implemented. Conducted supervised California gnatcatcher nest monitoring survey within 500 feet of the project area. Also conducted ongoing construction monitoring to ensure that construction activities are in compliance with environmental permit conditions.

Otay Ranch, Otay Ranch Company, Chula Vista, California. Provided biological resource surveys and documentation for various developments and proposed open space preserves covering over 4,000 acres of vacant land. Tasks have included vegetation mapping, rare plant surveys, reptile pitfall trapping, bird count surveys, installing and managing wildlife camera stations, and California gnatcatcher and quino checkerspot butterfly surveys. Assisted with the preparation of biological resource technical reports pursuant to California Environmental Quality Act (CEQA) documentation. Responsible for monitoring grading activities to ensure that these activities only occur within approved boundaries and that BMPs are implemented. Conducted supervised

EDUCATION

San Diego State University
BS, Biological Sciences, emphasis in Ecology, 2001

CERTIFICATIONS

Certified OSHA 40-hour Hazardous Waste Operations (HAZWOPER) and Emergency Response Training and UXO Awareness Training (issued 10/24/08, current 8-Hour Refresher Training Completed 9/22/11)

Quino Checkerspot Butterfly Section 10(a)(1)(A) Recovery Permit, USFWS Federal Permit No. TE051248-0 (issued 3/4/2002, exp. 9/30/2013)

California Coastal Gnatcatcher Section 10(a)(1)(A) Recovery Permit, USFWS Federal Permit No. TE051248-1 (issued 4/30/2004, exp. 9/30/2013)

Southwestern Willow Flycatcher Section 10(a)(1)(A) Recovery Permit, (USFWS Federal Permit No. TE051248-3 (issued 12/2/2008, exp. 9/30/2013)

Vernal Pool Branchiopods Section 10(a)(1)(A) Recovery Permit, USFWS Federal Permit No. TE051248-4 (issued 12/2/2008, exp. 9/30/2013)

California gnatcatcher nest monitoring within 500 feet of project areas. Also conducted ongoing construction monitoring to ensure that construction activities are in compliance with environmental permit conditions.

Higgins Project, Private Residence, San Marcos, California. Conducted a nesting bird survey to determine if there were any active nests within the area proposed to be cleared for residential development. Also conducted ongoing construction monitoring to ensure that construction activities are in compliance with environmental permit conditions.

Energy

Hazard Tree Removal Project, SCE, San Bernardino and San Jacinto Mountains, California. Conducting wildlife surveys, botanical surveys, habitat assessments, and surveys for special-status and U.S. Forest Service (USFS) Threatened, Endangered, and Sensitive species throughout the San Bernardino and San Jacinto Mountains along SCE power line routes. The surveys are supporting implementation of a bark beetle tree removal project along existing power lines within San Bernardino County.

Resource Management

Simon and Mt. Gower Preserves, County of San Diego, California. Provided biological resource surveys and documentation for two open space preserves near the community of Ramona. Tasks included reptile pitfall trapping, bird count surveys, installing and managing wildlife camera stations, and bat surveys.

Transportation

Rancho Santa Fe Road Realignment Project Biological Monitoring, City of Carlsbad, California. Project biologist responsible for environmental compliance with resource permits during project construction, including permits issued by the USFWS, ACOE, CDFG, and RWQCB. Assisted with breeding season surveys for California gnatcatcher and monitoring of nesting pairs within native habitat adjacent to the project. Responsible for monitoring the clearing of native habitat to ensure that clearing activities only occur within approved boundaries and that BMPs are implemented. Conducted ongoing construction monitoring to ensure that construction activities are in compliance with environmental permit conditions.

State Route 125 South, California Department of Transportation (Caltrans), San Diego, California. Conducted a focused survey for the presence of Quino checkerspot butterfly.

Water/Wastewater

Salt Creek Sewer Interceptor Biological Monitoring, City of Chula Vista, California. Responsible for monitoring the clearing of native habitat to ensure that clearing activities only occur within approved boundaries and that BMPs are implemented. Conducted supervised California gnatcatcher nest monitoring survey within 500 feet of the project area and assisted with the preparation of the focused California gnatcatcher survey report. Also conducted ongoing sewer line construction monitoring to ensure that construction activities are in compliance with environmental permit conditions.

Tijuana River Valley Emergency Maintenance Project, Stormwater Department, City of San Diego, California. Conducted vegetation mapping, impact analyses, special-status species surveys (pre-construction and during construction), construction monitoring, permit compliance management, and environmental permit compliance management. Collaborated with the City of San Diego Storm Water Department, U.S. Army Corps of Engineers (ACOE), CDFW, USFWS, and

Regional Water Quality Control Board (RWQCB) to receive additional environmental permits needed for continued maintenance activities. Maintenance included using large earthmoving machinery to remove a vast amount of trash, to remove several hundred thousand tons of sediment material from the river valley, and to create new, large drainage channels within the Tijuana River Valley to better direct stormwater and reduce flooding during storm events.

North Agua Hedionda Interceptor Alignment, City of Carlsbad, California. Provided biological monitoring for half-mile sewer rehabilitation and shoreline protection project adjacent to North Agua Hedionda Lagoon.

Salt Creek Sewer Interceptor, City of Chula Vista, California. Monitored sewer construction and conducted breeding season monitoring for California gnatcatcher, focused surveys for burrowing owl (*Athene cunicularia*), and focused surveys for Quino checkerspot butterfly along the 11-mile Salt Creek gravity sewer project along the north edge of the Otay River Valley.

Thomas Liddicoat – Biologist

Thomas Liddicoat is an environmental biologist with over 7 years' professional experience in the industry and specializes in biological resource assessments, special-status species surveys, wildlife tracking, vegetation mapping, wetland delineations, benthic macroinvertebrate collections, environmental document preparation, and environmental permitting in accordance with current environmental statutes. Mr. Liddicoat also frequently performs biological construction monitoring for a large diversity of projects occurring in environmentally sensitive areas and manages project environmental permit compliance.

Mr. Liddicoat holds a U.S. Fish and Wildlife Service recovery permit to survey for numerous special-status vernal pool branchiopod species (fairy shrimp) and the federally listed threatened coastal California gnatcatcher (*Poliophtila californica californica*). Additionally, Mr. Liddicoat holds a California Department of Fish and Wildlife collection permit to conduct small mammal trapping, western pond turtle (*Emys marmorata*) trapping, and radio telemetry tagging/tracking. Mr. Liddicoat is very familiar with the ecology, distribution, and identification of a variety of fauna and flora species. He has extensive experience conducting biological construction monitoring and biological surveys of a variety of species, including numerous special status avian species and nesting raptors in Southern California.

PROJECT EXPERIENCE

Development

Chevron West Coyote Hills Field Closure and Development Project, Chevron USA Production Company and Chevron Pacific Coast Homes, Fullerton, California. Conducted breeding season population estimate surveys for the California gnatcatcher on an approximately 600-acre oil field supporting over 50 pairs of California gnatcatchers.

Copley Press 25 Acres – Environmental Consulting Services, The Copley Press Inc., City of San Diego, California. Conducted biological surveys, focused surveys for California gnatcatcher, biological construction monitoring, environmental compliance management, and environmental document preparation during 2011.

Newhall Ranch, Newhall Land and Farming Company, Los Angeles and Ventura Counties, California. Conducted habitat vegetation mapping and focused surveys for the state-listed endangered San Fernando Valley spineflower (*Chorizanthe parryi* var. *Fernandina*). Conducted focused surveys for California gnatcatcher on the Ranch and a focused survey for the federally listed endangered arroyo toad (*Anaxyrus californicus*) along the Santa Clara River in 2012.

Tejon Mountain Village, Tejon Mountain Village LLC, Kern County, California. Served as a biologist for the Tejon Mountain Village Project. Conducted biotic resource assessments and inventories, habitat assessments and focused surveys for several special-status species such as bald eagle (*Haliaeetus leucocephalus*), golden eagle (*Aquila chrysaetos*), California condor (*Gymnogyps*

EDUCATION

San Diego State University
BS, Biological Sciences, Ecology
Emphasis, 2005

CERTIFICATIONS

Fairy Shrimp 10(a) Survey
Permit, USFWS Federal Permit
No. TE 139634-2
(exp. 10/06/2015)

Coastal California Gnatcatcher
Section 10(a)(1)(A) Recovery
Permit No. TE 139634-2
(exp. 10/06/2015)

Scientific Collection Permit
CDFW SCP-11089
(exp. 12/1/12, processing
renewal)

40-hr. OSHA HAZWOPPER
certification
(exp. 10/2/2013)

PROFESSIONAL AFFILIATIONS

Association of Environmental
Professionals (AEP)

The Wildlife Society (TWS)

The National Audubon Society

californianus), prairie falcon (*Falco mexicanus*), merlin (*Falco columbarius*), vernal pool fairy shrimp (*Branchinecta lynchi*), and others. Conducted golden eagle nest surveys/monitoring, Swainson's hawk (*Buteo swainsoni*) migration surveys, and California condor telemetry tracking surveys. Other responsibilities included vegetation mapping, wildlife tracking and movement corridor studies, and preparation of specific survey reports for a biological technical report.

Trabuco/Ferber Ranch, The Planning Center, Orange County, California. Conducted vegetation mapping, habitat assessments, jurisdictional delineation of waters of the United States (including wetlands), USFWS-focused surveys for the federally listed endangered Arroyo toad (*Anaxyrus Californicus*), multiple federally and state-listed fairy shrimp species, and focused surveys for the federally listed endangered burrowing owl (*Athene cunicularia*).

Otay Ranch Resort Village, City of Chula Vista, California. Served as a project biologist, conducting biological resource surveys, focused species surveys (e.g., burrowing owl, California gnatcatcher, fairy shrimp) and documentation for various developments on vacant land. Conducted vegetation mapping, rare plant surveys, and geotechnical exploration monitoring.

Energy

Confidential Project, Confidential Client, County of San Diego, California. Served as a project biologist responsible for conducting and coordinating avian surveys. Assisted with surveys on the large project site using the bird use count (BUC) survey methodology.

Hazard Tree Removal Project, Southern California Edison (SCE), San Bernardino and San Jacinto Mountains, Riverside and San Bernardino Counties, California. Served as a biologist and biological monitor. Coordinated with SCE and USFS regarding site-specific sensitivities, conducting biological surveys, monitoring crews, and writing biological documents.

SCE Pole and Utilities Replacement Project, Riverside and San Bernardino Counties, California. Served as a field biologist. Duties included conducting habitat assessments; monitoring tree removal activities; and conducting wildlife surveys, botanical surveys, and surveys for sensitive and USFWS threatened, endangered, and sensitive species throughout the project areas.

Military

Miramar Military Family Housing Project, Apex Companies LLC, Marine Corps Air Station Miramar, San Diego County, California. Served as the project phase manager. Conducted focused surveys for California gnatcatcher and fairy shrimp.

Municipal

The Crossings at Carlsbad Golf Course, Recreation Department, City of Carlsbad, California. Served as a project biologist. Conducted surveys and nest monitoring for the California gnatcatcher until 2012. Performed construction monitoring to support permit compliance, prepared project monitoring reports, and monitored installation and maintenance.

Resource Management

Peter's Canyon Fuel Reduction Project, Orange County Fire Authority, Orange, California. Project biologist responsible for conducting vegetation mapping, focused California gnatcatcher surveys, and jurisdictional wetlands delineation within Peter's Canyon Regional Park.

Trump National Golf Course Annual Gnatcatcher Surveys, City of Rancho Palos Verdes, California. Served as a biologist conducting California gnatcatcher surveys to determine

breeding status of paired birds, territory number, size and location, breeding success, and cowbird predation in accordance with the Ocean Trails Habitat Conservation Plan.

Transportation

Sorrento to Miramar Double Track Project Phase 1, San Diego Association of Governments (SANDAG), San Diego, California. Project biologist. Conducted focused avian surveys (California gnatcatcher and least Bell's vireo), biological construction monitoring, environmental compliance management, and biological reporting from 2011 to the present.

Mid-County Parkway Project, Riverside County Transportation Commission (RCTC), Riverside County, California. Field surveys conducted included vegetation mapping, habitat assessments, rare plant surveys, general and focused sensitive wildlife surveys including special-status species (i.e., fairy shrimp, California gnatcatcher, and burrowing owl) in 2010–2012.

Water/Wastewater

Tijuana River Valley Emergency Maintenance Project, Stormwater Department, City of San Diego, California. Served as a phase manager and lead project biologist responsible for conducting vegetation mapping, impact analyses, special-status species surveys (pre-construction and during construction), construction monitoring, permit compliance management, and environmental permit compliance management. Collaborated with the City of San Diego Storm Water Department, U.S. Army Corps of Engineers (ACOE), CDFW, USFWS, and Regional Water Quality Control Board (RWQCB) to receive additional environmental permits needed for continued maintenance activities. Maintenance included using large earthmoving machinery to remove a vast amount of trash, to remove several hundred thousand tons of sediment material from the river valley, and to create new, large drainage channels within the Tijuana River Valley to better direct stormwater and reduce flooding during storm events.

Pipeline 3 Relining Project, Pipeline 4 Emergency Repair Project, Pipeline Tunnel and Vent Demolition Project, SDCWA, San Diego, California. Responsible for biological surveys and monitoring of California gnatcatcher and fairy shrimp, biological resource surveys, vegetation/resource mapping, construction monitoring, SWPPP/BMP inspections, and environmental permit compliance.

As-Needed Biological Resources, City of San Diego Metropolitan Wastewater Department, San Diego, California. Served as a biologist which involved completing biological surveys (California gnatcatcher), monitoring, and reporting. Provided construction monitoring, conducted biological resources and habitat impact assessments.

Reservoir Improvement Program Mitigated Negative Declaration (MND), Rainbow Municipal Water District, San Diego County, California. Served as a biologist which involved performing habitat assessments, vegetation mapping, and impacts analysis, as well as preparing the biological resources report and biological section of the CEQA-submitted MND.

San Vicente Dam Raise Project, San Diego County Water Authority, San Diego County, California. Conducted focused surveys for California gnatcatcher both construction monitoring. Provided environmental compliance, construction monitoring, and other services

Syphon Reservoir Storage Capacity Expansion Project, Irvine Ranch Water District, Orange County, California. Conducted focused and nest monitoring for the California gnatcatcher, performing raptor surveys, and prepared report. Ensured project environmental permit compliance.



Julie Stout

Biologist

Overview

Ms. Stout has over 7 years of experience conducting biological resource surveys and preparing reports. Ms. Stout conducts desert tortoise surveys, wetland delineations, wildlife surveys, bat acoustic studies, and rare plant surveys. Her avian experience includes conducting point count surveys, raptor nest monitoring and other surveys for breeding and migrating birds including western snowy plovers, California least terns, western burrowing owls, and greater sage-grouse. Her mammalian experience includes acoustic and mist netting surveys for bats and radio tracking pygmy rabbits. Ms. Stout has conducted critical issues analyses for complex energy projects throughout southern California and prepared environmental permitting documents including Biological Assessments, Environmental Assessments, Environmental Impact Reports, and Environmental Impact Statements.

Areas of Expertise

Environmental Compliance
Wildlife Biology
Wetland Science

Years of Experience

With URS: 2 Years
With Other Firms: 6 Years

Education

BS, Biological Science, California
Polytechnic State University, 2005

Project Specific Experience

Caltrans Geotechnical Investigations along I-15 and I-40:

Desert tortoise monitor during geotechnical drilling along I-15 near Primm, NV and I-40 near Needles, CA. Also recorded radioactivity readings due to possible radioactive contamination at the I-15 sites.

Naval Hospital Camp Pendleton, CA.:

Conducted construction monitoring to ensure compliance with the gnatcatcher biological opinion and ensure a water of the U.S. and vernal pool on site were not being impacted. Conducted breeding bird surveys prior to clearing and grading in vegetated areas to prevent violations of the Migratory Bird Treaty Act. Prepared a worker education brochure to comply with a biological opinion for impacts to the coastal California gnatcatcher.

Meteorological Tower near Barstow, CA.:

Conducted construction monitoring for desert tortoise for the installation of two meteorological towers. Conducted surveys for rare plants and desert tortoises at two meteorological tower sites. Prepared the Environmental Assessment biological resources section.

The Headlands Reserve, LLC., Dana Point CA:

Conducted vegetation monitoring of a restoration area at Dana Point using linear sampling.

Ruby Pipeline in Oregon, Nevada, and Utah:

Field lead for stream and wetland delineations. The project included a variety of habitats and delineations included problematic wetlands such as



those with altered vegetation and hydrology in agricultural areas, alkaline and other problematic soils, and delineations of seeps and streamside wetlands in woodland and meadow habitats. Delineations were conducted year-round, including in winter when plant identifications were challenging and in late summer/fall when hydrology was challenging. Reviewed hydrological connections using satellite imagery and prepared datasheets to submit in support of 404 permit applications. Also conducted habitat and biotic soil crust mapping, breeding bird surveys, noxious weed survey and mapping, electrofishing for Lahontan cutthroat, raptor nest monitoring, and pygmy rabbit radio tracking.

SCE Redlands:

Stream mapping and delineation and preparation of a delineation report for a transmission line segment under review for pole repair/replacement by SCE near Redlands, CA.

Recurrent Solar Projects, Kern County, CA.:

Conducted a wetland delineation, mapping of hydrological connections in an agricultural area (ditches and culverts), a habitat assessment, rare plant surveys, and burrowing owl surveys.

Energia Semptra Juarez Transmission Line, San Diego County, CA:

Conducted a habitat assessment survey, stream mapping, and prepared survey report.

Sunpower Solar Sites in Los Angeles County near Lancaster, CA.:

Conducted habitat assessment, stream mapping, and burrowing owl surveys and prepared a biological critical issues analysis report and burrowing owl survey report.

Wind Project near Big Timber, Montana:

Conducted a habitat assessment, informal wetland and stream surveys, acoustic bat monitoring, and completed acoustic bat data analysis and report.

BrightSource Solar Projects near Blythe, CA: Conducted jurisdictional delineation surveys, lead and conducted point count surveys for migratory birds, conducted protocol-level surveys for desert tortoises and burrowing owls, call playback surveys for Gila woodpeckers, and night surveys for Couch's spadefoot toads. Conducted acoustic bat monitoring and analyzed AnaBat data. Prepared sections of the Biological Technical Reports.

City of San Diego Storm Water Maintenance Project:

Prepared Individual Biological Assessments for storm water maintenance activities in accordance with the City's Master Storm Water System Maintenance Program. Conducted wetland delineations, wetland restoration/enhancement acreage calculations, and Least Bell's Vireo surveys for a planned wetland restoration project to mitigation for wetland impacts association with storm water system maintenance.



P-107/P-1093/P-1094:

Conducted pre-construction surveys and prepared survey reports for several linear projects at Marine Corps Base Camp Pendleton passing through sensitive habitats.

San Clemente Island Fuel Storage and Transfer Pipeline, CA.:

Conducted surveys for rare plants and migrating birds along a fuel pipeline route. Prepared a Biological Assessment and the biological resources section of an Environmental Assessment for the project.

Naval Base Coronado and Point Loma BRAC EA, CA.:

Prepared the biological resources sections for Base Realignment and Closure Environmental Assessments. Resources of concern included California least terns, western snowy plovers, and Essential Fish Habitat.

Sunpower Solar Sites in Los Angeles County near Lancaster, CA.:

Conducted habitat assessment and burrowing owl surveys and prepared a biological critical issues analysis report and burrowing owl survey report.

Devore and SR-91 Projects:

For Caltrans projects involving freeway lane additions, Ms. Stout conducted daytime and nighttime surveys for bats under bridges and in culverts, including assessment of roosting habitat, visual and acoustic identification of bat species, and exit count surveys.

PXP Pipeline:

Identification and GPS mapping of rare plants along the PXP pipeline route, including dune buckwheat (*Eriogonum parvifolium*).

Contact Information

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Areas of Expertise

Construction Monitoring
Biological Surveys
Data Management

Years of Experience

With URS: 1.5 Year
With Other Firms: 1.5 Years

Education

BS, Environmental Systems:
Ecology, Behavior, and Evolution,
University of California, San Diego,
2010

Laura Swadell

Staff Biologist/Data Manager

Overview

Ms. Swadell has three years of experience in environmental regulatory compliance, biological surveying, and data management. She has extensive experience monitoring construction sites and ensuring project compliance with all relevant environmental permits and laws. Her field biological experience includes surveying for migratory and nesting birds, sensitive reptiles and amphibians, and native riparian vegetation. And as a data manager, she utilizes relevant project permit requirements to track compliance, handles information upload and extraction of all GPS units at URS, and assists in report writing.

Project Specific Experience

Construction Monitoring

Rio Mesa Solar Project Geo-technical drilling, BrightSource Energy, Inc., County of Riverside, 2012.

Served as a biological monitor for six weeks of core-sample drilling at various locations on the Rio Mesa Solar project site. Responsibilities included clearance sweeps before daily construction activities, leading vehicles through areas potentially containing desert tortoise, performing daily health and safety meetings, and making certain that biological resources were not affected unless absolutely necessary. Drill sites and ingress routes were designated by biologists so as to avoid impacts to listed species.

Tehachapi Renewable Transmission Project (TRTP), Southern California Edison, Southern California. 2011. Construction monitor on Segments 4 and 5 in the Palmdale area, 7 and 8 in the Chino area, and 6 and 11 in the Pasadena area. Monitoring was conducted on-site during construction activities by overseeing multiple sites throughout the day. Monitoring activities included conducting site sweeps, observing and recording the status of bird nests in the area, confirming all on-site biological resources remained unharmed, and certifying all environmental permit requirements were followed by construction crews. Other responsibilities consisted of communicating biological constraints with construction crews at morning meetings, drafting daily reports detailing impacts of construction, and notifying Southern California Edison of any new or sensitive biological resources detected on-site.

The Crossings at Carlsbad Golf Course Project, Recreation Department, City of Carlsbad, CA. 2010. Ms. Swadell served as project biologist and performed brown-headed cowbird trapping and euthanasia during post-construction monitoring for this municipal golf course project in Carlsbad, California.



La Golondrina and La Costa Meadows Sewer Extension Project, City of Carlsbad, CA. 2010. Monitored all construction sites for the four month duration of sewer extensions, visiting each site twice a week. Monitoring activities included minimizing impact to the special-status plant species California adolphia (*Adolphia californica*), ensuring avoidance of native vegetation communities and reviewing erosion control methods during drilling and installation of the sewer extensions. Duties also included composing brief weekly summaries documenting impacts during construction.

Botanical/Biological Surveys

Sensitive Botanical Surveys, High Speed Train (HST), Palmdale to Los Angeles Section, California High Speed Rail Authority, Los Angeles County, CA. 2013. Conducted surveys for special status plant species along a corridor planned for the development of the California High Speed Train. Early and late spring and early summer botanical surveys were conducted along a 35 mile proposed ROW for train construction between Palmdale to Santa Clarita, CA.

Nesting bird surveys, Tehachapi Renewable Transmission Project (TRTP), Southern California Edison, Southern California. 2011. Ms. Swadell carried out preconstruction surveys for nesting birds and monitored the status of existing nests, in accordance with TRTP permit guidelines. Data obtained comprised the physical description and location of the nest, type of nesting activities observed, behavior of the nesting pair, the stage of nesting (e.g., incubation, feeding chicks, fledged), and whether or not the buffer established to protect the species from construction disturbances was suitable. In addition to the above, data collected for new nests included a valid GPS position, species identification, distances from nearby construction activities, and an evaluation of an appropriate disturbance buffer.

Bird Point Counts for Wind Project, County of San Diego CA. 2010. Ms. Swadell conducted surveys on the large project site using the Bird Utilization Counts (BUC) survey methodology. Data collected included the number and species of birds observed, distance and flight height estimate, distance and height estimate near proposed tower locations, habitat, flight pattern and direction, and bird behavior.

Amphibian Presence/Absence Surveys, Southern California Edison, County of San Bernardino. 2010. Conducted presence/absence amphibian surveys for arroyo toad, California red-legged frog, mountain yellow-legged frog, and western spadefoot toad. Surveys consisted of walking a length of stream once during the day and once at night, detecting any amphibian species by sight or sound, and recording survey findings. Data collected included weather and survey condition, the presence and description of suitable amphibian habitat, a list of all animal species observed, and location and species information for any sensitive species.



Vegetation Pilot Monitoring Studies for Riparian/Wetland and Oak Woodlands, Rancho Mission Viejo Land Trust, County of Orange, CA. 2010. Served as a field biologist on several vegetation surveys for riparian habitats. Ms. Swadell assisted in collecting vegetation data for the riparian habitat and in the data analysis component of the project.

Data Management

City of San Diego Stormwater Division, Environmental Compliance and Mitigation Databases. County of San Diego, CA. 2013.

Coordinated with multiple disciplines to design and build an environmental compliance matrix and an environmental mitigation tracking database. Compiled and summarized all raw information into a useable format and input these into a database platform. Collaborated with a programmer to create a user-friendly web interface for the databases to maximize functionality and ease of use.

Contact Information

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Eric "Rick" Bailey

Project Biologist

Overview

Mr. Bailey has over 23 years of experience as an environmental biologist. His responsibilities include focused surveys for arroyo toad, flat-tailed horned lizard, Mojave fringe-toed lizard, blunt-nosed leopard lizard, desert tortoise, burrowing owl, California gnatcatcher, and least Bell's vireo; construction monitoring to ensure avoidance of impacts, exotic predator removal, vegetation mapping; and technical report preparation in conformance with CEQA, NEPA, and ESA.

Areas of Expertise

Endangered Species Surveys
Construction Monitoring
Exotic Predator Removal
Biological Assessment

Years of Experience

With URS: 13 Years
With Other Firms: 11 Years

Education

California Teaching Credential, Life Science, California State University Chico, 1986
BA, Biological Sciences, California State University, 1984

Registration/Certification

U.S Fish and Wildlife Service
Recovery Permit Number TE-101151-2. California Gnatcatcher; Presence/Absence Surveys, and Nest Monitoring.

California Department of Fish and Game (CDFG) Scientific Collectors Permit #SC-11856

CDFG Certification for Flat-tailed Horned Lizard (*Phrynosoma mcallii*); Presence/Absence Surveys, Handling for Data Collection, and Transport out of Harm's Way during Construction Monitoring. July, 2010

Project Specific Experience

BrightSource Prospective Solar Electric Generating Facilities, Ludlow and Palo Verde, CA, 2011-2012:

Conducted focused surveys for desert tortoise, recorded tortoise locations, health indicators, and scat/burrow locations for the project. Additional surveys performed for burrowing owl, migratory bird species, Mojave fringe-toed lizard, and jurisdictional wetlands. Field lead for survey crew of 30 biologists.

State Route 76 Highway Improvement Project, Bonsall, CA, 2003, and 2011-2012:

Conducted focused surveys for arroyo toad and California gnatcatcher. Additional surveys performed for habitat assessments. Recorded species locations for the project. Monitored geotechnical crews to ensure avoidance of biological impacts.

CalNev Pipeline: 234 mile linear petroleum pipeline corridor, Clark County, NV and San Bernardino County, CA, 2008-2010:

Conducted focused surveys for arroyo toad, western yellow-billed cuckoo, southwestern willow flycatcher, least Bell's vireo, and California gnatcatcher. Additional surveys performed for habitat assessments and vegetation community classification. Recorded species locations for the project and produced the Biological Technical Report.

Biological HMMP Monitoring for Dana Point Headlands, CA, 2006-2013:

Project biologist monitoring California gnatcatcher nesting locations in relation to construction activity, public use areas, and conserved habitat. This information allowed client to avoid impacts to Federally-listed Threatened California gnatcatcher, and to measure the success of the project conservation effort. The gnatcatcher population has been monitored for seven seasons. Prepared yearly summary report.

Imperial Valley Solar, Plaster City, CA, 2007-2010:

10 mile linear transmission corridor and 6,500 acre solar site. Conducted focused surveys for flat-tailed horned lizard and rare plant species. Also



monitored geotechnical and drilling crews to ensure avoidance of impacts. Recorded horned lizard locations and scat locations for the project.

Biological Construction Monitoring, General Electric Energy, Power & Water, Tehachapi, CA, 2010:

Conducted biological monitoring during construction of Ecomagination Wind Tower. Ensured avoidance of impacts to burrowing owl and oak trees. Coordinated with construction personnel to ensure that grading activities did not affect oak woodlands.

Naval Hospital Camp Pendleton Replacement and Main Exchange Mall Complex, CA, 2009:

Managed the field trapping effort for Pacific pocket mouse. On site contact and coordinator for six permitted trappers conducting over 2,700 “trap nights”. Additional surveys performed for habitat assessments and vegetation community classification. Recorded species locations for the project and produced the Biological Assessment.

Gregory Canyon Geotechnical Studies, Pala, CA, 2009:

Conducted biological monitoring to ensure avoidance of impacts to arroyo toad along the San Luis Rey River. Coordinated with geotechnical personnel to ensure that geotechnical access routes and activities did not affect arroyo toad.

County of San Diego Pamo Road Bridge Replacement Project, Ramona, CA, 2008:

Conducted focused surveys for arroyo toad and least Bell’s vireo. Additional surveys performed for habitat assessments and vegetation community classification. Recorded species locations for the project and produced the Biological Technical Report.

San Elijo Hills Open Space Management, San Marcos, CA, 2007-2008:

Monitored fire fuel management task, invasive weed removal, habitat restoration, and prevention of unauthorized dumping. Conducted yearly on-site population census of California gnatcatcher to measure success of the conservation effort. Prepared yearly summary report.

Horizon Wind Energy: Meteorological Tower Installation. Yermo, CA, 2007:

Conducted biological monitoring during construction to ensure avoidance of impacts to desert tortoise. Coordinated with construction personnel to minimize impacts to tortoise habitat.

Biological Construction Monitoring for Olivenhain Reservoir, CA, 2005:

Project biologist monitoring California gnatcatcher nesting locations in relation to construction activity. This information allowed client to avoid impacts to Federally-listed Threatened California gnatcatcher.

San Mateo Lagoon Exotic Predator Control, San Clemente, CA,

2005: Provided mitigation required for Interstate 5 bridge widening at San Mateo Creek. Conducted surveys for arroyo toad, southwestern pond



turtle, and tidewater goby. Managed field task to remove non-native predators from the lagoon. Species removed include bullfrog, crayfish, and catfish. Prepared summary report for the project.

Colorado River Aqueduct, MWD of Southern California, 2004-2005: 90 mile linear study area. Conducted focused surveys for desert tortoise and rare plant species. Recorded plant and tortoise locations, health indicators, and scat/burrow locations for the project.

Kinder Morgan Energy Partners Arroyo Toad Exclusion, Camp Pendleton, CA, 2002:

Conducted surveys for arroyo toad in and around pipeline construction area. Maintained pit traps and exclusion fencing to prevent take of arroyo toad. Conducted bullfrog removal from portions of San Mateo Creek.

Multiple Species Conservation Plan (MSCP) California Gnatcatcher Population Census, San Diego, CA, 2001: Conducted focused surveys for California gnatcatcher at conservation areas throughout San Diego County. Prepared final report of gnatcatcher population with discussion of the relative quality of the conservation areas.

Emergency Storage Project, San Diego County Water Authority, San Diego, CA, 1995:

Conducted focused surveys for arroyo toad and California gnatcatcher. Survey area included vicinity of Lake Hodges and San Vicente Reservoir. Prepared portions of the Environmental Impact Report for the project.

Southern California Edison Kramer-Victor Power Line Replacement, CA, 1989-1991:

32 mile linear transmission corridor. Kramer Junction to Victorville, California. Conducted focused surveys for desert tortoise and rare plant species. Also monitored construction crews to ensure compliance with Memorandum of Understanding. Recorded tortoise locations, health indicators, and scat/burrow locations for the project.

Contact Information

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Ryan Randall

Biologist

Overview

Ryan Randall has four years of ecology experience, focusing primarily on California wildlife including many species of raptors in San Diego County and shorebirds in central California. He led a habitat restoration effort for coastal Cactus Wren for the San Dieguito River Park and has worked with several sensitive shorebird species in central California National Wildlife Refuges. Ryan has worked with such federal agencies as U.S. Fish and Wildlife Service, U.S. Forest Service, and U.S. Geological Survey. He has many hours of raptor nest monitoring with the U.S. Forest Service. Most recently, he has performed a variety of general bird and nesting bird surveys in central California and the Sonoran and Mojave deserts. Mr. Randall has conducted protocol-level Desert Tortoise and Burrowing Owl surveys as well as surveys for such species as Mojave Fringed-toed Lizard, Gila Woodpecker, and Elf Owl. He has also conducted several botanical surveys and has a strong familiarity with California flora.

Areas of Expertise

Bird Point Counts
Biological Surveys including:
Snowy Plover, Elf Owl, Gila
Woodpecker, Desert Tortoise,
Burrowing Owl
Biological Technical Reports
Biological Monitoring
Survey Field Lead
Raptor Biology, Nest Monitoring
Nesting bird surveys

Years of Experience

With URS: 2 Years
With Other Firms: 2 Years

Education

BS, Biology with concentration in
Ecology, California State
University, San Marcos, 2011

Permits

U.S. Fish & Wildlife Service
Recovery Permit:
-Western Snowy Plover

Project Specific Experience

Fort Mojave Solar Project, 2013-Present, CA:

Conducted winter and spring bird point count surveys and protocol-level Desert Tortoise surveys for this proposed solar project in Clark County, NV and Mojave County, AZ in the tri-state area near Laughlin, NV.

PG&E North American Electric Reliability Corporation (NERC) Preconstruction Nesting Bird Surveys, 2013, CA:

Performed preconstruction nesting bird surveys for this transmission tower upgrades project on the central coast of California near Santa Maria and Morro Bay.

HST Botany Surveys, 2013, CA:

Performed rare plant surveys for the High Speed Train project along a 30 mile stretch of proposed rail lines between Palmdale and Los Angeles, CA.

Cahuilla Gold Mining Project, 2013, CA:

Performed rare plant surveys for proposed road expansions on this existing Cahuilla Gold facility near the Salton Sea, CA.

Rio Mesa Solar Electric Generating Facility, 2011-2013, CA:

Designed protocol, organized, and led Elf Owl surveys. Performed biological monitoring for geotechnical drilling, fall-summer bird point count surveys, Desert Tortoise, Burrowing Owl, Mojave Fringed-toed Lizard, Couch's Spadefoot, and Gila Woodpecker surveys. Installed and monitored AnaBat bat detection systems, prepared biological technical



reports and sections for Elf Owl, and statistical analysis for this approximately 11,000-acre project near Blythe, CA.

Sonoran West Solar Electric Generating System, 2011-2013, CA:

Designed protocol, organized, and led Elf Owl surveys, led spring bird point count surveys, Desert Tortoise, Burrowing Owl, Mojave Fringed-toed Lizard, and Couch's Spadefoot surveys. Installed and monitored AnaBat bat detection systems, participated in fall rare plant surveys, and prepared biological technical reports and sections for Elf Owl and Gila Woodpecker for this approximately 5,500-acre project near Blythe, CA.

Camp Pendleton Utility Upgrades Pre-Construction Surveys 2011-2012, CA:

Performed pre-construction surveys for this utility upgrades project documenting existing conditions including wildlife and vegetation, and determining jurisdictional Waters of the U.S.

State Route 76 Biological Monitoring, 2011, CA:

Performed biological monitoring in relation to impacts to federally listed species (coastal California Gnatcatcher, Least Bell's Vireo, Southwestern Willow Flycatcher, Arroyo Toad) and designated critical habitat for this highway improvement project located along the San Luis Rey River Valley in San Diego County.

Dana Point Headlands Revegetation Monitoring and Coastal California Gnatcatcher Surveys, 2011-2013, CA:

Performed biological monitoring as part of a yearly assessment of a 25 acre revegetation project. Plant line intercept transects were used to estimate percent cover in creation and enhancement areas. Participated in coastal California Gnatcatcher surveys alongside a permitted biologist (over 29 positive contact hours).

Undergraduate Research Assistant, California State University, San Marcos, 2011, CA:

Worked with Dr. Tracey Brown conducting lizard husbandry and digestive ecology studies including feeding trials and analyses.

U.S. Forest Service - Cleveland National Forest, 2010, CA:

Biological Technician conducting raptor surveys and nest monitoring for Golden Eagle, Peregrine Falcon, and Prairie Falcon. Also performed banding and radio tracking of Golden Eagle.

Wildlife Research Institute, Intern, 2010, CA:

Hawk Watch: aiding public in raptor identification and proper use of spotting scopes. Cleveland National Forest: habitat restoration for endangered coastal California Gnatcatcher and Burrowing Owl artificial burrow monitoring.

U.S. Fish and Wildlife Service, Biology Intern, 2009, CA:



Conducted Western Snowy Plover surveys (over 100 positive contact hours), shorebird banding of Caspian Tern, invasive plant control at Farallon National Wildlife Refuge, Pacific tree frog surveys at Ellicott Slough National Wildlife Refuge, and endangered butterfly surveys (Lange's Metalmark Butterfly) and endangered plant seed collection at Antioch Dunes National Wildlife Refuge.

U.S. Geological Survey, Biology Research Intern, 2009, CA:

Shorebird banding and nest monitoring of Forster's Tern as part of a study on the effects of mercury contamination in the San Francisco Bay.

San Dieguito River Park, 2009, CA:

Intern. Organized and performed habitat restoration for the coastal Cactus Wren in North County San Diego, built and maintained trail and irrigation systems, created and assessed firebreaks, patrolled park, and removed invasive plants.

Specialized Training

Fairy Shrimp Course, The Anostraca and Notostraca of California, 2013
Basic Wetland Delineation Training, Wetland Training Institute, 2012
Flat Tailed Horned Lizard Biomonitoring Training, 2012
San Gabriel Mountain Bighorn Sheep Survey, 2012
Introduction to Desert Tortoise Surveying, Monitoring, and Handling Techniques Workshop, 2011

Awards

Dean's List
Golden Key International Honor Society

Contact Information

Ryan Randall
URS Corporation
4225 Executive Square, Suite 1600
La Jolla, CA 92037
Phone: (858) 812.9292
Fax: (858) 812.9293
ryan.randall@urs.com

September 6, 2013

7165

Anne Jarque
City of San Diego
Transportation and Storm Water Department
2781 Caminito Chollas, MS 44
San Diego, California 92105

Subject: Pre-Maintenance Notification: Tijuana River Valley Channel Maintenance Project, San Diego County, California

Dear Ms. Jarque:

This is a notification of channel maintenance activities planned within the Tijuana River Valley Channel Maintenance Project which shall be submitted to various resource agencies in accordance with the following permit conditions:

- Regional Water Quality Control Board (RWQCB) Water Quality Certification (File No. 09C-077) – Condition V.C – *“The City of San Diego must notify the San Diego Water Board in writing at least 5 days prior to the actual commencement of dredge, fill, and discharge activities”*
- California Department of Fish and Wildlife (CDFW) Streambed Alteration Agreement (File No. 1600-2011-0271-R5) – Condition 1.5 – *“The Permittee shall notify CDFW, in writing, at least five days prior to initiation of construction (project) activities...”*
- U.S. Fish and Wildlife Service (USFWS) Biological Opinion for Formal Section 7 Consultation (Corps File No. SPL 2009-00719-RRS; FWS-SDG-08B0600-10F0001) – Enclosure Condition 3: *“The City will notify the agencies at least 7 days prior to project construction to allow the Agencies to coordinate with the biologist on the surveys.”*

Project maintenance is scheduled to begin on September 16, 2013. Maintenance will begin with Best Management Practice (BMP) installation and demarcation of the limits of work. Channel maintenance (i.e., sediment and trash removal) is expected to begin on approximately September 19, 2013. Maintenance is expected to continue daily, through the weekends (i.e., Monday through Sunday), ending on February 14, 2014. The work activities are to be conducted from approximately 7 AM to sundown. Dudek will provide required notifications and any further

Ms. Anne Jarque

Subject: Pre-Maintenance Notification

changes to the proposed maintenance schedule as well as weekly monitoring reports during all maintenance activities.

Please contact me if you should have any questions regarding this notification.

Sincerely,



Vipul Joshi
Senior Project Manager/Ecologist

cc: *Robert Smith, US Army Corps of Engineers*
Patrick Gower, US Fish and Wildlife Service
Jody Ebsen, Regional Water Quality Control Board
Kelly Fisher, California Department of Fish and Wildlife
Lee McEachern, California Coastal Commission
Rudy Bilan, City of San Diego Mitigation Monitoring and Coordination
Stephanie Bracci, City of San Diego Transportation & Storm Water Department
Corinne Lytle-Bonine, URS Corporation

September 12, 2013

7165

Mr. Rudy Bilan
Associate Planner
City of San Diego, Development Services Department
Mitigation, Monitoring, and Coordination Section
9601 Ridgehaven Court, Suite 220, MS 1102B
San Diego, CA 92123

Subject: Biological Monitoring for the City of San Diego Transportation & Storm Water Department – Tijuana River Valley Channel Maintenance Project, MMRP (LDR/PTS #42981 (SCR 306915), IO-21000287

Dear Mr. Bilan:

The following information includes the requirements for biological monitoring and the proposed biological monitoring schedule for the Tijuana River Valley Channel Maintenance Project. The requirements for monitoring are taken from the Mitigation Monitoring and Reporting Program (MMRP) adopted as part of the Recirculated Final Environmental Impact Report (FEIR) for the City of San Diego (City) Transportation & Storm Water Department (T&SWD) Master Storm Water System Maintenance Program (MMP). The qualifications of the proposed biological monitors have been provided in a previous submittal. Also, the pre-maintenance meeting was conducted on September 4, 2013, and therefore is not discussed in this letter.

Mitigation Measure 4.3.13 requires that the monitoring biologist verify that the limits of work are adequately fenced, flagged, or signed to protect sensitive resources. The monitoring biologist must be present throughout the first full day of channel maintenance activities and must make a minimum weekly visit to the site to verify conformance with various habitat protection measures.

Due the location of the project within the Multi-Habitat Planning Area (MHPA) and the Tijuana River Valley Regional Park and given the extensive amount of native riparian habitat directly adjacent to much of the project area, several resource agency permits require that the monitoring biologist be present during all mechanized channel maintenance activities. The resource agency permits also require a series of three pre-maintenance surveys to verify absence of light-footed clapper rail (*Rallus longirostris levipes*), placement of an exclusion fence at the downstream end of the work area, and daily pre-maintenance surveys to continue to verify absence of clapper rail.

Mr. Rudy Bilan

*Subject: Biological Monitoring for the City of San Diego Transportation & Storm Water
Department – Tijuana River Valley Channel Maintenance Project, MMRP (LDR/PTS
#42981 (SCR 306915), IO-21000287*

Therefore a qualified biological monitor will be present starting September 16, 2013 and is expected to be present daily (Monday-Sunday, unless maintenance is cancelled for that day) through March 15, 2014. The biologist will generally be present at approximately 6:30 AM to perform the pre-maintenance light-footed clapper rail survey. The daily pre-maintenance tailgate is expected to start at approximately 7 AM. Work will then begin until lunch. The biological monitor will conduct another light-footed clapper rail survey at the end of lunch and continue monitoring until the end of work, which is expected to continue until sunset.

Please feel free to contact me by phone or email (619-985-2149 or vjoshi@dudek.com) if you have any questions or concerns.

Sincerely,



Vipul Joshi
Senior Project Manager/Biologist

cc: Anne Jarque, City of San Diego
Corinne Lytle Bonine, URS

September 17, 2013

7165-66-0900

Anne Jarque
City of San Diego
Transportation & Storm Water Department
2781 Caminito Chollas, MS 44
San Diego, California 92105

Subject: Results of Pre-Maintenance Surveys and Permit Compliance, Tijuana River Valley Channel Maintenance Project, City of San Diego, California

Dear Ms. Jarque:

This letter report documents the results of the pre-maintenance surveys and photo documentation conducted for the Tijuana River Valley Channel Maintenance Project. The results of these surveys are presented primarily in compliance with two permit conditions:

- California Department of Fish and Wildlife (CDFW) Streambed Alteration Agreement 1600-2011-0271-R5 Condition 2.4 *“The permittee shall have a qualified biologist survey the proposed work area to verify the presence or absence of protected species. The results of these surveys shall be provided to DFG, along with copies of all field notes, prior to the initiation of work”* and
- US Fish and Wildlife Service (USFWS) Biological Opinion for Formal Section 7 Consultation (FWS-SDG-08B0600-10F0001) Conservation Measure 2 *“The City will temporarily fence (with silt barriers) the limits of project construction staging areas and access routes and mark (e.g., flag) the limits of dredging/excavation to prevent additional impacts and the spread of silt from the construction zone into adjacent avoided habitats. Fencing/markings will be installed in a manner that does not impact avoided habitats. The City will submit to the Agencies for approval, at least 2 days prior to initiating project impacts, photographs that show the fenced/marked limits of impact.”*

This letter includes a list of additional mitigation measures and permit conditions related to species protection, avoidance, and minimization and an explanation of how the planned maintenance activities, to be conducted from September 19, 2013 through March 14, 2043, will be completed in a manner that is fully compliant with applicable measures and conditions.

MITIGATION MEASURES AND PERMIT CONDITIONS

The measures and conditions referenced in this letter are taken from the following documents:

- Army Corps of Engineers (ACOE) Individual Permit SPL-2009-00719-RRS

Ms. Anne Jarque

Subject: Results of Pre-Maintenance Surveys and Permit Compliance, Tijuana River Channel Maintenance Project

- CDFW Streambed Alteration Agreement 1600-2011-0271-R5
- California Coastal Commission (CCC) Coastal Development Permit #A-6-NOC-11-086
- USFWS Biological Opinion for Formal Section 7 Consultation (FWS-SDG-08B0600-10F0001)
- City of San Diego Project No. 42981 – (Programmatic Environmental Impact Report (PEIR) (SCH No. 2005101032))

It should be noted that there are no permit conditions related to species avoidance and minimization in the Regional Water Quality Control Board (RWQCB) Water Quality Certification 09C-077.

PRE-MAINTENANCE SURVEYS

Methods

Based on the timing of the planned maintenance activities, the pre-maintenance surveys required are limited to those focused on light-footed clapper rail (*Rallus longirostris levipes*). Dudek biologists Paul Lemons, Thomas Liddicoat, and Emily Wier; and URS biologist Ryan Randall have conducted focused surveys for light-footed clapper rail (Table 1).

Table 1
Schedule of Surveys

Date	Personnel	Hours	Conditions	Survey Area & Species Focus
Sep 10, 2013	Paul Lemons	0630-1040	100-5% cloud cover, 0-5 mph winds, 64-75 °F	Smuggler's Gulch and Pilot Channel for LFCR
Sep 13, 2013	Thomas Liddicoat and Ryan Randall	0840-1130	100-0% cloud cover, 2-4 mph winds, 68-78 °F	Smuggler's Gulch and Pilot Channel for LFCR
Sep 16, 2013	Emily Wier	0700-1100	0-100% cloud cover, 2-3 mph winds, 66-90 °F	Smuggler's Gulch and Pilot Channel for LFCR

An additional LFCR surveys will be conducted on September 18th, 24 hours prior to the start of channel maintenance.
LFCR = Light-footed clapper rail

The surveys for light-footed clapper rail were conducted by walking meandering transects through the survey area for 100% visual and audible coverage of the area. A field map of the survey was carried in the field and binoculars (8x42) were used to aide in the detection of nests in areas where vegetation was too dense. Additionally, the binoculars were used to assist with bird and other wildlife species identification.

Ms. Anne Jarque

Subject: Results of Pre-Maintenance Surveys and Permit Compliance, Tijuana River Channel Maintenance Project

Results

No light-footed clapper were recorded within proposed channel maintenance areas.

Species Avoidance

CDFW Streambed Alteration Agreement Conditions 2.4 and 2.5 require that a survey be conducted to establish presence or absence of protected species and that a Protected Species Plan be prepared for any protected species found in area directly or indirectly affected by the proposed work. URS, on behalf of the City of San Diego, prepared the Individual Biological Assessment (IBA) Report (Appendix B of the Individual Maintenance Plan (IMP) submittal, December 2012), which, with Attachment 2 of the IMP, serves as the protected species plan.

USFWS BO Enclosure Condition 3a, ACOE Special Condition 7, and CDFW Condition 2.2 each indicate that three pre-maintenance surveys to determine presence/absence of light-footed clapper rail are required. As stated above, the three surveys were conducted on September 10, 13, and 16, 2013 and were negative for light-footed clapper rail.

PEIR Mitigation Measure BIO-4.3.24 states that *“the boundaries of the plant populations designated sensitive by the resource agencies will be clearly delineated with flagging or temporary fencing that must remain in place for the duration of the activity.”* One special-status plant species was detected by URS within the project area, six individuals of singlewhorl burrobrush (*Ambrosia monogyra*), a California Rare Plant Rank 2.2 species. The six singlewhorl burrobrush has been flagged and will be protected-in-place during maintenance activities.

Additional permit compliance measures relate to bird breeding season survey restrictions. Compliance with these conditions will require surveys beginning January 15, 2014. If maintenance continues during the bird breeding season, a separate notification will be provided regarding the results of these surveys.

Pre-Maintenance Photographs

Photographs of staking and flagging within the Smuggler’s Gulch maintenance areas and the portion of Staging Areas B that abuts riparian habitat are included as Photo Exhibit A to this letter.

Flagging of the Pilot Channel will require the use of equipment to gain access to the channel. In order to provide access, a dozer will push down vegetation, the width of the vehicle, along the centerline, as directed by a biologist. The biologist will utilize a Global Positioning System (GPS) and a field assessment of the least impactful alignment (e.g., avoiding mature trees, where feasible) to determine the centerline. Crews will access the limits of work by selective hand

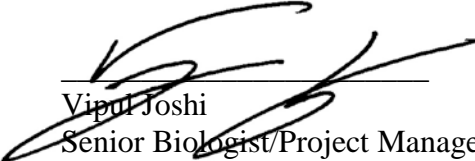
Ms. Anne Jarque

*Subject: Results of Pre-Maintenance Surveys and Permit Compliance, Tijuana River Channel
Maintenance Project*

clearing, if needed and as directed by the monitoring biologist, and then install stakes with flagging. The access paths may be utilized by the Southwest Interpretative Association crews to conduct out-of-channel exotics treatment, per the approved Final Mitigation and Monitoring Plan (Dudek 2012) following staking/flagging. Photographs of the staked and flagged limits of work within the Pilot Channel will be submitted at least two days prior to the start of channel maintenance within the Pilot Channel.

Should you have any questions, please do not hesitate to give me a call me at 760.479.4284 or email me at vjoshi@dudek.com.

Sincerely,



Vipul Joshi
Senior Biologist/Project Manager

Att: Photo Exhibit A – Pre-Maintenance Photographs

*cc: Robert Smith, US Army Corps of Engineers
Patrick Gower, US Fish and Wildlife Service
Jody Ebsen, Regional Water Quality Control Board
Kelly Fisher, California Department of Fish and Wildlife
Lee McEachern, California Coastal Commission
Rudy Bilan, City of San Diego Mitigation Monitoring and Coordination
Corinne Lytle Bonine, URS Corporation*

ATTACHMENT A

Photo Exhibits



Smuggler's Gulch, north of Monument Road, facing south. Photo taken September 16, 2013.



Smuggler's Gulch, north of Monument Road. Photo taken September 16, 2013.

ATTACHMENT A (Continued)



Smuggler's Gulch, north of Disney Crossing, facing north. Photo taken September 16, 2013.



Smuggler's Gulch, north of Disney Crossing, facing north. Photo taken September 16, 2013.

ATTACHMENT A (Continued)



Smuggler's Gulch north of the confluence with the Pilot Channel, facing south. Photo taken September 16, 2013.



Northeast edge of Staging Area B, facing north.
Photo taken September 16, 2013.

APPENDIX B
CD of Weekly Monitoring Report

APPENDIX C

Stream Photo Documentation Report

APPENDIX C

Pre- and Post-Construction Stream Photo Documentation

P-1 Photo taken 9/19/2013



Post Photo taken 2/5/2014



APPENDIX C (Continued)

P-2 Photo taken 9/19/2013



Post Photo taken 11/25/2013 facing northwest instead of north due to access issues associated with channel inundation.



APPENDIX C (Continued)

P-3 Photo taken 9/19/2013



Post Photo taken 11/25/2013 facing south-southwest due to access issues associate with channel inundation.



APPENDIX C (Continued)

P-4 Photo taken 9/19/2013



Post Photo taken 11/25/2013 from approximate location of P-5 due to access issues associated with channel inundation; facing north-northwest.



APPENDIX C (Continued)

P-5 Photo taken 9/19/2013



Post Photo taken 2/5/2014 (Limited access to take photo from exact position/bearing). Facing east instead of south.



APPENDIX C (Continued)

P-6 Photo taken 9/19/2013



Post Photo taken 12/31/2013



APPENDIX C (Continued)

P-7 Photo taken 9/19/2013



Post Photo taken 2/5/2014. This is taken facing east due to limited access for correct photo positioning. To the right is Smuggler's Gulch, and to the left is the eastern portion of the Pilot Channel.



APPENDIX C (Continued)

P-8 Photo taken 9/19/2013



Post Photo taken 2/5/2014 (Limited access to take photo from exact position/bearing). This is a view facing northwest from the horse crossing at Pilot Channel Station 19+00.



APPENDIX C (Continued)

P-9 Photo taken 9/20/2013



Post Photo taken 1/20/2014 from Pilot Channel Station 28+50 (facing east), approximately 100 feet east of 'pre' photo. Original location inaccessible due to channel inundation.



APPENDIX C (Continued)

P-10 Photo taken 9/20/2013



Post Photo taken 1/25/2014



APPENDIX C (Continued)

P-11 Photo taken 9/19/2013



Post Photo taken 2/4/2014



APPENDIX C (Continued)

P-12 Photo taken 9/19/2013

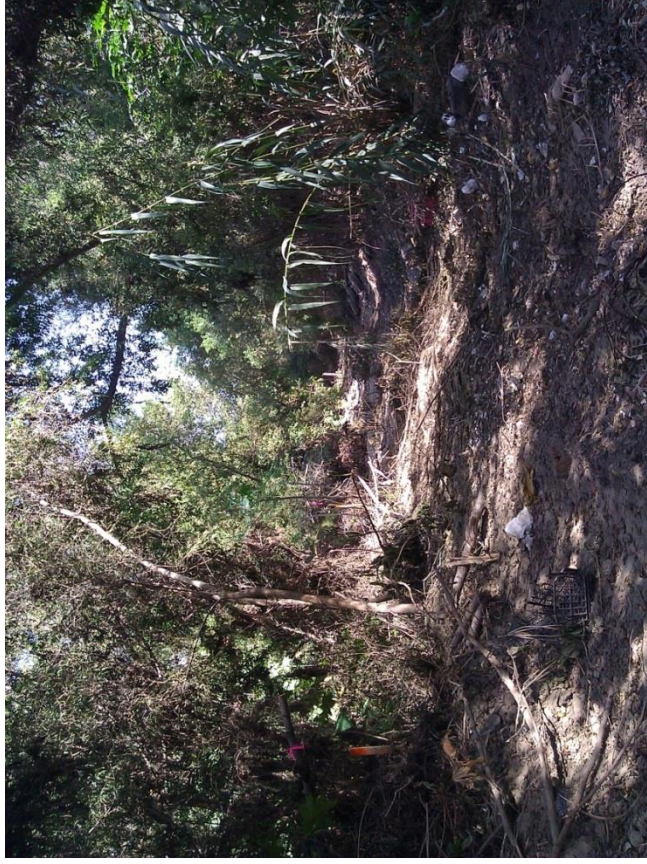


Post Photo taken 2/5/2014



APPENDIX C (Continued)

P-13 Photo taken 10/04/2013



Post

No photo taken due to access issues associated with channel inundation.

APPENDIX C (Continued)

P-14 Photo taken 9/19/2013



Post Photo taken 2/5/2014



APPENDIX C (Continued)

P-15 Photo taken 9/19/2013

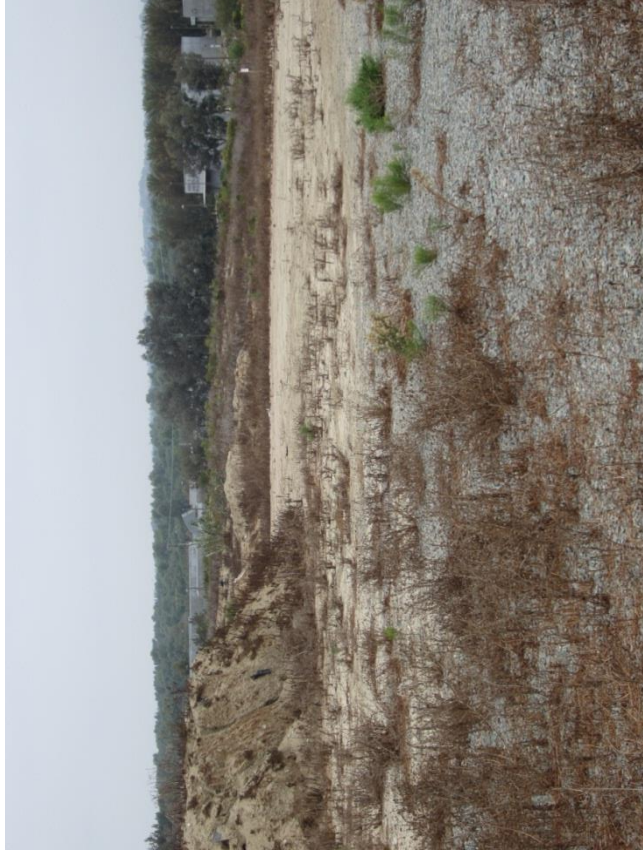


Post Photo taken 2/5/2014



APPENDIX C (Continued)

P-16 Photo taken 9/19/2013



Post Photo taken 2/5/2014

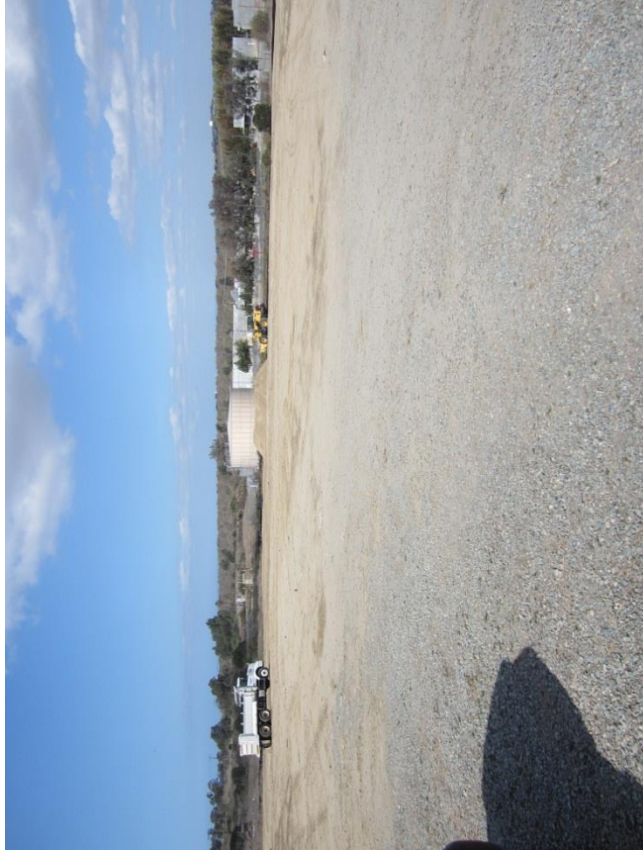
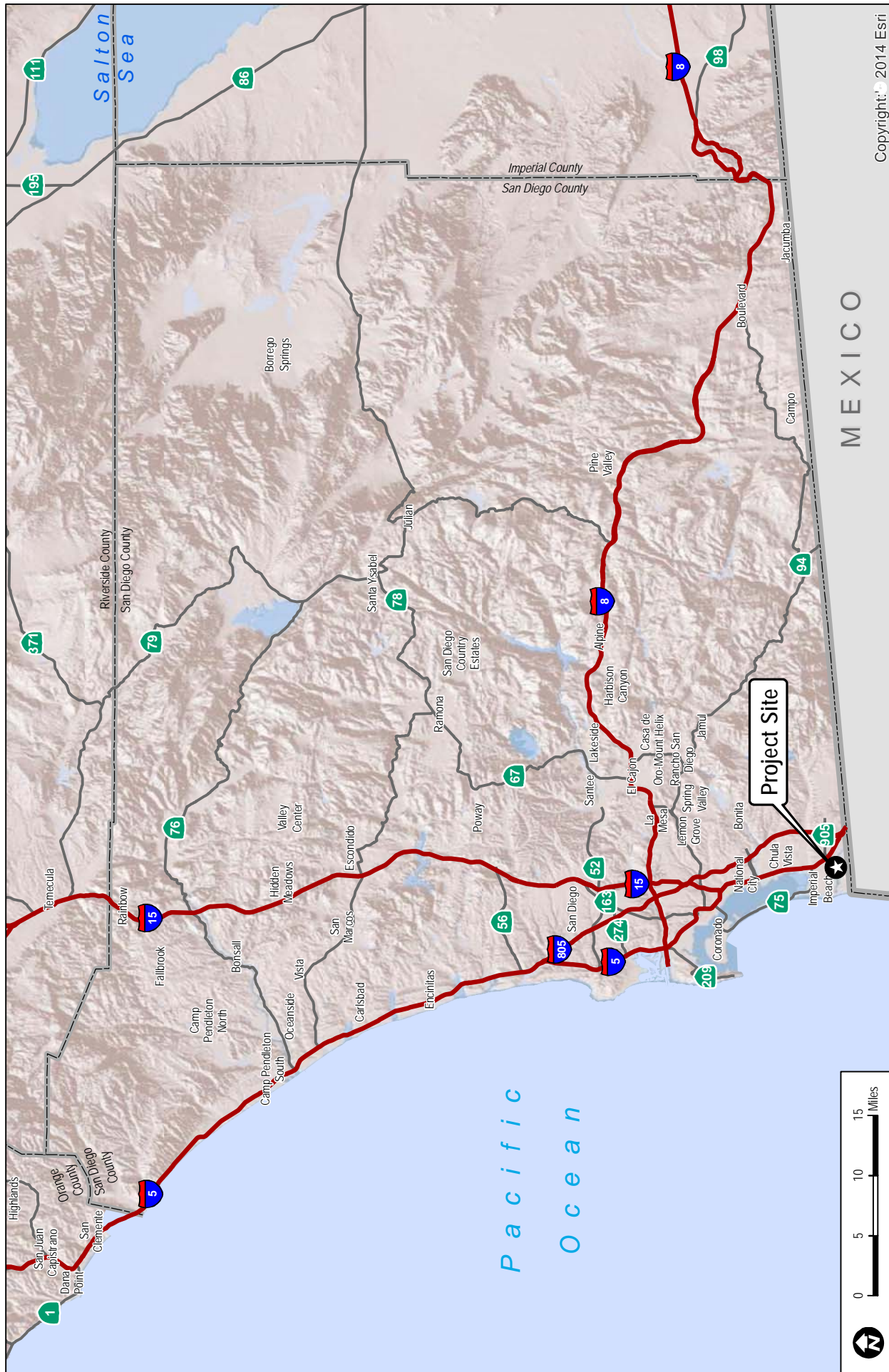
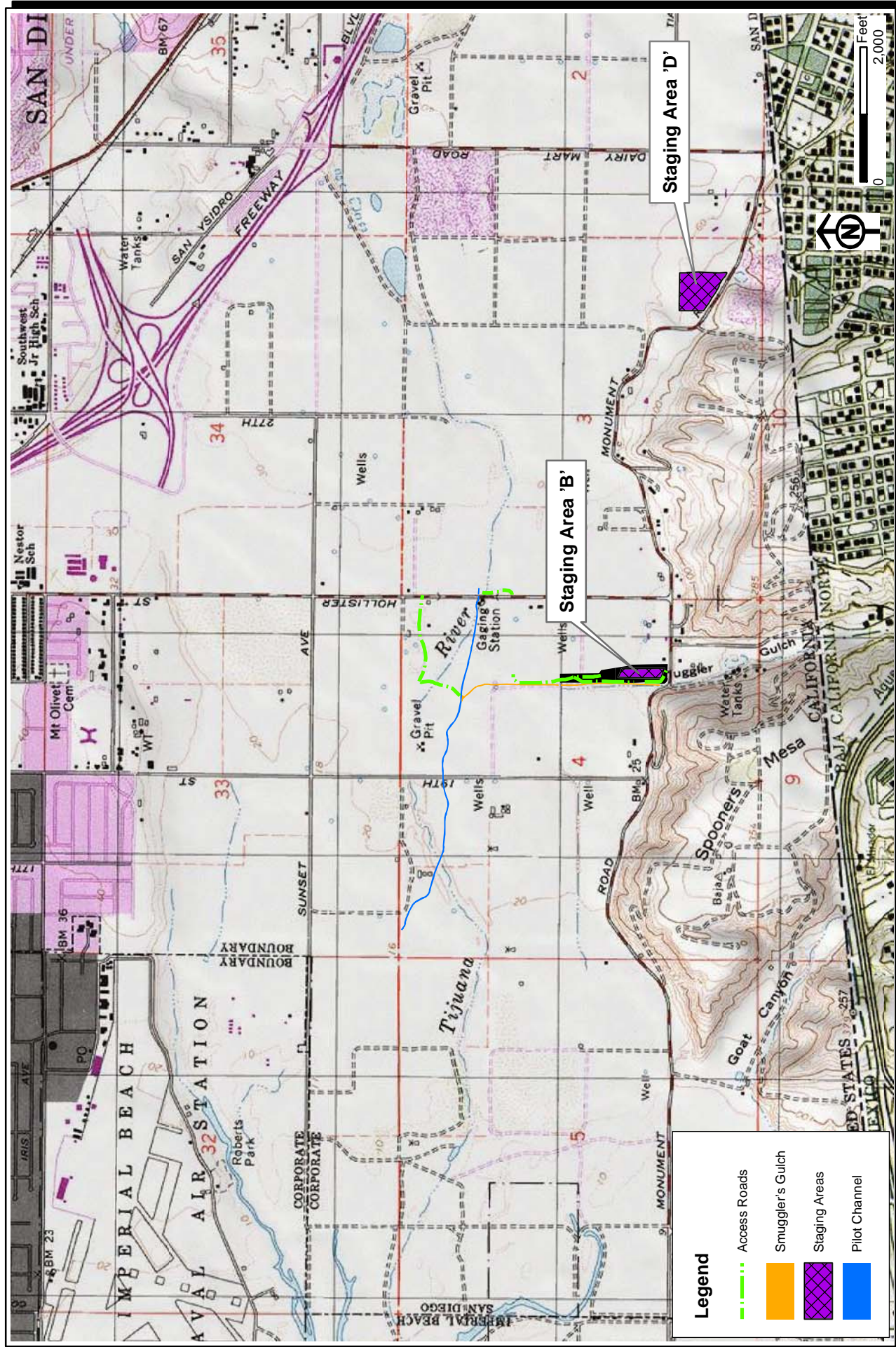


Table 1
Stream Documentation Photo-Log Form

Photo Point ID	Bearing	Coordinates (State Plane Zone 6)		Subject Description	Reference Landmark (Background)
		Latitude	Longitude		
P-1	North	6303300.35	1780269.73	Smuggler's Gulch work area, directly north of Disney Bridge	Single tree on left-hand berm of gulch, riparian vegetation associated with pilot channel
P-2	North	6303306.60	1780955.15	Smuggler's Gulch work area	Tree on left-hand side of gulch, giant reed on right-hand side of gulch
P-3	South	6303300.35	1780898.90	Smuggler's Gulch work area	Ridgeline
P-4	North northwest	6303317.02	1781338.48	Smuggler's Gulch work area	Two crossed trees on right-hand side of gulch, curve in gulch to the left
P-5	South southeast	6303312.85	1781269.73	Smuggler's Gulch work area	Trees on right-hand side of gulch, southern ridgeline
P-6	East	6303160.77	1781686.40	Pilot Channel work area directly east of confluence	Mature tree lines spanning along both sides of work area
P-7	East southeast	6303112.85	1781692.65	Smuggler's Gulch work area directly south of confluence	Stand of mature trees on both sides of gulch, curve in gulch to right
P-8	West	6303071.19	1781703.07	Pilot Channel work area directly west of confluence	Mature trees on both sides of work area
P-9	East	6301979.52	1781971.82	Pilot Channel east of Saturn Boulevard Horse trail	Large stand of giant reed on both sides of channel, mature tree on right-hand side
P-10	West	6301931.60	1781971.82	Pilot Channel west of Saturn Boulevard Horse trail	Mature trees on left-hand side of channel, single trunk on right-hand side
P-11	North northwest	6303585.77	1778682.23	Staging Area B	Mature tree line
P-12	South southwest	6303483.69	1779448.90	Staging Area B	Ridgeline, mature tree line on right-hand side
P-13	East	6304162.85	1781475.98	Pilot Channel work area	Mature trees on both sides of work area
P-14	South	6308727.11	1778494.31	Staging Area D	International border fence, utility pole line
P-15	South southwest	6309123.04	1778457.29	Staging Area D	International border fence, utility pole line
P-16	North northwest	6309160.06	1777972.84	Staging Area D	Access road, utility pole line, mature trees

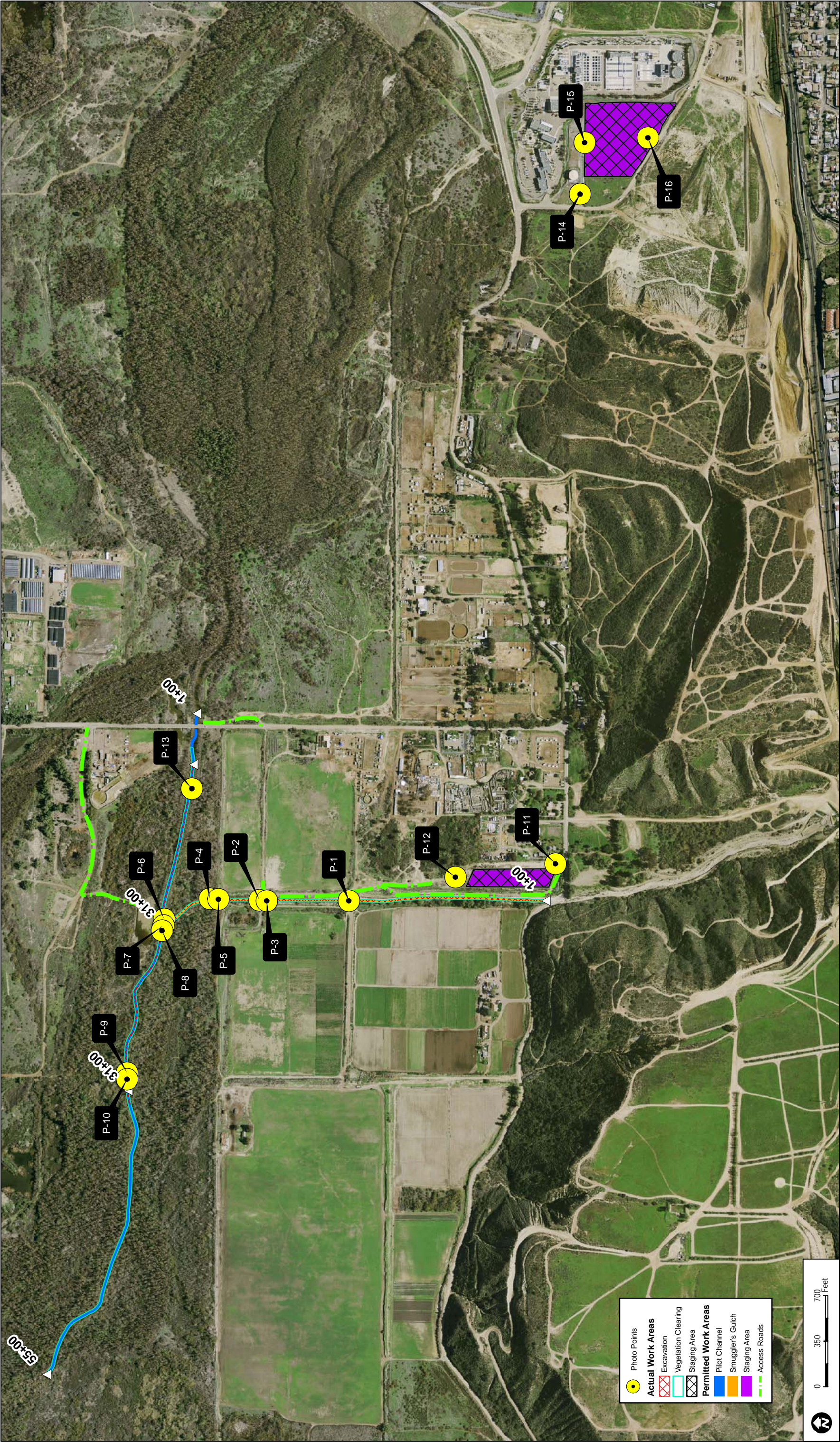


	<p>FIGURE 1 Regional Map</p>	<p>7165 APRIL 2014</p>
<p>Tijuana River Valley Channel Maintenance Project - Stream Photo Documentation Report</p>		



BASE MAP SOURCE: USGS 7.5 Minute Series, Imperial Beach Quadrangle

Tijuana River Valley Channel Maintenance Project - Stream Photo Documentation Report
Vicinity Map



7165
APRIL 2014

SOURCE: Digital Globe 2008

Tijuana River Valley Channel Maintenance Project - Stream Photo Documentation Report

FIGURE 3
Photo Points Map

APPENDIX D

Signed Certification of Compliance

LOS ANGELES DISTRICT
U.S. ARMY CORPS OF ENGINEERS


NOTIFICATION OF COMPLETION OF WORK AND
CERTIFICATION OF COMPLIANCE WITH
DEPARTMENT OF THE ARMY PERMIT

Permit Number: SPL-2009-00719-RRS
Name of Permittee: City of San Diego, Storm Water Department; Tony Heinrichs
Date of Issuance: October 17, 2012

Date work in waters of the U.S. completed: March 14, 2014
Construction period (in weeks): 25 weeks
Name & phone of contractor (if any): City of San Diego

Please note that your permitted activity is subject to a compliance inspection by an Army Corps of Engineers representative. If you fail to comply with this permit you may be subject to permit suspension, modification, or revocation.

I hereby certify that the work authorized by the above referenced permit has been completed in accordance with the terms and conditions of said permit.



Signature of Permittee

5/13/14

Date

Upon completion of the activity authorized by this permit, sign this certification and return it using any ONE of the following three (3) methods:

(1) E-MAIL a statement including all the above information to:
Robert.R.Smith@usace.army.mil

OR

(2) FAX this certification, after signing, to: [760-602-4848]

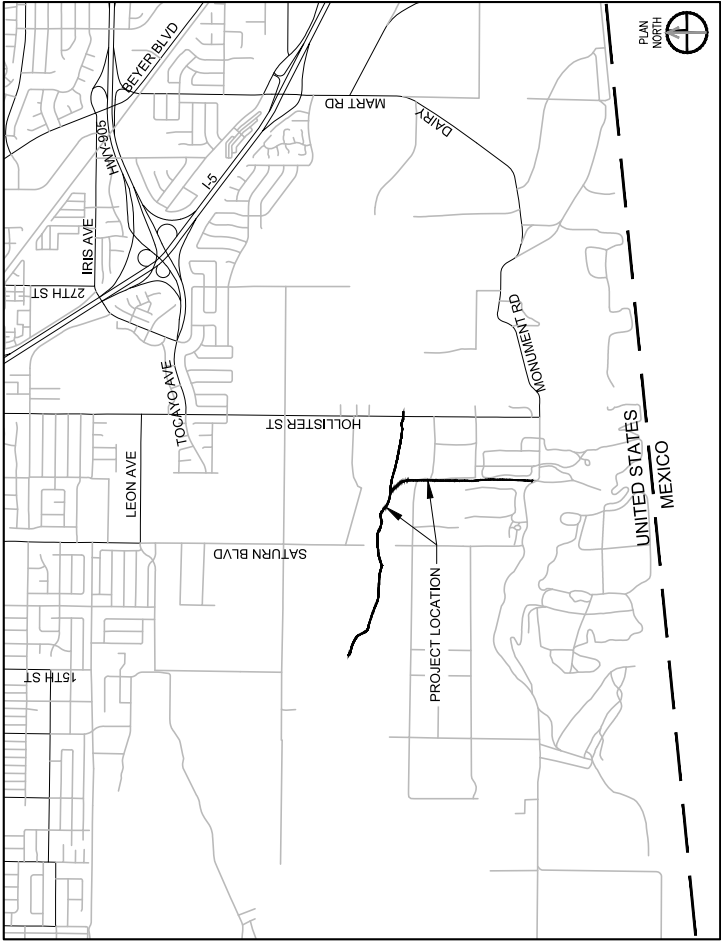
OR

(3) MAIL to the following address:

U.S. Army Corps of Engineers
Regulatory Division
ATTN: CESPL-RG-SPL-2009-00719-RRS
Los Angeles District, Corps of Engineers
Regulatory Division, Carlsbad Field Office
5900 La Place Ct., Suite 100
Carlsbad, CA 92008

APPENDIX E

Channel Maintenance Interim As-Built



LEGEND	
	PERMANENT TURNAROUND AREA (30' x 25')
	EXISTING ACCESS ROAD
	ESA
	STABILIZED CONSTRUCTION ENTRANCE (TC-1)
	EX WATER MAIN
	EX STORM DRAIN
	EX SEWER MAIN
	-SF- SILT FENCE (SE-1)
	-FR- FIBER ROLL (SE-5)
	-- STAGING AREA LIMITS
	MAJOR CONTOUR
	MINOR CONTOUR
	PARCEL
	HAUL ROUTE

WORK TO BE DONE

THE IMPROVEMENTS CONSIST OF THE FOLLOWING WORK TO BE DONE ACCORDING TO THESE PLANS AND THE STANDARD SPECIFICATIONS AND STANDARD DRAWINGS OF THE CITY OF SAN DIEGO.

- MAINTENANCE OF CHANNELS TO REMOVE ACCUMULATED SEDIMENT AND OTHER DEBRIS

STANDARD SPECIFICATIONS

STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION (GREENBOOK), 2012 EDITION, DOCUMENT NO. PITS070112-01
CITY OF SAN DIEGO STANDARD SPECIFICATIONS FOR PUBLICWORKS CONSTRUCTION (WHITEBOOK), 2012 EDITION, DOCUMENT NO. PITS070112-02
CALIFORNIA DEPARTMENT OF TRANSPORTATION MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES, 2012 EDITION, DOCUMENT NO. PITS070112-04
CALIFORNIA DEPARTMENT OF TRANSPORTATION U.S. CUSTOMARY STANDARD SPECIFICATIONS, 2010 EDITION, DOCUMENT NO. PITS070112-02

STANDARD DRAWINGS

CITY OF SAN DIEGO STANDARD DRAWINGS FOR PUBLIC WORKS CONSTRUCTION, 2012 EDITION, DOCUMENT NO. PIT070112-03
CALIFORNIA DEPARTMENT OF TRANSPORTATION U.S. CUSTOMARY STANDARD PLANS, 2010 EDITION, DOCUMENT NO. PITS070112-05

PRIOR TO THE ISSUANCE OF ANY CONSTRUCTION PERMIT, THE OWNER/PERMITTEE SHALL INCORPORATE ANY CONSTRUCTION BEST MANAGEMENT PRACTICES NECESSARY TO COMPLY WITH CHAPTER 14, ARTICLE 2, DIVISION 1 (GRADING REGULATIONS) OF THE SAN DIEGO MUNICIPAL CODE, INTO THE CONSTRUCTION PLANS OR SPECIFICATIONS. (FROM CYCLE 4)

DATUM: NAD 1983 STATEPLANE CALIFORNIA VI FIPS 0406 FEET
TOPO ELEVATIONS FOR PICTORIAL PURPOSES ONLY
TOPOGRAPHY DATE: 1999

WORK PERFORMED 9/2013 - 3/2014

INTERIM AS-BUILT
PLANS FOR THE CONSTRUCTION OF

TIJUANA RIVER VALLEY

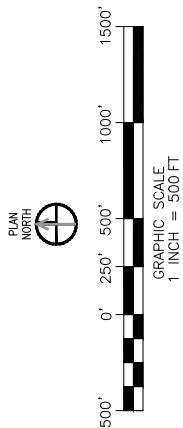
OVERALL PLAN

CITY OF SAN DIEGO, CALIFORNIA
ENGINEERING DEPARTMENT
SHEET 1 OF 15 SHEETS

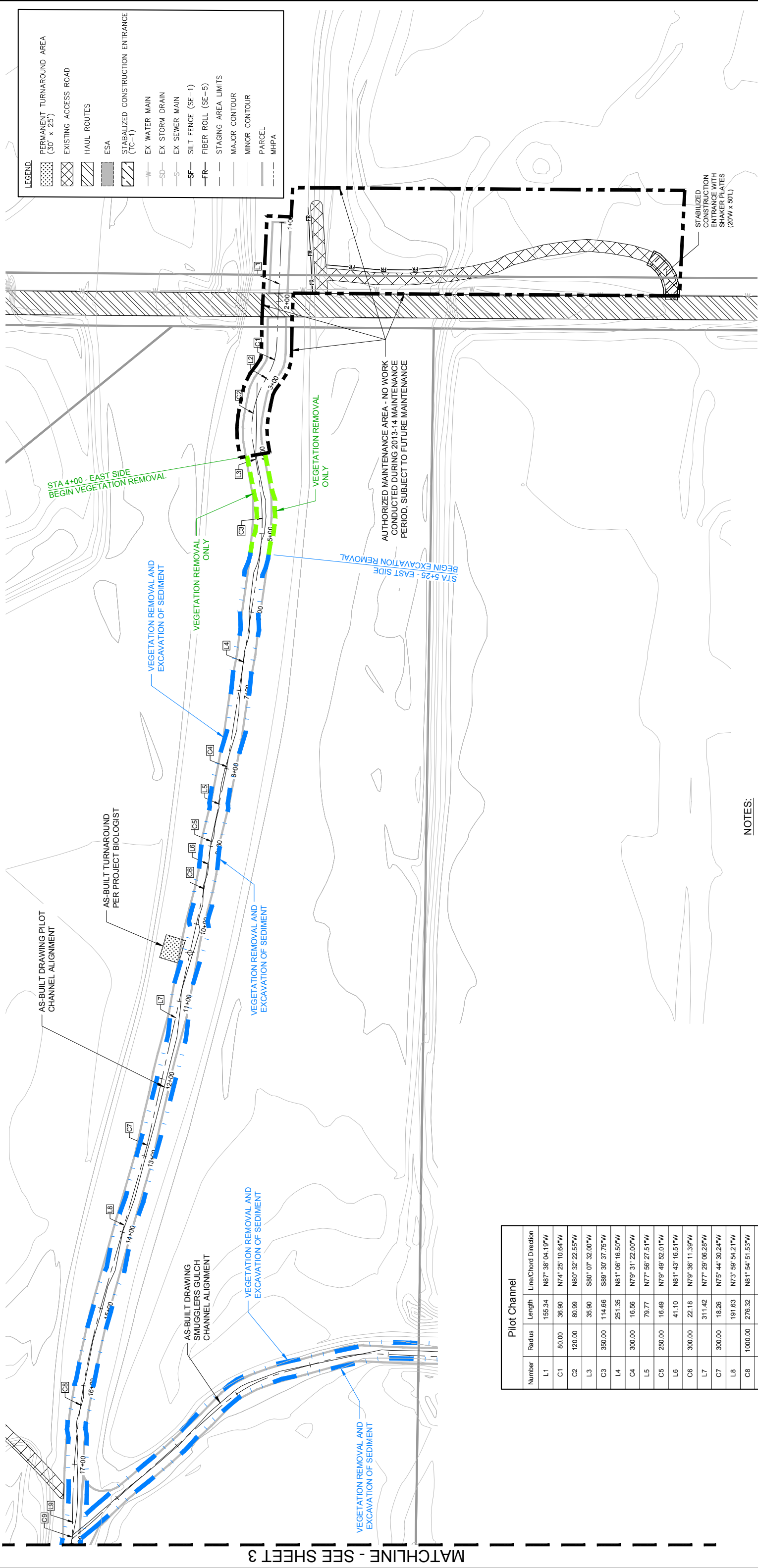
W.O.

NO.

REVISED MAINTENANCE ACCESS



GRAPHIC SCALE
1 INCH = 500 FT



MATCHLINE - SEE SHEET 3

LEGEND	
	PERMANENT TURNAROUND AREA (30' x 25')
	EXISTING ACCESS ROAD
	HAUL ROUTES
	ESA
	STABILIZED CONSTRUCTION ENTRANCE (10'-1)
	EX WATER MAIN
	EX STORM DRAIN
	EX SEWER MAIN
	-SF- SILT FENCE (SE-1)
	-FR- FIBER ROLL (SE-5)
	-- STAGING AREA LIMITS
	MAJOR CONTOUR
	MINOR CONTOUR
	PARCEL
	MHPA

Pilot Channel			
Number	Radius	Length	Line/Chord Direction
L1	155.34	155.34	N87° 38' 04.19"W
C1	80.00	36.90	N74° 25' 10.64"W
C2	120.00	80.99	N80° 32' 22.55"W
L3	35.90	35.90	S80° 07' 32.00"W
C3	350.00	114.66	S89° 30' 37.75"W
L4	251.35	251.35	N81° 06' 16.50"W
C4	300.00	16.56	N79° 31' 22.00"W
L5	79.77	79.77	N77° 56' 27.51"W
C5	250.00	16.49	N79° 49' 52.01"W
L6	41.10	41.10	N81° 43' 16.51"W
C6	300.00	22.18	N79° 36' 11.39"W
L7	311.42	311.42	N77° 29' 06.28"W
C7	300.00	18.26	N75° 44' 30.24"W
L8	191.63	191.63	N73° 59' 54.21"W
C8	1000.00	276.32	N81° 54' 51.55"W
L9	20.02	20.02	N89° 49' 48.84"W
C9	100.00	18.10	N84° 38' 40.78"W

NOTES:

- ENTIRE CHANNEL MAINTENANCE AREA SUBJECT TO IN-CHANNEL ENHANCEMENT MITIGATION REQUIREMENTS.
- SEE SHEET 8 FOR CHANNEL SECTION.

PLAN NORTH



GRAPHIC SCALE
1 INCH = 60 FT

PLAN ALIGNMENT

--- CHANNEL MAINTENANCE CENTERLINE

--- LIMITS OF CHANNEL MAINTENANCE

AS-BUILT ALIGNMENT

--- VEGETATION REMOVAL AND EXCAVATION OF SEDIMENT

--- VEGETATION REMOVAL ONLY

--- AUTHORIZED MAINTENANCE AREA

WORK PERFORMED 9/2013 - 3/2014

INTERIM AS-BUILT
PLANS FOR THE CONSTRUCTION OF

TIJUANA RIVER VALLEY

PILOT CHANNEL MAINTENANCE

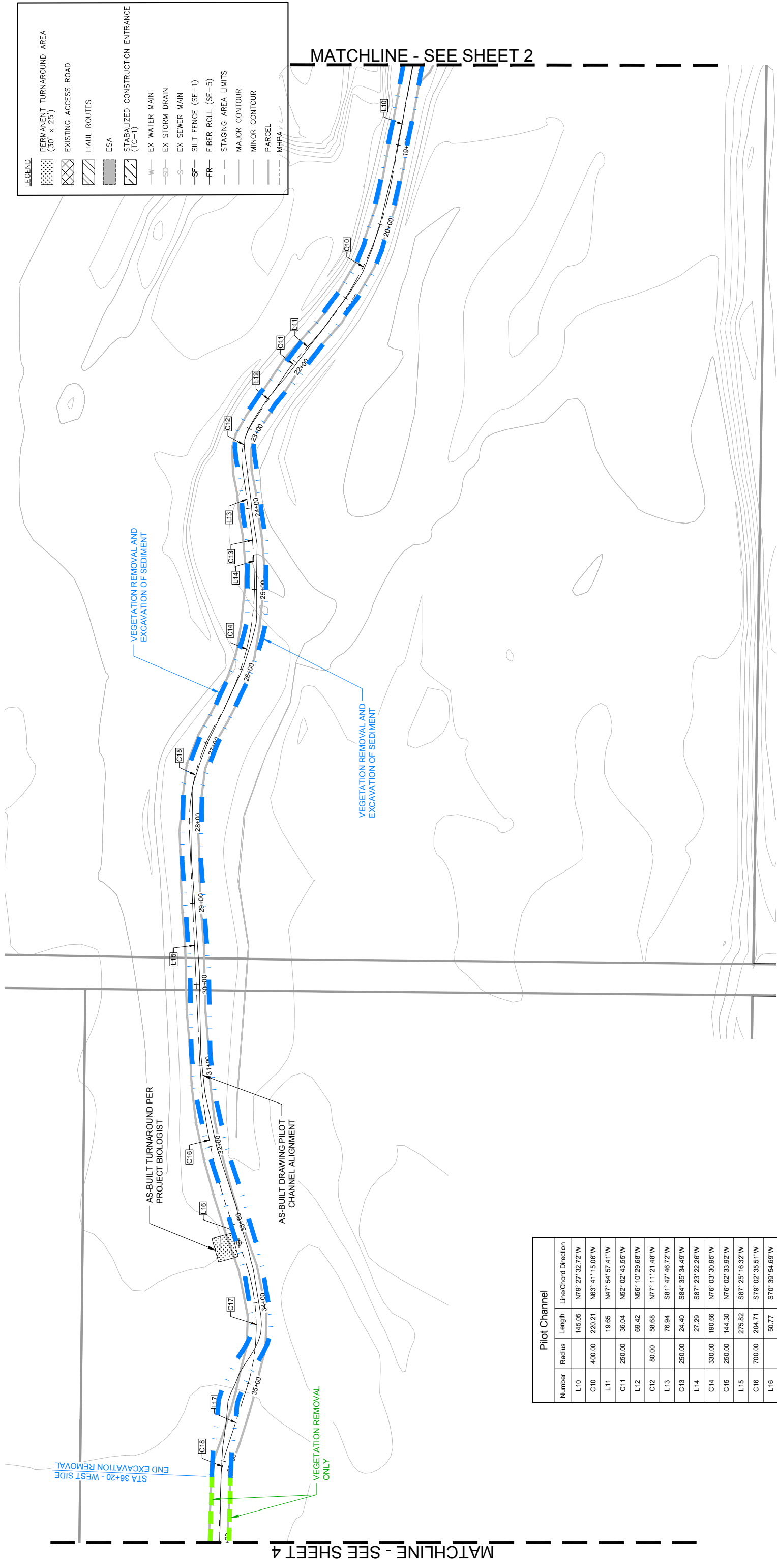
CITY OF SAN DIEGO, CALIFORNIA

ENGINEERING DEPARTMENT

SHEET 2 OF 15 SHEETS

W.O.

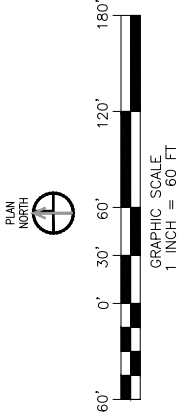
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Pilot Channel			
Number	Radius	Length	Line/Chord Direction
L 10		145.05	N79° 27' 32.72"W
C 10	400.00	220.21	N63° 41' 15.06"W
L 11		19.65	N47° 54' 57.41"W
C 11	250.00	36.04	N52° 02' 43.55"W
L 12		69.42	N56° 10' 29.68"W
C 12	80.00	58.68	N77° 11' 21.48"W
L 13		76.94	S81° 47' 46.72"W
C 13	250.00	24.40	S84° 35' 34.48"W
L 14		27.29	S87° 23' 22.26"W
C 14	330.00	190.66	N76° 03' 30.95"W
C 15	250.00	144.30	N76° 02' 33.92"W
L 15		275.82	S87° 25' 16.32"W
C 16	700.00	204.71	S79° 02' 35.51"W
L 16		50.77	S70° 39' 54.69"W
C 17	250.00	163.04	S89° 20' 55.38"W
L 17		84.46	N71° 58' 03.93"W
C 18	100.00	28.07	N80° 00' 35.71"W

NOTES:

1. ENTIRE CHANNEL MAINTENANCE AREA SUBJECT TO IN-CHANNEL ENHANCEMENT MITIGATION REQUIREMENTS.
2. SEE SHEET 8 FOR CHANNEL SECTION.



PLAN ALIGNMENT

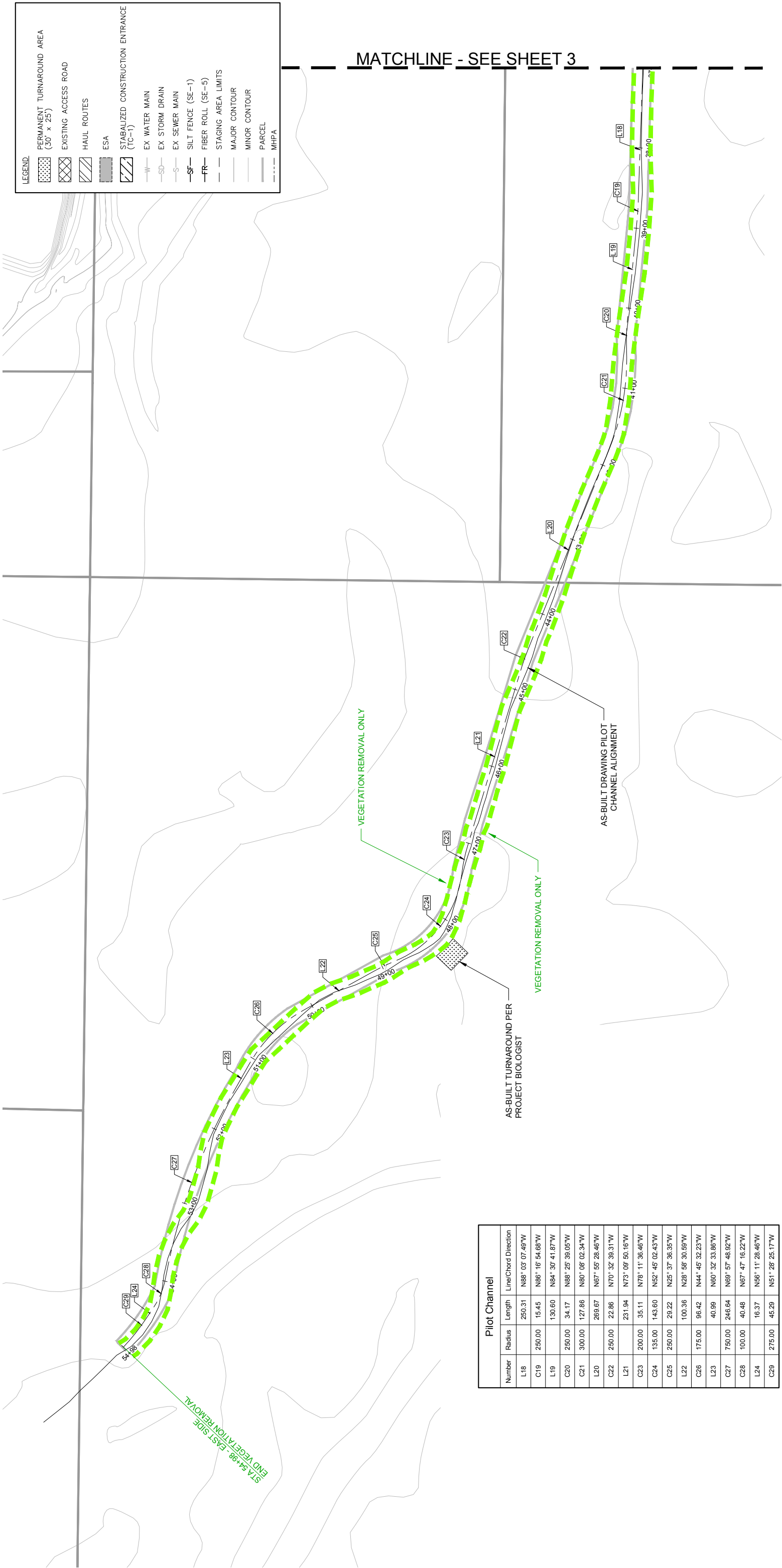
— — — CHANNEL MAINTENANCE CENTERLINE

— — — LIMITS OF CHANNEL MAINTENANCE

AS-BUILT ALIGNMENT

— — — VEGETATION REMOVAL AND EXCAVATION OF SEDIMENT

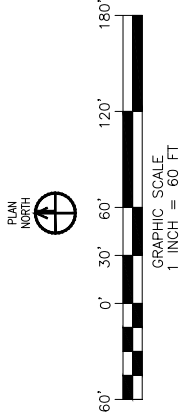
— — — VEGETATION REMOVAL ONLY



Pilot Channel			
Number	Radius	Length	Line/Chord Direction
L18		250.31	N88° 03' 07.49"W
C19	250.00	15.45	N86° 16' 54.68"W
L19		130.60	N84° 30' 41.87"W
C20	250.00	34.17	N88° 25' 39.05"W
C21	300.00	127.86	N80° 08' 02.34"W
L20		269.67	N67° 55' 28.46"W
C22	250.00	22.86	N70° 32' 39.31"W
L21		231.94	N73° 09' 50.16"W
C23	200.00	35.11	N78° 11' 36.46"W
C24	135.00	143.60	N52° 45' 02.43"W
C25	250.00	29.22	N25° 37' 36.35"W
L22		100.36	N28° 56' 30.59"W
C26	175.00	96.42	N44° 45' 32.23"W
L23		40.99	N60° 32' 33.88"W
C27	750.00	246.64	N69° 57' 45.92"W
C28	100.00	40.48	N67° 47' 16.22"W
L24		16.37	N56° 11' 28.46"W
C29	275.00	45.29	N51° 28' 25.17"W

NOTES:

- ENTIRE CHANNEL MAINTENANCE AREA SUBJECT TO IN-CHANNEL ENHANCEMENT MITIGATION REQUIREMENTS.
- SEE SHEET 8 FOR CHANNEL SECTION.



PLAN ALIGNMENT

LEGEND

--- CHANNEL MAINTENANCE CENTERLINE

--- LIMITS OF CHANNEL MAINTENANCE

AS-BUILT ALIGNMENT

LEGEND

--- VEGETATION REMOVAL ONLY

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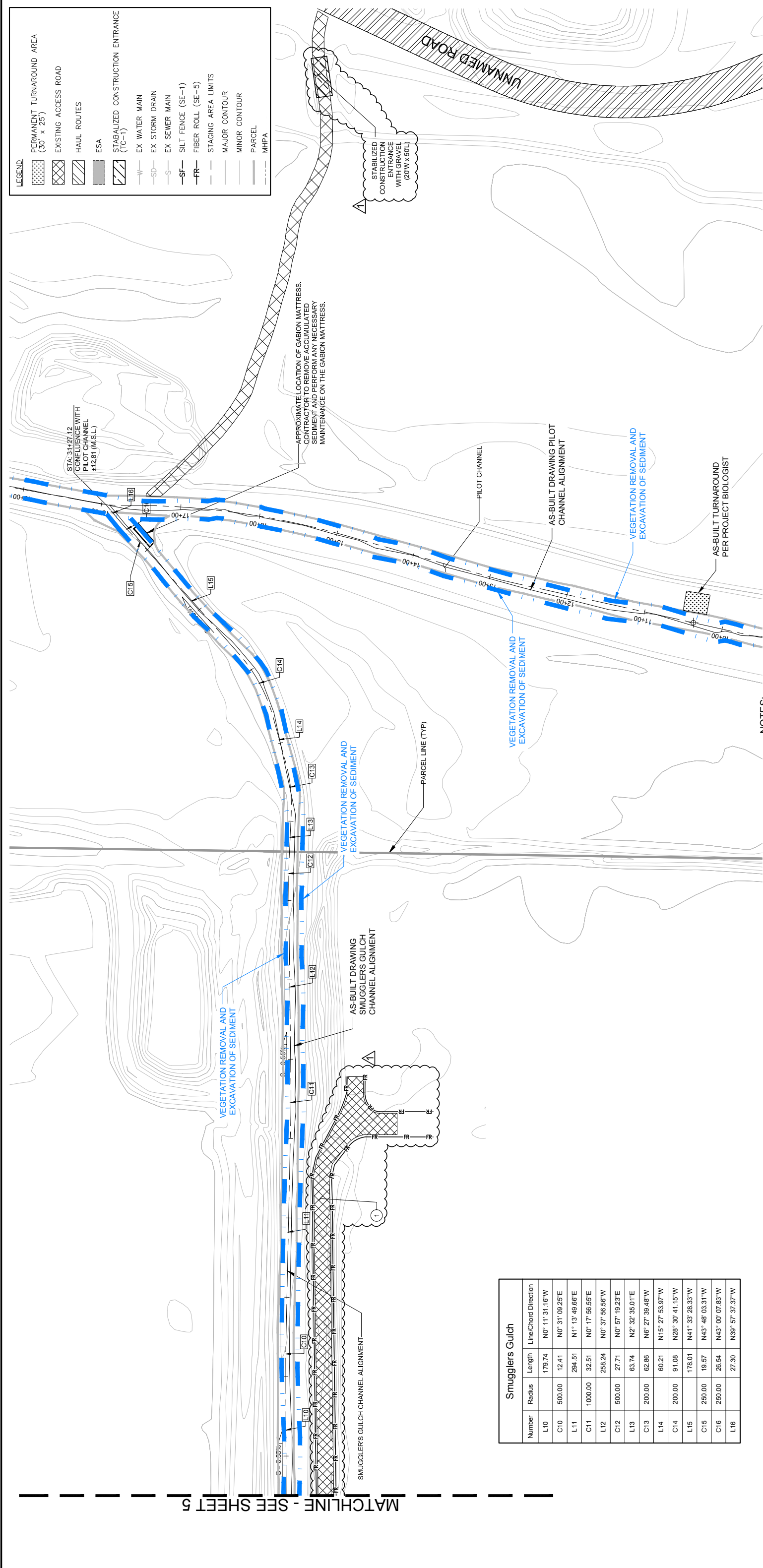
INTERIM AS-BUILT
PLANS FOR THE CONSTRUCTION OF

TIJUANA RIVER VALLEY

PILOT CHANNEL MAINTENANCE

CITY OF SAN DIEGO, CALIFORNIA
ENGINEERING DEPARTMENT
SHEET 4 OF 15 SHEETS

W.O. NO.



NOTES:

- ENTIRE CHANNEL MAINTENANCE AREA SUBJECT TO IN-CHANNEL ENHANCEMENT MITIGATION REQUIREMENTS.
- SEE SHEET 8 FOR CHANNEL SECTION.

PLAN ALIGNMENT

LEGEND

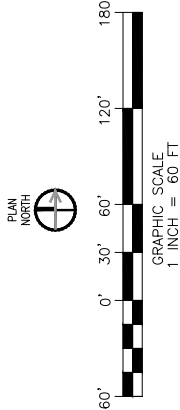
CHANNEL MAINTENANCE CENTERLINE

LIMITS OF CHANNEL MAINTENANCE

AS-BUILT ALIGNMENT

VEGETATION REMOVAL AND EXCAVATION OF SEDIMENT

- NOTES:
- LOADING/TRANSPORT WILL OCCUR ALONG THE CHANNEL BANK. EXACT LOCATION TO BE COORDINATED WITH PROJECT BIOLOGIST IN THE FIELD. NO VEHICULAR ENTRY INTO CHANNEL IS PERMITTED AT THIS LOCATION.
 - SEE SHEET 8 FOR CHANNEL SECTION.
 - BMPS WILL ONLY BE INSTALLED IN ACTIVE WORK AREAS AND ALONG ACTIVE ACCESS ROADS BASED ON THE PHASING OF THE CHANNEL MAINTENANCE.



Smugglers Gulch		
Number	Radius	Length
L10		179.74
C10	500.00	12.41
L11		294.51
C11	1000.00	32.51
L12		258.24
C12	500.00	27.71
L13		63.74
C13	200.00	62.86
L14		60.21
C14	200.00	91.08
L15		178.01
C15	250.00	19.57
C16	250.00	26.54
L16		27.30

WORK PERFORMED 9/2013 - 3/2014

INTERIM AS-BUILT
PLANS FOR THE CONSTRUCTION OF

TIJUANA RIVER VALLEY

SMUGGLERS GULCH MAINTENANCE

CITY OF SAN DIEGO, CALIFORNIA

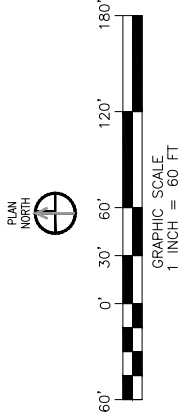
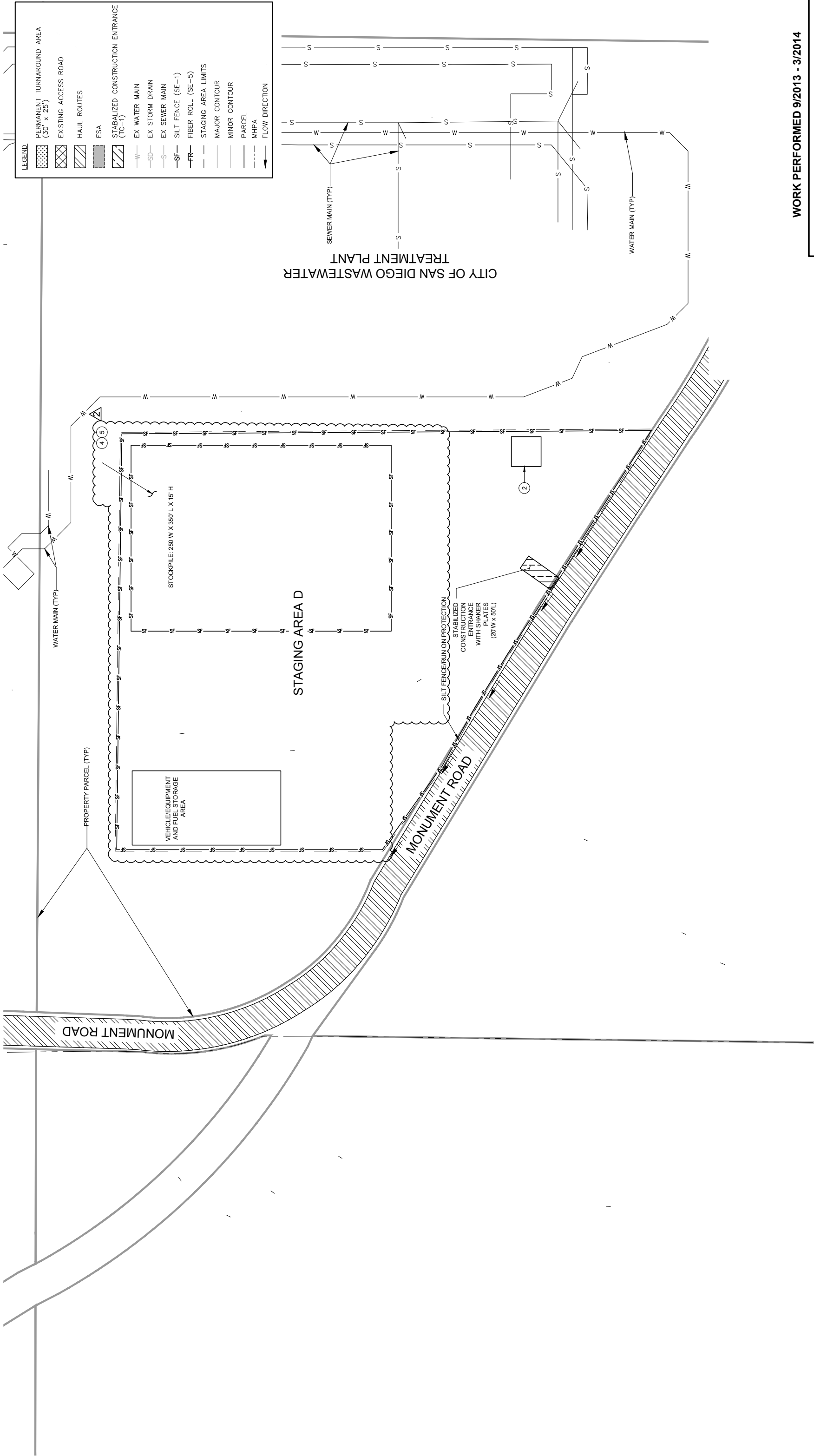
ENGINEERING DEPARTMENT

SHEET 6 OF 15 SHEETS

W.O.

NO.

REVISED MAINTENANCE ACCESS

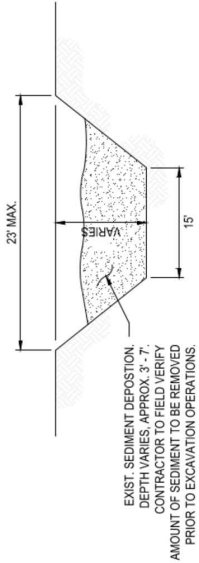


- NOTES:
- SEE SHEET 9 FOR CONSTRUCTION BMP NOTES.
 - SANITARY FACILITIES STORAGE AREA, SPILL CONTROL/CONTAINMENT MATERIALS, TRASH CONTAINERS AND BMP RELATED MATERIALS.
 - STAGING AREA D TO BE USED FOR PROCESSING EXCAVATED MATERIALS.

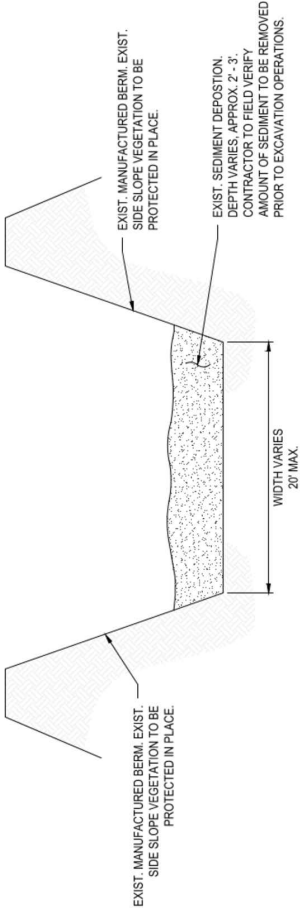
- STOCKPILES SHALL BE UNDERLAIN BY AT LEAST (6 MILS.) THICK PLASTIC SHEETING OR LINER OF LOW PERMEABILITY.
- PLASTIC SHEETING SHALL BE PLACED ON TOP OF STOCKPILE WHEN THERE IS A FORECASTED 50% OR GREATER CHANCE OF LIKELY PRECIPITATION OF 0.1 INCH OR GREATER BY THE NATIONAL WEATHER SERVICE FORECAST.

WORK PERFORMED 9/2013 - 3/2014

INTERIM AS-BUILT
PLANS FOR THE CONSTRUCTION OF
TIJUANA RIVER VALLEY
STAGING AREA D



TIJUANA RIVER PILOT CHANNEL SECTION (TYPICAL)
NOT TO SCALE



SMUGGLER'S GULCH CHANNEL SECTION (TYPICAL)
NOT TO SCALE

WORK PERFORMED 9/2013 - 3/2014

INTERIM AS-BUILT PLANS FOR THE CONSTRUCTION OF	
TIJUANA RIVER VALLEY	
CROSS SECTIONS	
CITY OF SAN DIEGO, CALIFORNIA ENGINEERING DEPARTMENT SHEET 8 OF 15 SHEETS	W.O. NO. _____

CONSTRUCTION BMP NOTES:

1. ALL BEST MANAGEMENT PRACTICES (BMPs) WILL BE IMPLEMENTED PRIOR TO OR CONCURRENT WITH CONSTRUCTION AND MAINTAINED THROUGHOUT THE PROJECT. A QUALIFIED CONTACT PERSON WILL BE RESPONSIBLE FOR IMPLEMENTING THE WATER POLLUTION CONTROL PLAN (WPCP.) ALL WORK SHALL BE COMPLETED BETWEEN SEPTEMBER 15TH AND FEBRUARY 15TH UNLESS AN EXTENSION IS GRANTED IN CONFORMANCE WITH ALL APPLICABLE PERMITS.

2. CONTRACTOR WILL LIMIT ALL CONSTRUCTION RELATED ACTIVITIES TO THE PROJECT FOOTPRINT.

3. EXISTING VEGETATION TO BE PRESERVED IN PLACE SHALL BE CLEARLY MARKED WITH A BUFFER AREA FOLLOWING THE GUIDANCE OF BMP FACT SHEET EC-2.

4. REMOVAL OF VEGETATION MUST OCCUR BY HAND, MECHANICALLY, OR USING U.S. ENVIRONMENTAL PROTECTION AGENCY APPROVED HERBICIDES DEPLOYED WITH APPLICABLE BMPs TO PREVENT IMPACTS TO BENEFICIAL USES OF WATERS OF THE U.S. AND/OR STATE. USE OF AQUATIC PESTICIDES MUST BE DONE IN ACCORDANCE WITH STATE WATER RESOURCES CONTROL BOARD WATER QUALITY ORDER NO. 2004-0009-DWQ, AND ANY SUBSEQUENT REISSUANCE AS APPLICABLE. REMOVAL OF VEGETATION MUST OCCUR OUTSIDE OF THE AVIAN NESTING SEASON (MARCH 15-AUGUST 31).

5. REMOVAL AND DISPOSAL OF EXOTIC INVASIVE SPECIES SHALL BE DONE IN A MANNER THAT PREVENTS THE SPREAD OF EXOTIC INVASIVE SPECIES TO OTHER AREAS.

6. THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT ADEQUATE WIND EROSION CONTROL IS AVAILABLE ONSITE FOLLOWING BMP FACT SHEET WE-1.

7. STABILIZED CONSTRUCTION ROADWAYS AND ENTRANCE/EXITS WILL BE INSTALLED TO PREVENT TRACKING FOLLOWING THE GUIDANCE OF BMP FACT SHEET TC-1 AND TC-2.

8. CONTRACTOR SHALL BE RESPONSIBLE FOR CLEANUP OF SILT AND MUD ON STREETS DUE TO EXCAVATION AND STOCKPILING ACTIVITIES. STREET SWEEPING AND VACUUMING WILL BE MANAGED FOLLOWING THE GUIDANCE OF BMP FACT SHEET SE-7.

9. THE PERIMETER OF THE SITES SHALL BE PROTECTED AGAINST RUN-ON AND RUNOFF USING LINEAR SEDIMENT BARRIERS SUCH AS DRAINAGE SWALES, SILT FENCE, FIBER ROLLS, AND/OR GRAVEL BAG BERMS. THE SEDIMENT CONTROL BMPs MAY BE USED INTERCHANGEABLY BASED ON SITE CONDITIONS AND STORMWATER CONCENTRATION.

10. CONTRACTOR TO PLACE LINEAR SEDIMENT BARRIERS AROUND WORK ZONE FOLLOWING THE GUIDANCE OF BMP FACT SHEETS SC-1, SC-5, SC-6 AND/OR SC-8. SC-1 OR SC-5 SHALL BE USED WHERE APPROPRIATE IN CONJUNCTION WITH CONSTRUCTION FENCE, WHICH WILL BE USED AS SUPPORT. FIBER ROLLS MUST BE ADEQUATELY SECURED SO THAT STORMWATER CANNOT GET AROUND OR UNDER THEM.

11. GRAVEL BAG BERMS MAY BE USED TO FORM BARRIERS ACROSS SLOPES TO INTERCEPT RUNOFF AND RELEASE IT AS SHEET FLOW, PROVIDING SOME SEDIMENT REMOVAL. GRAVEL BAGS CAN BE USED WHERE FLOWS ARE MODERATELY CONCENTRATED, SUCH AS IN DITCHES AND SWALES. GRAVEL BAGS SHALL BE USED AS A LINEAR SEDIMENT BARRIER IF FLOW EXCEEDS THE ABILITY OF FIBER ROLLS TO CONTROL. GRAVEL BAG BERMS WILL BE IMPLEMENTED FOLLOWING THE GUIDANCE OF BMP FACT SHEET SE-6.

12. FIBER ROLLS SHALL ALSO BE USED IN VEGETATED AREAS, ON SLOPES, AND TO FORM BERMS AROUND STOCKPILES. FIBER ROLLS SHALL BE IMPLEMENTED FOLLOWING THE GUIDANCE OF BMP FACT SHEET SC-5. SILT FENCE MAY ALSO BE USED AT TOES OF STOCKPILES.

13. WEATHER TRIGGERED ACTION PLAN SHALL BE IMPLEMENTED WHEN THERE IS A FORECASTED 50% OR GREATER CHANCE OF LIKELY PRECIPITATION OF 0.1 INCH OR GREATER BY THE NATIONAL WEATHER SERVICE FORECAST.

14. SOIL ROUGHENING CAN BE USED IN CONJUNCTION WITH HYDRAULICALLY APPLIED STABILIZATION METHODS, GEOTEXTILES, FIBER ROLLS, OR MULCH TO PROTECT, TEMPORARY STOCKPILES, OR SWALES FOLLOWING THE GUIDANCE OF BMP FACT SHEETS EC-4, EC-5, & EC-7.

15. CONTRACTOR SHALL RESTORE ALL EROSION CONTROL DEVICES TO WORKING ORDER AFTER EACH RUNOFF-PRODUCING RAINFALL.

16. TEMPORARY EROSION OR SEDIMENT CONTROL MEASURES WILL BE REMOVED UPON COMPLETION OF MAINTENANCE UNLESS THEIR REMOVAL WOULD RESULT IN GREATER ENVIRONMENTAL IMPACT THAN LEAVING THEM IN PLACE.

17. WASTE AND STOCKPILES SHALL BE MANAGED FOLLOWING THE GUIDANCE OF BMP FACT SHEETS WM-3, WM-5, WM-6, WM-7, AND WM-10. COMPOSTABLE GREEN WASTE MATERIALS SHALL BE TRANSPORTED TO AN APPROVED COMPOSTING FACILITY WHEN FEASIBLE.

18. EXPOSED WASTE MATERIALS AND SOIL STOCKPILES SHALL BE TEMPORARILY STORED IN STAGING AREAS B AND D UNTIL REMOVAL TO A PERMITTED DISPOSAL FACILITY. EXPOSED WASTE MATERIALS AND SOIL STOCKPILES SHALL BE PROTECTED IN PLACE USING SILT FENCE, FIBER ROLLS, GRAVEL BAGS, PLASTIC COVERS, AND/OR DRAINAGE SWALES FOLLOWING THE GUIDANCE OF BMP FACT SHEETS SE-1, SE-5, SE-6, EC-7 AND/OR EC-9. MANAGEMENT OF STOCKPILES TEMPORARILY MUST ALSO COMPLY WITH R9-2007-0104. CONDITIONAL WAIVERS OF WASTE DISCHARGE REQUIREMENTS FOR SPECIFIC TYPES OF DISCHARGE WITHIN THE SAN DIEGO REGION, CONDITIONAL WAIVER 8.

19. EXCAVATED MATERIALS FROM THE CHANNELS SHALL BE TRANSFERRED TO STAGING AREA D TO BE SUFFICIENTLY DRIED AND TO BE PROCESSED TO

SEPARATE OUT SEDIMENT, VEGETATION, TRASH AND TIRES.

20. WASTE TIRES SHALL BE SEPARATED FROM EXCAVATED MATERIALS AND TRANSPORTED TO AN APPROPRIATE DISPOSAL FACILITY. IF MORE THAN NINE TIRES ARE IN A VEHICLE OR WASTE BIN AT ANY ONE TIME, THEY SHALL BE TRANSPORTED UNDER A COMPLETED COMPREHENSIVE TRIP LOG (CTL) TO DOCUMENT THAT THE TIRES WERE TAKEN TO AN APPROPRIATE DISPOSAL FACILITY.
21. EXCAVATED MATERIALS WILL BE REUSED, WHENEVER POSSIBLE, AS FILL MATERIAL, AGGREGATE, SAND REPLENISHMENT OR OTHER RAW MATERIAL USES. RE-USED MATERIAL (AGGREGATES, SOIL, SAND, OR SILT) SHALL BE DOCUMENTED IN ACCORDANCE WITH APPLICABLE LOCAL, STATE AND FEDERAL REGULATIONS.
22. HAZARDOUS MATERIALS USED DURING MAINTENANCE WILL NOT BE STORED WITHIN 50 FEET FROM STORM WATER FACILITIES. HAZARDOUS MATERIALS SHALL BE MANAGED AND STORED IN ACCORDANCE WITH APPLICABLE LOCAL, STATE AND FEDERAL REGULATIONS. A REGISTERED FIRST-RESPONSE, PROFESSIONAL HAZARDOUS MATERIALS CLEAN-UP/REMEDIATION SERVICE SHALL BE LOCALLY AVAILABLE ON CALL.
23. MAINTENANCE-RELATED TRASH WILL BE STORED IN AN APPROPRIATE RECEPTACLE WITH A COVER IN THE STAGING AREAS AT LEAST 150 FEET FROM STORM WATER FACILITIES, AND TRASH RECEPTACLES WILL BE EMPTIED/REMOVED REGULARLY (AT LEAST ONCE PER WEEK).
24. THE TREATMENT, STORAGE, AND DISPOSAL OF WASTEWATER DURING THE LIFE OF THE PROJECT MUST BE DONE IN ACCORDANCE WITH WASTE DISCHARGE REQUIREMENTS ESTABLISHED BY THE SAN DIEGO WATER BOARD PURSUANT TO CWC 13260.
25. CONSTRUCTION DEWATERING OPERATIONS ARE NOT ANTICIPATED FOR THE MAINTENANCE ACTIVITIES DUE TO DRY WEATHER EXCAVATION REQUIREMENTS. IF THEY ARE NEEDED, CONSTRUCTION DEWATERING OPERATIONS SHALL BE MANAGED FOLLOWING THE GUIDANCE OF BMP FACT SHEET NS-2.
26. GROUNDWATER DEWATERING SHALL BE MANAGED IN ACCORDANCE WITH THE GENERAL WASTE DISCHARGE REQUIREMENTS FOR DISCHARGES FROM TEMPORARY GROUNDWATER EXTRACTION AND SIMILAR WASTE DISCHARGES TO SAN DIEGO BAY, TRIBUTARIES THERETO UNDER TIDAL INFLUENCE, AND STORM DRAINS OR OTHER CONVEYANCE SYSTEMS TRIBUTARY THERETO (WDR) ORDER NO. R9-2007-0034, NPDES NO. CAG919001.
27. SANITARY FACILITIES WILL BE PROVIDED ONSITE FOR THE USE OF PERSONNEL AND WILL BE PROPERLY MAINTAINED, INCLUDING BEING EQUIPPED WITH SECONDARY CONTAINMENT FOLLOWING THE GUIDANCE OF BMP FACT SHEET WM-9
28. SPILLS SHALL BE MANAGED FOLLOWING THE GUIDANCE OF BMP FACT SHEET WM-4. SPILL CLEANUP MATERIALS SHALL BE AVAILABLE ONSITE AT ALL TIMES.
29. MATERIAL USE, DELIVERY AND STORAGE SHALL BE MANAGED FOLLOWING THE GUIDANCE OF BMP FACT SHEETS WM-1 AND WM-2.
30. WATER SHALL BE CONSERVED FOLLOWING THE GUIDANCE OF BMP FACT SHEET NS-1 SO AS NOT TO ALLOW UNAUTHORIZED NON-STORMWATER DISCHARGES.
31. BMP MATERIAL SHALL BE STORED ONSITE TO PROVIDE COMPLETE PROTECTION OF EXPOSED AREAS AND PREVENT OFF-SITE SEDIMENT TRANSPORT.
32. VEHICLE AND EQUIPMENT FUELING/MAINTENANCE SHALL BE MANAGED FOLLOWING THE GUIDANCE OF BMP FACT SHEETS NS-9 AND NS-10. THE FUELING AREA SHALL BE LOCATED AT LEAST 100 FEET AWAY FROM THE CHANNELS IN STAGING AREAS B AND D. NO ROUTINE MAINTENANCE AND NO STORAGE OF PETROLEUM PRODUCTS OR CHEMICALS ARE PERMITTED ONSITE. RE-FUELING WILL BE RESTRICTED TO HEAVY EARTH MOVING EQUIPMENT (NOT DUMP TRUCKS) AND RESTRICTED TO THE STAGING AREA. EQUIPMENT WILL BE INSPECTED DAILY FOR FLUID LEAKS AND PROMPTLY CLEANED UP.
33. STATIONARY EQUIPMENT (CRANES, MOTORS, PUMPS, ETC.) LOCATED IN OR ADJACENT TO THE CHANNELS SHALL BE POSITIONED OVER DRIP PANS.
34. THE CONTRACTOR SHALL PROVIDE EQUIPMENT NECESSARY TO EXTINGUISH SMALL BRUSH FIRES (FROM SPARKING VEHICLES, ETC.) ONSITE DURING ALL PHASES OF PROJECT ACTIVITIES, ALONG WITH TRAINED PERSONNEL FOR USE OF SUCH EQUIPMENT.
35. THE CONTRACTOR SHALL MONITOR THE 5 DAY WEATHER FORECAST. IF ANY PRECIPITATION IS FORECASTED, THE SITE SHALL BE SECURED TO PREVENT ANY CONSTRUCTION RELATED MATERIALS FROM LEAVING THE SITE AND ENTERING THE CHANNELS. THE SITE SHALL BE COMPLETELY SECURED ONE DAY PRIOR TO EXPECTED PRECIPITATION UNLESS PRIOR WRITTEN APPROVAL IS PROVIDED BY THE DEPARTMENT OF FISH AND GAME (DFG). NO CONSTRUCTION ACTIVITIES SHALL OCCUR DURING RAIN EVENTS. IF THE AMOUNT OF RAINFALL ACCUMULATED IN THE WATERSHED IS ONE INCH OR GREATER, CONSTRUCTION ACTIVITIES SHALL BE HALTED FOR TWO WEEKS OR UNTIL THE FLOWS HAVE RECEDED AND THE MOISTURE CONTENT OF THE SOILS HAVE STABILIZED.
36. SAMPLING AND ANALYSIS, MONITORING AND REPORTING, AND POST-MAINTENANCE MANAGEMENT OF THE PROJECT SHALL BE CONDUCTED AS DETERMINED NECESSARY BY THE CITY OF SAN DIEGO.
37. CHANNELS WILL BE INSPECTED WITHIN 72 HOURS OF THE FIRST 2-YEAR STORM FOLLOWING MAINTENANCE. IF SUBSTANTIAL EROSION HAS OCCURRED, EROSION CONTROL MEASURES RECOMMENDED BY THE FIELD ENGINEER WILL BE IMPLEMENTED TO REMEDIATE EROSION AREAS AND TO MINIMIZE FUTURE EROSION.
38. CONTRACTOR SHALL PROVIDE TRAINING FOR ALL PERSONNEL RESPONSIBLE FOR THE PROPER INSTALLATION, INSPECTION, AND MAINTENANCE OF ONSITE BMPs.

39. THE QUALIFIED CONTACT PERSON WILL ASSIGN A MONITOR FOR DAILY INSPECTION OF THE BMPs. EACH MORNING, THE MONITOR WILL CHECK THE NATIONAL WEATHER SERVICE FORECAST, COMPLETE BMP INSPECTION CHECKLIST, PERFORM ANY NECESSARY BMP MAINTENANCE/REPAIRS, AND REPORT THE RESULTS TO THE QUALIFIED CONTACT PERSON.COMPLETED INSPECTION CHECKLISTS WILL BE KEPT WITH THE WPCP.
40. PREVIOUSLY UNDISTURBED STAGING AREAS WILL BE REVEGETATED WITHIN 30 DAYS OF COMPLETION OF MAINTENANCE ACTIVITIES. THE REVEGETATED AREAS WILL BE MONITORED FOR A PERIOD OF NOT LESS THAN 25 MONTHS AFTER PLANTING.
41. FINAL LOCATION OF CHANNEL CENTERLINE WILL BE DETERMINED IN THE FIELD AND COORDINATED WITH NECESSARY PROJECT SPECIALISTS (BIOLOGIST, HISTORICAL MONITOR, ETC.).

MAINTENANCE PROCEDURE:

PRE-MAINTENANCE ACTIVITIES:

1. PRE-CONSTRUCTION MEETING - CONDUCT A PRE-MAINTENANCE MEETING ONSITE PRIOR TO THE START OF ANY MAINTENANCE ACTIVITY. QUALIFIED SPECIALISTS SHALL INDICATE/IDENTIFY ANY SENSITIVE BIOLOGICAL/HISTORICAL/WATER QUALITY RESOURCES TO BE AVOIDED DURING MAINTENANCE; FLAG/DELINEATE SENSITIVE RESOURCES TO BE AVOIDED DURING MAINTENANCE; REVIEW SPECIFIC MEASURES TO BE IMPLEMENTED TO MINIMIZE DIRECT/INDIRECT IMPACTS; AND DIRECT CREWS OR OTHER PERSONNEL TO PROTECT SENSITIVE RESOURCES AS NECESSARY.
2. TRAINING - CONDUCT TRAINING FOR PERSONNEL RESPONSIBLE FOR THE PROPER INSTALLATION, INSPECTION, AND MAINTENANCE OF ONSITE BMPs.
3. BMP INSTALLATION - INSTALL CONSTRUCTION BMPs (SEDIMENT, EROSION CONTROL, ETC.) IN ACCORDANCE WITH THE WATER POLLUTION CONTROL PLAN ALONG ALL EXISTING ACCESS ROADS AND STAGING AREAS.
4. MOBILIZE EQUIPMENT AT STAGING AREAS B AND D.
5. PERFORM NECESSARY MAINTENANCE ACTIVITIES ALONG THE EXISTING ACCESS ROADS.

CHANNEL SEQUENCE

1. SMUGGLER'S GULCH (SG) NORTH OF DISNEY CROSSING TOWARD CONFLUENCE AND CULVERTS UNDER DISNEY CROSSING.
2. PILOT CHANNEL EAST OF CONFLUENCE TOWARDS HOLLISTER BRIDGE.
3. PILOT CHANNEL WEST OF CONFLUENCE TO SATURN BOULEVARD.
4. SG SOUTH OF DISNEY CROSSING TOWARD MONUMENT ROAD AND CULVERTS UNDER MONUMENT ROAD.

METHODOLOGY

1. SG NORTH OF DISNEY CROSSING TOWARD CONFLUENCE AND CULVERTS UNDER DISNEY CROSSING
- 1.1. EQUIPMENT ENTERS SG AT TEMPORARY ACCESS RAMP NORTH OF DISNEY CROSSING.
- 1.2. BULLDOZER PUSHES MATERIAL TO A CENTRAL LOCATION IN CHANNEL.
- 1.3. EXCAVATOR STATIONED AT CENTRAL LOCATION SCOOPS ACCUMULATED MATERIAL AND LOADS INTO ROCK TRUCK
- 1.4. ROCK TRUCK (USING DESIGNATED TURNAROUND AND ACCESS ROADS) HAULS MATERIAL TO STAGING AREA B
- 1.5. PLACE BARRIERS AT TRAIL HEADS AND DISNEY CROSSING.
2. CULVERTS UNDER DISNEY BRIDGE
- 2.1. SKID-STEER (BOBCAT) ENTERS SG AT TEMPORARY ACCESS RAMP.
- 2.2. SKID-STEER PUSHES MATERIAL IN CULVERTS TO EXCAVATOR STATIONED AT ACCESS RAMP.
- 2.3. EXCAVATOR LOADS ROCK TRUCK/DUMP TRUCK
- 2.4. ROCK/DUMP TRUCK HAULS MATERIAL TO STAGING AREA B.
3. SG SOUTH OF DISNEY CROSSING TOWARD MONUMENT ROAD
- 3.1. BULLDOZER TO ENTER CHANNEL FROM DESIGNATED ACCESS POINT ALONG ACCESS ROUTE.
- 3.2. BULLDOZER PUSHES MATERIAL TO CENTRAL LOCATION.
- 3.3. EXCAVATOR STATIONED ON ACCESS ROAD SCOOPS MATERIAL FROM CENTRAL LOCATION
- 3.4. EXCAVATOR LOAD MATERIAL INTO ROCK TRUCK.
- 3.5. ROCK TRUCK USES EXISTING ACCESS ROADS TO HAUL MATERIALS TO STAGING AREA B.
- 3.6. MAINTENANCE SHALL BE PERFORMED SUCH THAT IDENTIFIED SENSITIVE RESOURCES ARE AVOIDED. SENSITIVE RESOURCES ARE LOCATED ON THE EARTHEN BERM OF SG AS INDICATED ON THE PLAN SHEETS.
4. CULVERTS UNDER MONUMENT ROAD
- 4.1. VACTOR TRUCK STATIONED ON MONUMENT ROAD FLUSHES ACCUMULATED MATERIAL IN CULVERT AND VACUUMS MATERIAL.
- 4.2. MATERIALS TO BE HAULED TO AN APPROPRIATE DISPOSAL FACILITY.
5. PILOT CHANNEL
- 5.1. FOLLOW SG NORTH OF DISNEY CROSSING METHODOLOGY.
- 5.2. CONSTRUCT NEW TURNAROUND ALONG NORTH BANK AND MAINTAIN EXISTING TURNAROUNDS.
- 5.3. PERFORM INSPECTION/MAINTENANCE OF GABION ROCK MATPRESS LOCATED NEAR CONFLUENCE OF SG AND PILOT CHANNELS.
6. STAGING AREA B
- 6.1. ROCK TRUCK TRANSPORTS/DUMPS SPOILS TO STAGING AREA B.
- 6.2. BULLDOZER MANAGES STOCKPILE
- 6.3. LOADER DUMPS MATERIAL INTO DUMP TRUCK.
- 6.4. DUMP TRUCK HAULS MATERIAL TO STAGING AREA D.
7. STAGING AREA D
- 7.1. DUMP TRUCK TRANSPORTS/DUMPS SPOILS TO STAGING AREA D.
- 7.2. BULLDOZER MANAGES STOCKPILE.
- 7.3. BACKHOE SEPARATES AND SORTS MATERIALS (WASTE TIRES,VEGETATION, TRASH) FROM STOCKPILE.
- 7.4. LOADER DUMPS MATERIAL INTO DUMP TRUCK.
- 7.5. DUMP/TRUCK HAULS TO APPROPRIATE DISPOSAL FACILITY.

POST-CONSTRUCTION

1. DEMOBILIZE EQUIPMENT.
2. REMOVE TEMPORARY CONSTRUCTION BMPs.

WORK PERFORMED 9/2013 - 3/2014

INTERIM AS-BUILT
PLANS FOR THE CONSTRUCTION OF

TIJUANA RIVER VALLEY

CONSTRUCTION BMP NOTES

CITY OF SAN DIEGO, CALIFORNIA

ENGINEERING DEPARTMENT

SHEET 9 OF 15 SHEETS

W.O. _____

NO. _____

OTHER BMP REQUIREMENTS:

1. THE MASTER LIST OF BMPs, INCLUDED AS APPENDIX B IN THE WPOCP, SHOULD BE CONSULTED FOR ADDITIONAL BIOLOGICAL, CULTURAL, AND WATER QUALITY RELATED REQUIREMENTS.
2. AN ONSITE PRE-MAINTENANCE MEETING SHOULD BE CONDUCTED PRIOR TO THE START OF THE PROJECT. IN ATTENDANCE AT THE MEETING SHOULD BE THE: MAINTENANCE CONTRACTOR, CITY STORM WATER DIVISION REPRESENTATIVES, MITIGATION MONITORING COORDINATOR, QUALIFIED WATER QUALITY SPECIALIST, PROJECT BIOLOGIST/MONITOR, QUALIFIED ARCHAEOLOGIST/HISTORICAL MONITOR/PALEONTOLOGICAL MONITOR, AND ANY OTHER KEY PERSONNEL. SENSITIVE HISTORICAL AND BIOLOGICAL RESOURCES SHOULD BE IDENTIFIED TO BE AVOIDED DURING THE MAINTENANCE ACTIVITIES AS WELL AS ANY CONDITIONS FOR POSSIBLE NIGHT AND/OR WEEKEND WORK. THE WATER QUALITY SPECIALIST SHOULD IDENTIFY MITIGATION MEASURES, PROTOCOLS AND BMPs TO BE CARRIED OUT DURING THE MAINTENANCE. THE MASTER LIST OF BMPs PROVIDES DETAILED INFORMATION ON PROCEDURES TO BE FOLLOWED.
3. THE CITY SHALL NOTIFY DFG, IN WRITING, AT LEAST FIVE DAYS PRIOR TO INITIATION OF CONSTRUCTION (PROJECT) ACTIVITIES AND AT LEAST FIVE DAYS PRIOR TO COMPLETION OF CONSTRUCTION (PROJECT) ACTIVITIES. EACH TIME PROJECT ACTIVITIES OCCUR, NOTIFICATION SHALL BE SENT TO DFG'S SOUTH COAST OFFICE, ATTN: STREAMBED ALTERATION PROGRAM - SM # 1600-2011-0271-R6.
4. AVOID THE INTRODUCTION OF INVASIVE PLANT SPECIES WITH PHYSICAL EROSION CONTROL MEASURES.
5. REMOVE ARUNDO THROUGH ONE, OR A COMBINATION OF, THE FOLLOWING METHODS: (1) FOLIAR SPRAY (SPRAYING HERBICIDE ON LEAVES AND STEMS WITHOUT CUTTING FIRST) WHEN ARUNDO OCCURS IN MONOTYPIC STANDS, OR (2) CUT AND PAINT (CUTTING STEMS CLOSE TO THE GROUND AND SPRAYING OR PAINTING HERBICIDE ON CUT STEM SURFACE) WHEN ARUNDO IS INTERMIXED WITH NATIVE PLANTS. WHEN SEDIMENT SUPPORTING ARUNDO MUST BE REMOVED, THE SEDIMENT SHALL BE EXCAVATED TO A DEPTH SUFFICIENT TO REMOVE THE RHIZOMES, WHEREVER FEASIBLE. FOLLOWING REMOVAL OF SEDIMENT CONTAINING RHIZOMES, LOOSE RHIZOME MATERIAL SHALL BE REMOVED FROM THE CHANNEL AND DISPOSED OFFSITE. AFTER THE INITIAL TREATMENT, THE AREA OF REMOVAL SHALL BE INSPECTED ON A QUARTERLY BASIS FOR UP TWO YEARS, OR UNTIL NO RESPROUTING IS OBSERVED DURING AN INSPECTION. IF RESPROUTING IS OBSERVED, THE CUT AND PAINT METHOD SHALL BE APPLIED TO ALL RESPROUTS.
6. PRIOR TO COMMENCING ANY MAINTENANCE ACTIVITY WHICH MAY IMPACT SENSITIVE BIOLOGICAL RESOURCES, THE MONITORING BIOLOGIST SHALL VERIFY THAT THE FOLLOWING ACTIONS HAVE BEEN TAKEN, AS APPROPRIATE:
- FENCING, FLAGGING, SIGNAGE, OR OTHER MEANS TO PROTECT SENSITIVE RESOURCES TO REMAIN AFTER MAINTENANCE HAS BEEN IMPLEMENTED;

• NOISE ATTENUATION MEASURES NEEDED TO PROTECT SENSITIVE WILDLIFE ARE IN PLACE AND EFFECTIVE; AND/OR

• NESTING RAPTORS HAVE BEEN IDENTIFIED AND NECESSARY MAINTENANCE SETBACKS HAVE BEEN ESTABLISHED IF MAINTENANCE IS TO OCCUR BETWEEN JANUARY 15 AND AUGUST 31. SEE THE MASTER LIST OF BMPs FOR ADDITIONAL INFORMATION.
7. A QUALIFIED BIOLOGICAL MONITOR THAT CAN RECOGNIZE CLAPPER RAILS AND THEIR VOCALIZATIONS SHALL BE PRESENT DURING ALL THE PROJECT MAINTENANCE ACTIVITY WITHIN THE CHANNELS, ENFORCE THE LIMITS OF MAINTENANCE AND ENSURE THAT NO HARM TO CLAPPER RAILS OCCURS. BEFORE EACH WORKDAY IN THE PILOT CHANNEL BEGINS, THE BIOLOGICAL MONITOR SHALL WALK UPSTREAM TO DOWNSTREAM ON EITHER SIDE OF THE CHANNEL TO EVALUATE IF CLAPPER RAILS HAVE ENTERED THE PROJECT AREA. THE BIOLOGICAL MONITOR WILL FOLLOW PROCEDURES OUTLINED IN THE MASTER LIST OF BMPs.
8. CONTRACTOR SHALL HAVE A QUALIFIED BIOLOGIST ON SITE DAILY DURING PROJECT ACTIVITY TO ENSURE THAT AGREEMENT CONDITIONS ARE BEING MET AND MINIMIZE IMPACTS TO HABITAT. THE BIOLOGIST WILL BE KNOWLEDGEABLE OF VIREO BIOLOGY AND ECOLOGY. THE BIOLOGIST SHALL BE AUTHORIZED TO STOP CONSTRUCTION IF NECESSARY TO PROTECT FISH AND WILDLIFE RESOURCES. IF ANY PROTECTED SPECIES ARE FOUND THE BIOLOGIST SHALL INFORM DFG. IF THERE IS A THREAT OF HARM TO ANY PROTECTED SPECIES OR OTHER AQUATIC WILDLIFE THE BIOLOGIST SHALL HALT CONSTRUCTION AND NOTIFY DFG. CONSULTATION WITH DFG IS REQUIRED BEFORE RE-COMMENCING WORK. THE QUALIFIED BIOLOGIST WILL FOLLOW PROCEDURES OUTLINED IN THE MASTER LIST OF BMPs.
9. IF ANY WILDLIFE IS ENCOUNTERED DURING THE COURSE OF CONSTRUCTION, SAID WILDLIFE SHALL BE ALLOWED TO LEAVE THE CONSTRUCTION AREA UNHARMED.
10. PRIOR TO THE START OF MAINTENANCE ACTIVITIES, ALL HISTORICAL RESOURCES AREAS SHALL BE FLAGGED, CAPPED OR FENCED.
11. AREAS IDENTIFIED AS MODERATE TO HIGH POTENTIAL FOR THE OCCURRENCE OF SIGNIFICANT HISTORICAL RESOURCES SHALL BE IDENTIFIED FOLLOWING THE PROCEDURES OUTLINES IN THE MASTER LIST OF BMPs. AN ARCHAEOLOGICAL MONITOR SHALL BE PRESENT ONSITE FULL TIME DURING CONSTRUCTION ACTIVITIES IN AREAS IDENTIFIED AS ARCHEOLOGICAL RESOURCES.
12. IF HUMAN REMAINS ARE DISCOVERED, WORK SHALL HALT IN THAT AREA AND NO SOIL SHALL BE EXPORTED OFF-SITE UNTIL A DETERMINATION CAN BE MADE. THE PROCEDURES OUTLINED IN THE MASTER LIST OF BMPs SHALL BE FOLLOWED.
13. IF A LISTED SPECIES IS LOCATED WITHIN 500 FEET OF A PROPOSED MAINTENANCE ACTIVITY AND MAINTENANCE WOULD OCCUR DURING THE

ASSOCIATED BREEDING SEASON, AN ANALYSIS OF THE NOISE GENERATED BY MAINTENANCE ACTIVITY SHALL BE COMPLETED BY A QUALIFIED ACOUSTICIAN (POSSESSING CURRENT NOISE ENGINEER LICENSE OR REGISTRATION WITH MONITORING NOISE LEVEL EXPERIENCE WITH LISTED ANIMAL SPECIES) AND APPROVED BY THE ADD ENVIRONMENTAL DESIGNEE. THE MASTER LIST OF BMPs PROVIDES DETAILED INFORMATION ON PROCEDURES TO BE FOLLOWED.

14. ALL LIGHTING ADJACENT TO, OR WITHIN, THE MHPA SHALL BE SHIELDED, UNIDIRECTIONAL, LOW PRESSURE SODIUM ILLUMINATION (OR SIMILAR) AND DIRECTED AWAY FROM SENSITIVE AREAS USING APPROPRIATE PLACEMENT AND SHIELDS. IF LIGHTING IS REQUIRED FOR NIGHTTIME MAINTENANCE, IT SHALL BE DIRECTED AWAY FROM THE PRESERVE AND THE TOPS OF ADJACENT TREES WITH POTENTIALLY NESTING RAPTORS, USING APPROPRIATE PLACEMENT AND SHIELDING.

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ENVIRONMENTAL MITIGATION REQUIREMENTS:

CHAPTER 11.0 MITIGATION MONITORING AND REPORTING PROGRAM

Section 21081.6 of the State of California Public Resources Code requires a Lead or Responsible Agency that approves or carries out a project where an environmental impact report (EIR) has identified significant environmental effects to adopt a "reporting or monitoring program for adopted or required changes to mitigate or avoid significant environmental effects." The City of San Diego is the lead Agency for the Master Program PEIR, and, therefore, is responsible for implementation of the MMRP. Because the PEIR recommends measures to mitigate these impacts, an MMRP is required to ensure that adopted mitigation measures are implemented.

As Lead Agency for the proposed project under CEQA, the City of San Diego will administer the MMRP for the following environmental issue areas: biological resources, historical resources, land use policies, paleontological resources, and water quality.

GENERAL

General Mitigation 1: Prior to commencement of work, the ADD Environmental Designee of the Entitlements Division shall verify that mitigation measures for impacts to biological resources (Mitigation Measures 4.3.1 through 4.3.20), historical resources (Mitigation Measures 4.4.1 and 4.4.2), land use policy (Mitigation Measures 4.1.1 through 4.1.13), paleontological resources (Mitigation Measure 4.7.1), and water quality (Mitigation Measures 4.8.1 through 4.8.3) have been included in entirety on the submitted maintenance documents and contract specifications, and included under the heading, "Environmental Mitigation Requirements." In addition, the requirements for a Pre-maintenance Meeting shall be noted on all maintenance documents.

General Mitigation 2: Prior to the commencement of work, a Pre-maintenance Meeting shall be conducted and include, as appropriate, the MMC, SWD Project Manager, Biological Monitor, Historical Monitor, Paleontological Monitor, Water Quality Specialist, and Maintenance Contractor, and other parties of interest.

General Mitigation 3: Prior to the commencement of work, evidence of compliance with other permitting authorities is required, if applicable. Evidence shall include other copies of permits issued, letters of resolution issued by the Responsible Agency documenting compliance, or other evidence documenting compliance and deemed acceptable by the ADD Environmental Designee.

General Mitigation 4: Prior to commencement of work and pursuant to Section 1600 et seq. of the State of California Fish & Game Code, evidence of compliance with Section 1605 is required, if applicable. Evidence shall include other copies of permits issued, letters of resolution issued by the Responsible Agency documenting compliance, or other evidence documenting compliance and deemed acceptable by the ADD Environmental Designee.

Mitigation which involves habitat enhancement, restoration or creation shall include a wetland mitigation plan containing the following information:

- Conceptual planting plan including planting zones, grading, and irrigation;
- Seed mix/planting palette;
- Planting specifications;
- Monitoring program including success criteria; and
- Long-term maintenance and preservation plan.

Mitigation which involves habitat acquisition and preservation shall include the following:

- Location of proposed acquisition;
- Description of the biological resources to be acquired including support for the conclusion that the acquired habitat mitigates for the specific maintenance impact; and
- Documentation that the mitigation area would be adequately preserved and maintained in perpetuity.

Mitigation which involves the use of mitigation credits shall include the following:

- Location of the mitigation bank;
- Description of the credits to be acquired including support for the conclusion that the acquired habitat mitigates for the specific maintenance impact; and
- Documentation that the credits are associated with a mitigation bank which has been approved by the appropriate Resource Agencies.

Mitigation Measure 4.3.11: Upland impacts shall be mitigated through payment into the City's Habitat Acquisition Fund, acquisition and preservation of specific land, or purchase of mitigation credits in accordance with the ratios identified in Table 4.3-11. Upland mitigation shall be completed within six months of the date the related maintenance has been completed.

BIOLOGICAL RESOURCES

Potential impacts to biological resources would be reduced to below a level of significance through implementation of the following mitigation measures as well as Mitigation Measures 4.1-1 through 4.1-25.

Mitigation Measure 4.3.1: Prior to commencement of any activity within a specific annual maintenance program, a qualified biologist shall prepare an IBA for each area proposed to be maintained. The IBA shall be prepared in accordance with the specifications included in the Master Program.

Mitigation Measure 4.3.2: No maintenance activities within a proposed annual maintenance program shall be initiated before the City's Assistant Deputy Director (ADD) Environmental Designee and state and federal agencies with jurisdiction over maintenance activities have approved the IMFs and IBAs including proposed mitigation for each of the proposed activities. In their review, the ADD Environmental Designee and agencies shall confirm that the appropriate maintenance protocols have been incorporated into each IMP.

Mitigation Measure 4.3.3: No maintenance activities within a proposed annual maintenance program shall be initiated until the City's ADD Environmental Designee and Mitigation Monitoring Coordinator (MMC) have approved the qualifications for biologist(s) who shall be responsible for monitoring maintenance activities which may impact sensitive biological resources.

Mitigation Measure 4.3.4: Prior to undertaking any maintenance activity included in an annual maintenance program, a mitigation account shall be established to provide sufficient funds to implement all biological mitigation associated with the proposed maintenance activities. The fund amount shall be determined by the ADD Environmental Designee. The account shall be managed by the City's SWD, with quarterly status reports submitted to DSD. The status reports shall separately identify upland and wetland account activity. Based upon the impacts identified in the IBAs, money shall be deposited into the account, as part of the project submittal, to ensure available funds for mitigation.

Mitigation Measure 4.3.5: Prior to commencing any activity that could impact wetlands, evidence of compliance with other permitting authorities is required, if applicable. Evidence shall include copies of permits issued, letters of resolution issued by the Responsible Agency documenting compliance, or other evidence documenting compliance and deemed acceptable by the ADD Environmental Designee.

Mitigation Measure 4.3.6: Prior to commencing any activity where the IBA indicates significant impacts to biological resources may occur, a pre-maintenance meeting shall be held on site with the following in attendance: City's SWD Maintenance Manager (MM), MMC, and Maintenance Contractor (MC). The biologist selected to monitor the activities shall be present. At this meeting, the monitoring biologist shall identify and discuss the maintenance protocols that apply to the maintenance activities.

Table 4.3-11 UPLAND HABITAT MITIGATION RATIOS ¹			
Vegetation Type	Tier	Location of Impact with Respect to the MHPA	
		Inside	Outside
Coast live oak woodland	I	2:1	1:1
Scrub oak chaparral	I	2:1	1:1
Southern foredunes	I	2:1	1:1
Beach	I	2:1	1:1
Diegan coastal sage scrub	II	1:1	1:1
Coastal sage-chaparral scrub	II	1:1	1:1
Broom baccharis scrub	II	1:1	1:1
Southern mixed chaparral	IIA	1:1	0.5:1
Non-native grassland	IIIB	1:1	0.5:1
Eucalyptus woodland	IV	--	--
Non-native vegetation/ornamental	IV	--	--
Disturbed habitat/ruderal	IV	--	--
Developed	IV	--	--

¹Assumes mitigation occurs within an MHPA

Mitigation Measure 4.3.12: Loss of habitat for the coastal California gnatcatcher shall be mitigated through the acquisition of suitable habitat or mitigation credits at a ratio of 1:1. Mitigation shall take place within the MHPA, and shall be accomplished within six months of the date maintenance is completed.

Mitigation Measure 4.3.13: Prior to commencing any maintenance activity which may impact sensitive biological resources, the monitoring biologist shall verify that the following actions have been taken, as appropriate:

- Fencing, flagging, signage, or other means to protect sensitive resources to remain after maintenance have been implemented;
- Noise attenuation measures needed to protect sensitive wildlife are in place and effective; and/or
- Nesting raptors have been identified and necessary maintenance setbacks have been established if maintenance is to occur between January 15 and August 31.

The designated biological monitor shall be present throughout the first full day of maintenance, whenever mandated by the associated IBA. Thereafter, through the duration of the maintenance activity, the monitoring biologist shall visit the site weekly o confirm that measures required to protect sensitive resources (e.g., flagging, fencing, noise barriers) continue to be effective. The monitoring biologist shall document monitoring events via a Consultant Site Visit Record. This record shall be sent to the MM each month. The MM will forward copies to MMC.

At the pre-maintenance meeting, the monitoring biologist shall submit to the MMC and NC a copy of the maintenance plan (reduced to 11"x17") that identifies areas to be protected, fenced, and monitored. This data shall include all planned locations and design of noise attenuation walls or other devices. The monitoring biologist also shall submit a maintenance schedule to the MMC and MC indicating when and where monitoring is to begin and shall notify the MMC of the start date for monitoring.

Mitigation Measure 4.3.7: Within three months following the completion of mitigation monitoring, two copies of a written draft report summarizing the monitoring shall be prepared by the monitoring biologist and submitted to the MMC for approval. The draft monitoring report shall describe the results including any remedial measures that were required. Within 90 days of receiving comments from the MMC on the draft monitoring report, the biologist shall submit one copy of the final monitoring report to the MMC.

Mitigation Measure 4.3.8: Within six months of the end of an annual storm water facility maintenance program, the monitoring biologist shall complete an annual report which shall be distributed to the following agencies: the City of San Diego DSD, CDFG, RWQCB, USFWS, and Corps. At a minimum, the report shall contain the following information:

- Tabular summary of the biological resources impacted during maintenance and the mitigation;
- Master table containing the following information for each individual storm water facility or segment which is regularly maintained;
- Date and type of most recent maintenance;
- Description of mitigation which has occurred; and
- Description of the status of mitigation which has been implemented for past maintenance activities.

Mitigation Measure 4.3.9: Wetland impacts resulting from maintenance shall be mitigated in one of the following three ways: (1) habitat creation, restoration, and/or enhancement concurrent with maintenance, (2) habitat creation, restoration, and/or enhancement prior to maintenance, or (3) mitigation credits. The amount of mitigation, when mitigation is proposed to be accomplished through concurrent creation, restoration or enhancement, the amount of planting shall be in accordance with ratios in Table 4.3-10 unless different mitigation ratios are required by state or federal agencies with jurisdiction over the impacted wetlands. In this event, the mitigation ratios required by these agencies will supersede, and not be in addition to, the ratios defined in Table 4.3-10. When previously created, restored or enhanced wetland habitat is proposed to be used for mitigation, the ratio shall be 1:1 provided the habitat has been determined to be successfully established by the ADD Environmental Designee in consultation with the Resource Agencies prior to commencing the maintenance activity. Mitigation credits may be used at a ratio of 1:1 provided the mitigation credits are from a mitigation bank which has been approved by the Resource Agencies. No maintenance shall commence until the ADD Environmental Designee has

Mitigation Measure 4.3.14: Whenever off-site mitigation would result in a physical disturbance to the proposed mitigation area, the City will conduct an environmental review of the proposed mitigation plan in accordance with CEQA. If the off-site mitigation would have a significant impact on biological resources associated with the mitigation site, mitigation measures will be identified and implemented in accordance with the MMRP resulting from that CEQA analysis.

Mitigation Measure 4.3.15: Impacts to listed or endemic sensitive plant species shall be offset through implementation of one or a combination of the following actions:

- Impacted plants would be salvaged and relocated;
- Seeds from impacted plants would be collected for use at an off-site location;
- Off-site habitat that supports the species impacted shall be enhanced and/or supplemented with seed collected on site; and/or
- Comparable habitat at an off-site location shall be preserved.

Mitigation which involves relocation, enhancement or transplanting sensitive plants shall include the following:

- Conceptual planting plan including grading and, if appropriate, temporary irrigation;
- Planting specifications;
- Monitoring Program including success criteria; and
- Long-term maintenance and preservation plan.

Mitigation Measure 4.3.16: Maintenance activities shall not occur within the following areas:

- 300 feet from any nesting site of Cooper's hawk (*Accipiter cooperii*);
- 1,500 feet from known locations of the southern pond turtle (*Clemmys marmorata pallida*);
- 900 feet from any nesting sites of northern harriers (*Circus cyaneus*);
- 4,000 feet from any nesting sites of golden eagles (*Aquila chrysaetos*); or
- 300 feet from any occupied burrow or burrowing owls (*Athene cunicularia*).

determined that mitigation proposed for a specific maintenance activity meets one of these three two options.

Table 4.3-10 WETLAND MITIGATION RATIOS		
WETLAND TYPE	MITIGATION RATIO ¹	
Southern riparian forest	3:1	
Southern sycamore riparian woodland	3:1	
Riparian woodland	3:1	
Coastal saltmarsh	4:1	
Coastal brackish marsh	4:1	
Southern willow scrub	2:1	
Mile fat scrub	2:1	
Riparian scrub ²	2:1	
Freshwater marsh ³	42:1	
Cumontane alkali marsh	4:1	
Disturbed wetland	42:1	
Streambed/natural flood channel	NA2:1	

¹ Mitigation ratio within the Coastal Zone will be 3:1

² Mitigation ratio within the Coastal Zone will be 4:1

³ Mitigation rate is advance or through purchase of mitigation credits would be 4:1

Mitigation locations for wetland impacts shall be selected using the following order of preference, based on the best mitigation value to be achieved.

1. Within impacted watershed, within City limits.
2. Within impacted watershed, outside City limits on City-owned or other publicly-owned land.
3. Outside impacted watershed, within City limits.
4. Outside impacted watershed, outside City limits on City-owned or other publically-owned land.

In order to mitigate for impacts in an area outside the limits of the watershed within which the impacts occur, the SWD must demonstrate to the satisfaction of the ADD Environmental Designee in consultation with the Resource Agencies that no suitable location exists within the impacted watershed.

Mitigation Measure 4.3.10: Whenever maintenance will impact wetland vegetation, a wetland mitigation plan shall be prepared in accordance with the Conceptual Wetland Restoration Plan contained in Appendix H of the Biological Technical Report, included as Appendix D.3 of the PEIR.

WORK PERFORMED 9/2013 - 3/2014

INTERIM AS-BUILT
PLANS FOR THE CONSTRUCTION OF

TIJUANA RIVER VALLEY
ENVIRONMENTAL MITIGATION
REQUIREMENTS

<p><i>Final Recirculated Master Storm Water System Maintenance Program PEIR</i> <i>SCH No. 2004/10/1032; Project No. 42891</i> <i>Chapter 11.0 Mitigation Monitoring and Reporting Program</i></p> <p>Mitigation Measure 4.3.17: If evidence indicates the potential is high for a listed species to be present, based on historical records or site conditions, then cleaning, grubbing, or grading (inside and outside the MHPA) shall be restricted during the breeding season where development may impact the following species:</p> <ul style="list-style-type: none"> • Light-footed clapper rail (between February 15 and August 15); • Western snowy plover (between March 1 and September 15); • Least tern (between April 1 and September 15); • Cactus wren (between February 15 and August 15); or • Tricolored black bird (between March 1 and August 1. <p>When other sensitive species, including, but not limited to, the arroyo toad, burrowing owl, or Quino checkerspot butterfly are known or suspected to be present all appropriate protocol surveys and mitigation measures shall be implemented.</p> <p>Mitigation Measure 4.3.18: If a subject species is not detected during the protocol survey, the qualified biologist shall submit substantial evidence to the ADD Environmental Designee and an applicable resource agency which demonstrates whether or not mitigation measures such as noise walls are necessary between the dates stated above for each species. If this evidence concludes that no impacts to this species are anticipated, no mitigation measures would be necessary.</p> <p>Mitigation Measure 4.3.19: If the SWD chooses not to do the required surveys, then it shall be assumed that the appropriate avian species are present and all necessary protection and mitigation measures shall be required as described in Mitigation Measure 4.3.21</p> <p>Mitigation Measure 4.3.20: If no surveys are completed and no sound attenuation devices are installed, it will be assumed that the habitat in question is occupied by the appropriate species and that maintenance activities would generate more than 60dBA(A) L_{eq} within the habitat requiring protection. All such activities adjacent to the protected habitat shall cease for the duration of the breeding season of the appropriate species and a qualified biologist shall establish a limit of work.</p> <p>Mitigation Measure 4.3.21: If maintenance occurs during the raptor breeding season (January 15 to August 31), a pre-maintenance survey for active raptor nests shall be conducted in areas supporting suitable habitat. If active raptor nests are found, maintenance shall not occur within 300 feet of a Cooper's hawk nest, 900 feet of a northern harrier's nest, or 500 feet of any other raptor's nest until any fledglings have left the nest.</p> <p>Mitigation Measure 4.3.22: If removal of any eucalyptus trees or other trees used by raptors for nesting within a maintenance area is proposed during the raptor breeding season (January 15 through August 31), a qualified biologist shall ensure that no raptors are nesting in such trees. If</p>	<p><i>Final Recirculated Master Storm Water System Maintenance Program PEIR</i> <i>SCH No. 2004/10/1032; Project No. 42891</i> <i>Chapter 11.0 Mitigation Monitoring and Reporting Program</i></p> <p>maintenance occurs during the raptor breeding season, a pre-maintenance survey shall be conducted and no maintenance shall occur within 300 feet of any nesting site of Cooper's hawk or other nesting raptor until the young fledge. Should the biologist determine that raptors are nesting, the trees shall not be removed until after the breeding season. If removal of grassland or other habitat appropriate for nesting by northern harriers, a qualified biologist shall ensure that no harriers are nesting in such areas. If maintenance occurs during the raptor breeding season, a pre-maintenance survey shall be conducted and no maintenance shall occur within 900 feet of any nesting site of northern harrier until the young fledge.</p> <p>Mitigation Measure 4.3.23: If maintenance activities would occur at known localities for listed fish species or within suitable habitat for other highly sensitive aquatic species (i.e., southwestern pond turtle), avoidance or minimization measures (i.e., exclusionary fencing, dewatering of the activity area, live-trapping, and translocation to suitable habitat) must be implemented.</p> <p>Mitigation Measure 4.3.24: If maintenance activities will occur within areas supporting listed and/or narrow endemic plants, the boundaries of the plant populations designated sensitive by the resource agencies will be clearly delineated with flagging or temporary fencing that must remain in place for the duration of the activity.</p> <p>Mitigation Measure 4.3.25: In order to avoid impacts to nesting avian species, including those species not covered by the MSCP, maintenance within or adjacent to avian nesting habitat shall occur outside of the avian breeding season (January 15 to August 31) unless postponing maintenance would result in a threat to human life or property.</p> <p>HISTORICAL RESOURCES</p> <p>Potential impacts to historical resources would be reduced to below a level of significance through implementation of the following mitigation measures.</p> <p>Mitigation Measure 4.4.1: Prior to commencement of the first occurrence of maintenance activity within a drainage facility included in the Master Program, an archaeologist, meeting the qualifications specified by the City's HRG, shall determine the potential for significant historical resources to occur in the maintenance area. If the archaeologist determines that the potential is moderate to high, an IHA shall be prepared. Based on the IMP for the proposed maintenance activity, the archaeologist shall determine the APE, which shall include access, staging, and maintenance areas. The IHA shall include a field survey of the APE with a Native American monitor, using the standards of the City's HRG. In addition, the archaeologist shall request a record search from the SCIC. Based on the results of the field survey and record search, the archaeologist shall conduct an archaeological testing program for any identified historical resources, using the standards of the City's HRG. If significant historical resources are identified, they shall be taken to the Historical Resources Board for designation as Historic Sites. Avoidance or implementation of an Archaeological Data Recovery Program (ADRP) and Archaeological Monitoring Program shall be required to mitigate project impacts to significant historical resources. The archaeologist shall prepare a report in accordance with City guidelines. At a minimum, the IHA report shall include:</p> <ul style="list-style-type: none"> • Description of maintenance to be performed, including length, width, and depth; 	<p><i>Final Recirculated Master Storm Water System Maintenance Program PEIR</i> <i>SCH No. 2004/10/1032; Project No. 42891</i> <i>Chapter 11.0 Mitigation Monitoring and Reporting Program</i></p> <p>4. When Monitoring Will Occur</p> <ol style="list-style-type: none"> Prior to the start of any work, the PI shall also submit a maintenance schedule to MMC through the RE indicating when and where monitoring will occur. The PI may submit a detailed letter to MMC prior to the start of work or during maintenance requesting a modification to the monitoring program. This request shall be based on relevant information such as review of final maintenance documents which indicate conditions such as age of existing pipe to be replaced, depth of excavation and/or site graded to bedrock, etc., which may reduce or increase the potential for resources to be present. <p>5. Approval of AME and Maintenance Schedule</p> <p>After approval of the AME by MMC, the PI shall submit to MMC written authorization of the AME and Maintenance Schedule from the MM.</p> <p>4.4.3.3 During Maintenance</p> <p>A. Monitor Shall be Present During Grading/Excavation/Trenching</p> <ol style="list-style-type: none"> The Archaeological Monitor shall be present full-time during all soil disturbing and grading/excavation/trenching activities which could result in impacts to archaeological resources as identified on the AME. 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The PI must meet the requirements of the City's HRG.</p> <p>4.4.2.2 Mitigation recommendations from the IHA shall be incorporated into the IMP to the satisfaction of the PI and the ADD Environmental Designee. Typical mitigation measures shall include but not be limited to: delineating resource boundaries on maintenance plans; implementing protective measures such as fencing, signage or capping; and selective monitoring during maintenance activities.</p> <p>4.4.2.3 If impacts to significant historical resources cannot be avoided, the PI shall prepare an Archaeological Research Design and Data Recovery Program (ARDDRP) for the affected resources, with input from a Native American consultant, and the ARDDRP shall be approved by the ADD Environmental Designee. Based on the approved research design, a phased excavation program shall be conducted, which will include the participation of a Native American. The sample size to be excavated shall be determined by the PI, in consultation with City staff. The sample size shall vary with the nature and size of the archaeological site, but need not exceed 15 percent of the overall resource area. The area involved in the ARDDRP shall be surveyed, staked and flagged by the archaeological monitor, prior to commencing maintenance activities which could affect the identified resources.</p> <p>4.4.2.4 A pre-maintenance meeting shall be held on-site prior to commencing any maintenance that may impact a significant historical resource. The meeting shall include representatives from the PI, the Native American consultant, Storm Water Department, Mitigation Monitoring Coordinator (MMC), Resident Engineer (RE), and Maintenance</p>	<p><i>Final Recirculated Master Storm Water System Maintenance Program PEIR</i> <i>SCH No. 2004/10/1032; Project No. 42891</i> <i>Chapter 11.0 Mitigation Monitoring and Reporting Program</i></p> <p>3. 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Curation of artifacts associated with the survey, testing and/or data recovery for this project shall be completed in consultation with LDR and the Native American representative, as applicable.</p> <p>4.4.2.7 The Archaeologist shall be responsible for updating the appropriate State of California Department of Park and Recreation forms-DPR 523 A/B associated with the ARDDRP in accordance with the City's Historical Resources Guidelines, and submittal of such forms to the SCIC with the Final Results Report.</p> <p>4.4.2.8 The PI shall prepare a Draft Results Report (even if negative) that describes the results, analysis and conclusions of the ARDDRP (with appropriate graphics). The MMC shall return the Draft Results Report to the PI for revision or for preparation of the Final Report. The PI shall submit the revised Draft Results Report to MMC for approval. The MMC shall provide written verification to the PI of the approved report. 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The MMC will notify the appropriate Senior Planner in the Environmental Analysis Section (EAS). • The PI shall notify the Medical Examiner, after consultation with the RE, either in person or via telephone. • Work will be redirected away from the location of the discovery and any nearby area reasonably suspected to overlay adjacent human remains until a determination can be made by the Medical Examiner, in consultation with the PI, concerning the provenience of the remains. • The Medical Examiner, in consultation with the PI, shall determine the need for a field examination to determine the provenience. • If a field examination is not warranted, the Medical Examiner shall determine, with input from the PI, if the remains are or are most likely to be of Native American origin. • If Human Remains are determined to be Native American, the Medical Examiner shall notify the Native American Heritage Commission (NAHC). 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The PI may submit a detailed letter to MMC during maintenance requesting a modification to the monitoring program when a field condition such as modern disturbance post-dating the previous grading/trenching activities, presence of fossil formations, or when native soils are encountered that may reduce or increase the potential for resources to be present. The archaeological and Native American consultant/monitor shall document field activity via the Consultant Site Visit Record (CSVr). The CSVr's shall be faxed by the MM to the RE the first day of monitoring, the last day of monitoring, monthly (Notification of Monitoring Completion), and in the case of ANY discoveries. The RE shall forward copies to MMC. 	<p><i>Final Recirculated Master Storm Water System Maintenance Program PEIR</i> <i>SCH No. 2004/10/1032; Project No. 42891</i> <i>Chapter 11.0 Mitigation Monitoring and Reporting Program</i></p> <p>• Prehistory and History Background Discussion;</p> <p>• Results of Record Search;</p> <p>• Survey Methods;</p> <p>• Archaeological Testing Methods;</p> <p>• Impact Analysis; and</p> <p>• Mitigation Recommendations, including avoidance or implementation of an ADRP and archaeological monitoring program.</p> <p>In the event that the IHA indicates that no significant historical resources occur within the APE, or have the potential to occur within the APE, no further action shall be required.</p> <p>Mitigation Measure 4.4.2: Prior to initiating any maintenance activity where the IHA identifies existing significant historical resources within the APE, the following actions shall be taken.</p> <p>4.4.2.1 The Storm Water Department shall select a Principal Investigator (PI), who shall be approved by the ADD Environmental Designee. The PI must meet the requirements of the City's HRG.</p> <p>4.4.2.2 Mitigation recommendations from the IHA shall be incorporated into the IMP to the satisfaction of the PI and the ADD Environmental Designee. Typical mitigation measures shall include but not be limited to: delineating resource boundaries on maintenance plans; implementing protective measures such as fencing, signage or capping; and selective monitoring during maintenance activities.</p> <p>4.4.2.3 If impacts to significant historical resources cannot be avoided, the PI shall prepare an Archaeological Research Design and Data Recovery Program (ARDDRP) for the affected resources, with input from a Native American consultant, and the ARDDRP shall be approved by the ADD Environmental Designee. Based on the approved research design, a phased excavation program shall be conducted, which will include the participation of a Native American. The sample size to be excavated shall be determined by the PI, in consultation with City staff. The sample size shall vary with the nature and size of the archaeological site, but need not exceed 15 percent of the overall resource area. The area involved in the ARDDRP shall be surveyed, staked and flagged by the archaeological monitor, prior to commencing maintenance activities which could affect the identified resources.</p> <p>4.4.2.4 A pre-maintenance meeting shall be held on-site prior to commencing any maintenance that may impact a significant historical resource. The meeting shall include representatives from the PI, the Native American consultant, Storm Water Department, Mitigation Monitoring Coordinator (MMC), Resident Engineer (RE), and Maintenance</p>	<p><i>Final Recirculated Master Storm Water System Maintenance Program PEIR</i> <i>SCH No. 2004/10/1032; Project No. 42891</i> <i>Chapter 11.0 Mitigation Monitoring and Reporting Program</i></p> <p>4. When Monitoring Will Occur</p> <ol style="list-style-type: none"> Prior to the start of any work, the PI shall also submit a maintenance schedule to MMC through the RE indicating when and where monitoring will occur. The PI may submit a detailed letter to MMC prior to the start of work or during maintenance requesting a modification to the monitoring program. This request shall be based on relevant information such as review of final maintenance documents which indicate conditions such as age of existing pipe to be replaced, depth of excavation and/or site graded to bedrock, etc., which may reduce or increase the potential for resources to be present. <p>5. Approval of AME and Maintenance Schedule</p> <p>After approval of the AME by MMC, the PI shall submit to MMC written authorization of the AME and Maintenance Schedule from the MM.</p> <p>4.4.3.3 During Maintenance</p> <p>A. Monitor Shall be Present During Grading/Excavation/Trenching</p> <ol style="list-style-type: none"> The Archaeological Monitor shall be present full-time during all soil disturbing and grading/excavation/trenching activities which could result in impacts to archaeological resources as identified on the AME. The Maintenance Manager is responsible for notifying the RE, PI, and MMC of changes to any maintenance activities such as in the case of a potential safety concern within the area being monitored. In certain circumstances OSHA safety requirements may necessitate modification of the AME. The Native American consultant/monitor shall determine the extent of their presence during soil disturbing and grading/excavation/trenching activities based on the AME and provide that information to the PI and MMC. If prehistoric resources are encountered during the Native American consultant/monitor's absence, work shall stop and the Discovery Notification Process detailed in Sections 4.4.3.3.B-C and 4.4.3.4-A-D shall commence. The PI may submit a detailed letter to MMC during maintenance requesting a modification to the monitoring program when a field condition such as modern disturbance post-dating the previous grading/trenching activities, presence of fossil formations, or when native soils are encountered that may reduce or increase the potential for resources to be present. The archaeological and Native American consultant/monitor shall document field activity via the Consultant Site Visit Record (CSVr). The CSVr's shall be faxed by the MM to the RE the first day of monitoring, the last day of monitoring, monthly (Notification of Monitoring Completion), and in the case of ANY discoveries. The RE shall forward copies to MMC. 	<p><i>Final Recirculated Master Storm Water System Maintenance Program PEIR</i> <i>SCH No. 2004/10/1032; Project No. 42891</i> <i>Chapter 11.0 Mitigation Monitoring and Reporting Program</i></p> <p>3. Prior to the start of work, the applicant must obtain written approval from MMC for any personnel changes associated with the monitoring program.</p> <p>4.4.3.2 Prior to Start of Maintenance</p> <p>A. Verification of Records Search</p> <ol style="list-style-type: none"> The PI shall provide verification to MMC that a site specific records search (1/4 mile radius) has been completed. Verification includes, but is not limited to a copy of a confirmation letter from South Coastal Information Center, or, if the search was in-house, a letter of verification from the PI stating that the search was completed. The letter shall introduce any pertinent information concerning expectations and probabilities of discovery during trenching and/or grading activities. The PI may submit a detailed letter to MMC requesting a reduction to the ¼ mile radius. <p>B. PI Shall Attend Pre-maintenance Meetings</p> <ol style="list-style-type: none"> Prior to beginning any work that requires monitoring, the Applicant shall arrange a Pre-maintenance Meeting that shall include the PI, Native American consultant/monitor (where Native American resources may be impacted), Maintenance Manager (MM) and/or Grading Contractor, Resident Engineer (RE), Building Inspector (BI), if appropriate, and MMC. The qualified Archaeologist and Native American Monitor shall attend any grading/excavation related Pre-maintenance Meetings to make comments and/or suggestions concerning the Archaeological Monitoring program with the Maintenance Manager and/or Grading Contractor. <ol style="list-style-type: none"> If the PI is unable to attend the Pre-maintenance Meeting, the Applicant shall schedule a focused Pre-maintenance Meeting with MMC, the PI, RE, MM or BI, if appropriate, prior to the start of any work that requires monitoring. Acknowledgement of Responsibility for Curation (CIP or Other Public Projects) The applicant shall submit a letter to MMC acknowledging their responsibility for the cos. of curation associated with all phases of the archaeological monitoring program. Identify Areas to be Monitored Prior to the start of any work that requires monitoring, the PI shall submit an Archaeological Monitoring Exhibit (AME) (with verification that the AME has been reviewed and approved by the Native American consultant/monitor when Native American resources may be impacted) based on the appropriate maintenance documents (reduced to 11x17) to MMC identifying the areas to be monitored including the delineation of grading/excavation limits. The AME shall be based on the results of a site specific records search as well as information regarding the age of existing pipelines, laterals and associated appurtenances and/or any known soil conditions (native or formation). MMC shall notify the PI that the AME has been approved. 	<p><i>Final Recirculated Master Storm Water System Maintenance Program PEIR</i> <i>SCH No. 2004/10/1032; Project No. 42891</i> <i>Chapter 11.0 Mitigation Monitoring and Reporting Program</i></p> <p>4.4.2.6 The PI shall be responsible for ensuring: (1) that all cultural materials collected are cleaned, catalogued and permanently curated with an appropriate institution; (2) that a letter of acceptance from the curation institution has been submitted to MMC; (3) that all artifacts are analyzed to identify function and chronology as they relate to the history of the area; (4) that faunal material is identified as to species; and (5) that specialty studies are completed, as appropriate. Curation of artifacts associated with the survey, testing and/or data recovery for this project shall be completed in consultation with LDR and the Native American representative, as applicable.</p> <p>4.4.2.7 The Archaeologist shall be responsible for updating the appropriate State of California Department of Park and Recreation forms-DPR 523 A/B associated with the ARDDRP in accordance with the City's Historical Resources Guidelines, and submittal of such forms to the SCIC with the Final Results Report.</p> <p>4.4.2.8 The PI shall prepare a Draft Results Report (even if negative) that describes the results, analysis and conclusions of the ARDDRP (with appropriate graphics). The MMC shall return the Draft Results Report to the PI for revision or for preparation of the Final Report. The PI shall submit the revised Draft Results Report to MMC for approval. The MMC shall provide written verification to the PI of the approved report. The MMC shall notify the RE of receipt of all Draft Result Report submittals and approvals. The MMC shall notify the RE of receipt of the Final Results Report.</p> <p>Mitigation Measure 4.4.3: Prior to initiating any maintenance activity where the IHA identifies a moderate to high potential for the occurrence of significant historical resources within the APE, the following actions shall be taken:</p> <p>4.4.3.1 Prior to Permit Issuance or Bid Opening/Bid Award</p> <p>A. Entitlements Plan Check</p> <ol style="list-style-type: none"> Prior to permit issuance or Bid Opening/Bid Award, whichever is applicable, the Assistant Deputy Director (ADD) Environmental Designee shall verify that the requirements for Archaeological Monitoring and Native American monitoring have been

projects MSCP monitoring Program. The letter shall include the names and contact information of all persons involved in the Biological Monitoring of the project. At least thirty days prior to the pre-maintenance meeting, the qualified biologist shall submit all required documentation to MMC, verifying that any special reports, maps, plans and time lines, such as but not limited to, revegetation plans, plant relocation requirements and timing, MSCP requirements, avian or other wildlife protocol surveys, impact avoidance areas or other such information has been completed and updated.

- The limits of work shall be clearly delineated. The limits of work, as shown on the approved maintenance plan, shall be defined with orange maintenance fencing and checked by the biological monitor before initiation of maintenance. All native plants or species of special concern, as identified in the biological assessment, shall be staked, flagged and avoided within Brush Management Zone 2, if applicable.

Mitigation Measure 4.1.7: Maintenance plans shall be designed to accomplish the following:

- Invasive non-native plant species shall not be introduced into areas adjacent to the MHPA. Landscape plans shall contain non-invasive native species adjacent to sensitive biological areas, as shown on the approved maintenance plan.
- All lighting adjacent to, or within, the MHPA shall be shielded, unidirectional, low pressure sodium illumination (or similar) and directed away from sensitive areas using appropriate placement and shields. If lighting is required for nighttime maintenance, it shall be directed away from the preserve and the tops of adjacent trees with potentially nesting raptors, using appropriate placement and shielding.

- All maintenance activities (including staging areas and/or storage areas) shall be restricted to the disturbance areas shown on the approved maintenance plan. The project biologist shall monitor maintenance activities, as needed, to ensure that maintenance activities do not encroach into biologically sensitive areas beyond the limits of work as shown on the approved maintenance plan.

- No trash, oil, parking or other maintenance-related activities shall be allowed outside the established maintenance areas including staging areas and/or storage areas, as shown on the approved maintenance plan. All maintenance related debris shall be removed off-site to an approved disposal facility.

- Access roads through MHPA-designated areas shall comply with the applicable policies contained in the "Roads and Utilities Construction and Maintenance Policies" identified in Section 1.4.2 of the City's Subarea Plan.

Mitigation Measure 4.1.8: Prior to commencing any maintenance in, or within 500 feet of any area determined to support coastal California gnatcatchers, the ADD Environmental Designee shall verify that the MHPA boundaries and the following project requirements regarding the coastal California gnatcatcher are shown on the maintenance plans:

suggestions concerning the Paleontological Monitoring program with the Maintenance Manager and/or Grading Contractor.

- If the PI is unable to attend the Pre-maintenance Meeting, the Applicant shall schedule a focused Pre-maintenance Meeting with MMC, the PI, RE, MM or BI, if appropriate, prior to the start of any work that requires monitoring.
- Acknowledgement of Responsibility for Curation (CIP or Other Public Projects)
The applicant shall submit a letter to MMC acknowledging their responsibility for the cost of curation associated with all phases of the paleontological monitoring program.
- Identify Areas to be Monitored
 - Prior to the start of any work that requires monitoring, the PI shall submit a Paleontological Monitoring Exhibit (PME) based on the appropriate maintenance documents (reduced to 11x7) to MMC for approval identifying the areas to be monitored including the delineation of grading/excavation limits. Monitoring shall begin at depths below 10 feet from existing grade or as determined by the PI in consultation with MMC. The determination shall be based on site specific records search data which supports monitoring at depths less than ten feet.
 - The PME shall be based on the results of a site specific records search as well as information regarding existing known soil conditions (native or formation).
 - MMC shall notify the PI that the PME has been approved.

4. When Monitoring Will Occur

- Prior to the start of any work, the PI shall also submit a maintenance schedule to MMC through the RE indicating when and where monitoring will occur.
- The PI may submit a detailed letter to MMC prior to the start of work or during maintenance requesting a modification to the monitoring program. This request shall be based on relevant information such as review of final maintenance documents which indicate conditions such as depth of excavation and/or site graded to bedrock, presence or absence of fossil resources, etc., which may reduce or increase the potential for resources to be present.

- Approval of PME and Maintenance Schedule
After approval of the PME by MMC, the PI shall submit to MMC written authorization of the PME and Maintenance Schedule from the MM.

4.7.1.3 During Maintenance

- Monitor Shall be Present During Grading/Excavation/Trenching
 - The monitor shall be present full-time during grading/excavation/trenching activities including, but not limited to mainline, laterals, jacking and receiving pits, services and all other opportunities associated with underground utilities as identified on the PME that could result in impacts to formations with high and/or moderate resource sensitivity. **The Maintenance Manager is responsible for notifying the RE, PI, and MMC of changes to any maintenance activities such as in the case of a potential safety concern within the area being monitored. In certain circumstances OSHA safety requirements may necessitate modification of the PME.**

NO MAINTENANCE ACTIVITIES SHALL OCCUR BETWEEN MARCH 1 AND AUGUST 15, THE BREEDING SEASON OF THE COASTAL CALIFORNIA GNATCATCHER, UNTIL THE FOLLOWING REQUIREMENTS HAVE BEEN MET TO THE SATISFACTION OF THE ADD ENVIRONMENTAL DESIGNEE:

- A QUALIFIED BIOLOGIST (POSSESSING A VALID ENDANGERED SPECIES ACT SECTION 106(d)(A) RECOVERY PERMIT) SHALL SURVEY THOSE HABITAT AREAS WITHIN THE MHPA THAT WOULD BE SUBJECT TO MAINTENANCE NOISE LEVELS EXCEEDING 60 DECIBELS (dB(A)) HOURLY AVERAGE FOR THE PRESENCE OF THE COASTAL CALIFORNIA GNATCATCHER. SURVEYS FOR THE COASTAL CALIFORNIA GNATCATCHER SHALL BE CONDUCTED PURSUANT TO THE PROTOCOL SURVEY GUIDELINES ESTABLISHED BY THE U.S. FISH AND WILDLIFE SERVICE WITHIN THE BREEDING SEASON PRIOR TO THE COMMENCEMENT OF ANY MAINTENANCE. IF GNATCATCHERS ARE PRESENT, THEN THE FOLLOWING CONDITIONS MUST BE MET:

- BETWEEN MARCH 1 AND AUGUST 15, MAINTENANCE OF OCCUPIED GNATCATCHER HABITAT SHALL BE PERMITTED. AREAS RESTRICTED FROM SUCH ACTIVITIES SHALL BE STAKED OR FENCED UNDER THE SUPERVISION OF A QUALIFIED BIOLOGIST; AND

- BETWEEN MARCH 1 AND AUGUST 15, NO MAINTENANCE ACTIVITIES SHALL OCCUR WITHIN ANY PORTION OF THE SITE WHERE MAINTENANCE ACTIVITIES WOULD RESULT IN NOISE LEVELS EXCEEDING 60 dB(A) HOURLY AVERAGE AT THE EDGE OF OCCUPIED GNATCATCHER HABITAT. AN ANALYSIS SHOWING THAT NOISE GENERATED BY MAINTENANCE ACTIVITIES WOULD NOT EXCEED 60 dB(A) HOURLY AVERAGE AT THE EDGE OF OCCUPIED HABITAT MUST BE COMPLETED BY A QUALIFIED ACUSTICIAN (POSSESSING CURRENT NOISE ENGINEER LICENSE OR REGISTRATION WITH MONITORING NOISE LEVEL EXPERIENCE WITH LISTED ANIMAL SPECIES) AND APPROVED BY THE CITY MANAGER AT LEAST TWO WEEKS PRIOR TO THE COMMENCEMENT OF MAINTENANCE ACTIVITIES. PRIOR TO THE COMMENCEMENT OF MAINTENANCE ACTIVITIES DURING THE BREEDING SEASON, AREAS RESTRICTED FROM SUCH ACTIVITIES SHALL BE STAKED OR FENCED UNDER THE SUPERVISION OF A QUALIFIED BIOLOGIST; OR

- AT LEAST TWO WEEKS PRIOR TO THE COMMENCEMENT OF MAINTENANCE ACTIVITIES, UNDER THE DIRECTION OF A QUALIFIED ACUSTICIAN, NOISE ATTENUATION MEASURES (e.g.,

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- The PI may submit a detailed letter to MMC during maintenance requesting a modification to the monitoring program when a field condition such as trenching activities that do not encounter formational soils as previously assumed, and/or when unique/unusual fossils are encountered, which may reduce or increase the potential for resources to be present.

- The monitor shall document field activity via the Consultant Site Visit Record (CSV/R). The CSV/R's shall be faxed by the MM to the RE the first day of monitoring, the last day of monitoring, monthly (**Notification of Monitoring Completion**), and in the case of ANY discoveries. The RE shall forward copies to MMC.

B. Discovery Notification Process

- In the event of a discovery, the Paleontological Monitor shall direct the contractor to temporarily divert trenching activities in the area of discovery and immediately notify the RE or BI as appropriate.
- The Monitor shall immediately notify the PI (unless Monitor is the PI) of the discovery.
- The PI shall immediately notify MMC by phone of the discovery, and shall also submit written documentation to MMC within 24 hours by fax or email with photos of the resource in context, if possible.

C. Determination of Significance

- The PI shall evaluate the significance of the resource.
 - The PI shall immediately notify MMC by phone to discuss significance determination and shall also submit a letter to MMC indicating whether additional mitigation is required. The determination of significance for fossil discoveries shall be at the discretion of the PI.
 - If the resource is significant, the PI shall submit a Paleontological Recovery Program (PRP) and obtain written approval of the program from MMC, MC and/or RE. PRP and any mitigation must be approved by MMC, RE and/or MM before ground disturbing activities in the area of discovery will be allowed to resume.
- Note: For pipeline trenching projects only, the PI shall implement the Discovery Process for Pipeline Trenching projects identified below under "D."
- If resource is not significant (e.g., small pieces of broken common shell fragments or other scattered common fossils) the PI shall notify the RE, or BI as appropriate, that a non-significant discovery has been made. The Paleontologist shall continue to monitor the area without notification to MMC unless a significant resource is encountered.
 - The PI shall submit a letter to MMC indicating that fossil resources will be collected, curated, and documented in the Final Monitoring Report. The letter shall also indicate that no further work is required.
- Note: For Pipeline Trenching Projects Only. If the fossil discovery is limited in size, both in length and depth; the information value is limited and there are no unique fossil features associated with the discovery area, then the discovery should be considered not significant.

BERMS WALLS) SHALL BE IMPLEMENTED TO ENSURE THAT NOISE LEVELS RESULTING FROM MAINTENANCE ACTIVITIES WILL NOT EXCEED 60 dB(A) HOURLY AVERAGE AT THE EDGE OF HABITAT OCCUPIED BY THE COASTAL CALIFORNIA GNATCATCHER. CONCURRENT WITH THE COMMENCEMENT OF MAINTENANCE ACTIVITIES AND THE MAINTENANCE OF NECESSARY NOISE ATTENUATION FACILITIES, NOISE MONITORING SHALL BE CONDUCTED AT THE EDGE OF THE OCCUPIED HABITAT AREA TO ENSURE THAT NOISE LEVELS DO NOT EXCEED 60 dB(A) HOURLY AVERAGE. IF THE NOISE ATTENUATION TECHNIQUES IMPLEMENTED ARE DETERMINED TO BE INADEQUATE BY THE QUALIFIED ACUSTICIAN OR BIOLOGIST, THEN THE ASSOCIATED MAINTENANCE ACTIVITIES SHALL CEASE UNTIL SUCH TIME THAT ADEQUATE NOISE ATTENUATION IS ACHIEVED OR UNTIL THE END OF THE BREEDING SEASON (AUGUST 16).

* Maintenance noise shall continue to be monitored at least twice weekly on varying days, or more frequently depending on the maintenance activity, to verify that noise levels at the edge of occupied habitat are maintained below 60 dB(A) hourly average or to the ambient noise level if it already exceeds 60 dB(A) hourly average. If not, other measures shall be implemented in consultation with the biologist and the ADD environmental designee, as necessary, to reduce noise levels to below 60 dB(A) hourly average or to the ambient noise level if it already exceeds 60 dB(A) hourly average. Such measures may include, but are not limited to, limitations on the placement of maintenance equipment and the simultaneous use of equipment.

- IF COASTAL CALIFORNIA GNATCATCHERS ARE NOT DETECTED DURING THE PROTOCOL SURVEY, THE QUALIFIED BIOLOGIST SHALL SUBMIT SUBSTANTIAL EVIDENCE TO THE CITY MANAGER AND APPLICABLE RESOURCE AGENCIES WHICH DEMONSTRATES WHETHER OR NOT MITIGATION MEASURES SUCH AS NOISE WALLS ARE NECESSARY BETWEEN MARCH 1 AND AUGUST 15 AS FOLLOWS:

- IF THIS EVIDENCE INDICATES THE POTENTIAL IS HIGH FOR COASTAL CALIFORNIA GNATCATCHER TO BE PRESENT BASED ON HISTORICAL RECORDS OR SITE CONDITIONS, THEN CONDITION A.III SHALL BE ADHERED TO AS SPECIFIED ABOVE.
- IF THIS EVIDENCE CONCLUDES THAT NO IMPACTS TO THIS SPECIES ARE ANTICIPATED NO MITIGATION MEASURES WOULD BE NECESSARY.

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- Note, for Pipeline Trenching Projects Only: If significance cannot be determined, the Final Monitoring Report and Site Record shall identify the discovery as Potentially Significant.

D. Discovery Process for Significant Resources - Pipeline Trenching Projects

The following procedure constitutes adequate mitigation of a significant discovery encountered during pipeline trenching activities including but not limited to excavation for jacking pits, receiving pits, laterals, and manholes to reduce impacts to below a level of significance.

- Procedures for documentation, curation and reporting
 - One hundred percent of the fossil resources within the trench alignment and width shall be documented in-situ photographically, drawn in plan view (trench and profiles of side walls), recovered from the trench and photographed after cleaning, then analyzed and curated consistent with Society of Invertebrate Paleontology Standards. The remainder of the deposit within the limits of excavation (trench walls) shall be left intact and so documented.
 - The PI shall prepare a Draft Monitoring Report and submit to MMC via the RE as indicated in Section 4.7.1.1-A.
 - The PI shall be responsible for recording (on the appropriate forms for the San Diego Natural History Museum) the resource(s) encountered during the Paleontological Monitoring Program in accordance with the City's Paleontological Guidelines. The forms shall be submitted to the San Diego Natural History Museum and included in the Final Monitoring Report.
 - The Final Monitoring Report shall include a recommendation for monitoring of any future work in the vicinity of the resource.

4.7.1.4 Night and/or Weekend Work

- If night and/or weekend work is included in the contract
 - When night and/or weekend work is included in the contract package, the extent and timing shall be presented and discussed at the Pre-maintenance meeting.
 - The following procedures shall be followed.
 - No Discoveries
In the event that no discoveries were encountered during night and/or weekend work, The PI shall record the information on the CSV/R and submit to MMC via the RE via fax by 8AM on the next business day.
 - Discoveries
All discoveries shall be processed and documented using the existing procedures detailed in Section 4.7.1.3 - During Maintenance.
 - Potentially Significant Discoveries
If the PI determines that a potentially significant discovery has been made, the procedures detailed under Section 4.7.1.3 - During Maintenance shall be followed.
 - The PI shall immediately contact the RE and MMC, or by 8AM on the next business day to report and discuss the findings as indicated in Section 4.7.1.3-

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PALEONTOLOGICAL RESOURCES

Potential impacts to paleontological resources would be reduced to below a level of significance through implementation of the following mitigation measures.

Mitigation Measure 4.7.1: Prior to initiating any maintenance activity where significant paleontological resources may occur within the APE, the following actions shall be taken.

4.7.1.1 Prior to Permit Issuance or Bid Opening/Bid Award

- Entitlements Permit Check
 - Prior to permit issuance or Bid Opening/Bid Award, whichever is applicable, the Assistant Deputy Director (ADD) Environmental designee shall verify that the requirements for Paleontological Monitoring have been noted on the appropriate maintenance documents.

- Letters of Qualification have been submitted to ADD
 - Prior to Bid Award, the applicant shall submit a letter of verification to Mitigation Monitoring Coordination (MMC) identifying the Principal Investigator (PI) for the project and the names of all persons involved in the paleontological monitoring program, as defined in the City of San Diego Paleontology Guidelines.

- MMC will provide a letter to the applicant confirming the qualifications of the PI and all persons involved in the paleontological monitoring of the project.
- Prior to the start of work, the applicant shall obtain approval from MMC for any personnel changes associated with the monitoring program.

4.7.1.2 Prior to Start of Maintenance

- Verification of Records Search
 - The PI shall provide verification to MMC that a site specific records search has been completed. Verification includes, but is not limited to a copy of a confirmation letter from San Diego Natural History Museum, other institution or, if the search was in-house, a letter of verification from the PI stating that the search was completed.
 - The letter shall introduce any pertinent information concerning expectations and probabilities of discovery during trenching and/or grading activities.

- PI Shall Attend Pre-maintenance Meetings
 - Prior to beginning any work that requires monitoring, the Applicant shall arrange a Pre-maintenance Meeting that shall include the PI, Maintenance Manager (MM) and/or Grading Contractor, Resident Engineer (RE), Building Inspector (BI), if appropriate, and MMC. The qualified paleontologist shall attend any grading/excavation related Pre-maintenance Meetings to make comments and/or

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REQUIREMENTS

- B. unless other specific arrangements have been made.
- B. If night and/or weekend work becomes necessary during the course of maintenance
1. The Maintenance Manager shall notify the RE, or BI, as appropriate, a minimum of 24 hours before the work is to begin.
 2. The RE, or BI, as appropriate, shall notify MMC immediately.
- C. All other procedures described above shall apply, as appropriate.

4.7.1.3 Post Maintenance

- A. Preparation and Submittal of Draft Monitoring Report
1. The PI shall submit two copies of the Draft Monitoring Report (even if negative), prepared in accordance with the Paleontological Guidelines which describes the results, analysis, and conclusions of all phases of the Paleontological Monitoring Program (with appropriate graphics) to MMC via the RE for review and approval within 90 days following the completion of monitoring.
 - a. For significant paleontological resources encountered during monitoring, the Paleontological Recovery Program or Pipeline Trenching Discovery Process shall be included in the Draft Monitoring Report.
 - b. Recording Sites with the San Diego Natural History MuseumThe PI shall be responsible for recording (on the appropriate forms) any significant or potentially significant fossil resources encountered during the Paleontological Monitoring Program in accordance with the City's Paleontological Guidelines, and submittal of such forms to the San Diego Natural History Museum with the Final Monitoring Report.
 2. MMC shall return the Draft Monitoring Report to the PI via the RE for revision or, for preparation of the Final Report.
 3. The PI shall submit revised Draft Monitoring Report to MMC via the RE for approval.
 4. MMC shall provide written verification to the PI of the approved report.
 5. MMC shall notify the RE or BI, as appropriate, of receipt of all Draft Monitoring Report submittals and approvals.
- B. Handling of Fossil Remains
1. The PI shall be responsible for ensuring that all fossil remains collected are cleaned and catalogued.
- C. Curation of artifacts: Deed of Gift and Acceptance Verification
1. The PI shall be responsible for ensuring that all fossil remains associated with the monitoring for this project are permanently curated with an appropriate institution.
 2. The PI shall submit the Deed of Gift and catalogue record(s) to the RE or BI, as appropriate for donor signature with a copy submitted to MMC.
 3. The RE or BI, as appropriate shall obtain signature on the Deed of Gift and shall

- return to PI with copy submitted to MMC.
4. The PI shall include the Acceptance Verification from the curation institution in the Final Monitoring Report submitted to the RE or BI and MMC.
- D. Final Monitoring Report(s)
1. The PI shall submit two copies of the Final Monitoring Report to MMC (even if negative), within 90 days after notification from MMC of the approved report.
 2. The RE shall, in no case, issue the Notice of Completion until receiving a copy of the approved Final Monitoring Report from MMC which includes the Acceptance Verification from the curation institution.

WATER QUALITY

Potential impacts to water quality would be reduced to below a level of significance through implementation of the following mitigation measures.

Mitigation Measure 4.8.1: Prior to commencement of any activity within a specific annual maintenance program, a qualified water quality specialist shall prepare an IWQA for each area proposed to be maintained. The IWQA shall be prepared in accordance with the specifications included in the Master Program. If the IWQA indicates that maintenance would impact a water pollutant where the existing level for that pollutant exceeds or is within 25 percent of the standard established by the San Diego Basin Plan, mitigation measures identified in Table 4.8-8 shall be incorporated into the IMP to reduce the impact to within the established standard for that pollutant.

Table 4.8-8 MITIGATION MEASURES FOR REDUCED POLLUTANT REMOVAL CAPACITY							
Mitigation Measure	Pollutant Type						TDS/ Chloride Sulfates
	Bacteria	Metals	Nutrients	Pesticides	Sediment	Trash	
Remove tarp on beaches	●	●	●	●	●	●	●
Sweep streets	●	●	●	●	●	●	●
Retrofit residential landscaping to reduce runoff	●	●	●	●	●	●	●
Install artificial turf	●	●	●	●	●	●	●
Install inlet devices on storm drains	●	●	●	●	●	●	●
Replace impermeable surfaces with permeable surfaces	●	●	●	●	●	●	●

Table 4.8-8 (cont.) MITIGATION MEASURES FOR REDUCED POLLUTANT REMOVAL CAPACITY							
Mitigation Measure	Pollutant Type						TDS/ Chloride Sulfates
	Bacteria	Metals	Nutrients	Pesticides	Sediment	Trash	
Install modular stormwater filtration systems	●	●	●	●	●	●	●
Install stormwater retention basins	●	●	●	●	●	●	●
Install catch basin media filters	●	●	●	●	●	●	●
Create vegetated swales	●	●	●	●	●	●	●
Restore wetlands	●	●	●	●	●	●	●
Install check dams	●	●	●	●	●	●	●

Mitigation Measure 4.8.2: No maintenance activities within a proposed annual maintenance program shall be initiated before the City's ADD Environmental Designee and state and federal agencies with jurisdiction over maintenance activities have approved the IMPs and IWQAs including proposed mitigation and BMPs for each of the proposed activities. In their review, the ADD Environmental Designee and agencies shall also confirm that the appropriate maintenance protocols have been incorporated into each IMP.

Mitigation Measure 4.8.3: Prior to commencing any activity where the IWQA indicates significant water quality impacts may occur, a pre-maintenance meeting shall be held on site with following in attendance: City's SWD, MM, MMC, and MC. A qualified water quality specialist shall also be present. At this meeting, the water quality specialist shall identify and discuss mitigation measures, protocols and BMPs identified in the IWQA that must be carried out during maintenance. After the meeting, the water quality specialist shall provide DSD with a letter indicating that the applicable mitigation measures, protocols and BMPs identified in the IWQA have been appropriately implemented.

WORK PERFORMED 9/2013 - 3/2014

INTERIM AS-BUILT
PLANS FOR THE CONSTRUCTION OF

TUJANA RIVER VALLEY
ENVIRONMENTAL MITIGATION
REQUIREMENTS

CITY OF SAN DIEGO, CALIFORNIA
ENGINEERING DEPARTMENT

W.O.
NO.

SHEET 15 OF 15 SHEETS

APPENDIX F

Individual Maintenance Activity Record

INDIVIDUAL MAINTENANCE ACTIVITY REPORT

Site Name/Facility:	Smuggler's Gulch and Tijuana River Pilot Channels
Master Program Map No:	Maps 138 a-c. 138 & 139
Dates:	Start: 9/16/13 Completion: 3/14/14 Report: 5/12/14
Preparer Name:	A. Jarque, Senior Planner, City Transportation & Storm Water Department, Storm Water Division, Operations & Maintenance Section

Instructions: This form must be completed following any work done at a storm water facility. Attach additional sheets if needed.

<p><u>Description of Work (e.g., routine, re-occurring; also note general frequency maintenance at this site):</u></p> <p>The proposed maintenance of the Smuggler's Gulch and Tijuana River Pilot (Pilot) Channels included the mechanized removal of sediment, vegetation and trash and debris from the channels using heavy equipment. The periodic maintenance of both channels is required to provide flood protection to surrounding properties and to protect the Tijuana River National Estuarine Research Reserve from impacts due to downstream transport of accumulated sediment and trash and debris from the project area. The project incorporates removal of approximately 10,000–30,000 cubic yards of material, occupying a total of 4.31 acres. The Smuggler's Gulch Channel and Pilot Channel are depicted in the Master Maintenance Program (MMP) Maps 138 and 139, and Maps 138a and 138c, respectively, and are shown on Sheet 1 of the Construction Plans.</p> <p>Due to the early on-set of rains in October 2013 and late winter rains in February 2014, the project was not entirely completed as planned. The rain created saturated soils and hazardous site conditions that prevented heavy equipment, including rock trucks, from entering the earthen channels to haul material. The entire length of Smuggler's Gulch from Station 0+00 to 31+00 (approximately 3,040 feet) was dredged at an approximate depth of 2-10 feet and 15-foot width; while the Pilot channel was dredged from Station 5+25+00 to 36+20 (approximately 3,095 feet) at an approximate depth of 5-7 feet and 15-foot bottom width/23-foot top width.</p>	
<p>Street Name: Monument Road (2100 block of Monument Road), City of San Diego, CA</p> <p>Latitude: 32.543358</p> <p>Longitude: -117.087825</p>	<p>Work Orientation from Street (N, S, E, W): East of Hollister Street, north of Monument Road, and west of Saturn Boulevard (paper street)</p> <p>Location Between Street <u>Hollister Street</u> and Street <u>Saturn Boulevard</u> (paper street)</p>
<p>Maintenance Facility Type:</p> <p><input checked="" type="checkbox"/> Stream</p> <p><input type="checkbox"/> Roadside Ditch</p> <p><input type="checkbox"/> Spillway</p> <p><input type="checkbox"/> Culvert</p>	<p>Additional Description: <i>Smuggler's Gulch Channel:</i> The Smuggler's Gulch Channel is an existing historical agricultural channel with manufactured berms. The contributing sub-watershed area is</p>

INDIVIDUAL MAINTENANCE ACTIVITY REPORT

<input type="checkbox"/> Detention Basin <input type="checkbox"/> Other: _____	<p>approximately 6.7 square miles, primarily located south of the international border within Canon de los Mataderos. The Smuggler's Gulch Channel, as originally constructed, is an earthen channel approximately 20 feet wide and 15 feet deep. The Smuggler's Gulch Channel is a tributary to the South Channel and flows in a northerly direction, from the international border past Monument Road until it confluences with the Pilot Channel. The portion of the Smuggler's Gulch Channel maintained by the City extends for a distance of approximately 3,040 feet.</p> <p><i>Pilot Channel:</i> The Pilot Channel was originally excavated in 1993 within the Southern Channel. It has been irregularly maintained since that time as an earthen trapezoidal channel that is approximately 5 feet deep, with a 23-foot top width, and a 15-foot streambed width. According to the MMP, the Pilot Channel was constructed to divert wet-weather flows from 2- to 5-year storm events into the Southern Channel (City of San Diego 2011b). The Pilot Channel stretches from 100 feet east to 5,300 feet west of Hollister Street for a total length of 5,400 feet and it flows roughly in an east-west direction. The segment 100 feet east of the Hollister Street Bridge did not require maintenance at this time, according to the analysis outlined in the project's Individual Hydraulic and Hydrology Assessment.</p>
<p>Work within drainage/creek: (How many linear feet were cleared) <i>Smuggler's Gulch Channel</i> Length: <u>3,040 feet (approx.)</u> <i>Pilot Channel</i> Length: <u>5,098 feet (approx.) of 5,400 feet channel. A 100-foot segment east of Hollister Street (STA 1+00 to STA 2+00) did not require maintenance and approx. 200-foot segment west of Hollister Street Bridge (STA 2+00 to STA 4+00) was inaccessible because of standing water.</u></p>	<p>Name of drainage/creek: <i>Smuggler's Gulch Channel</i> Width (FT): <u>15' (max approved width of 20')</u> Area (SQ FT): <u>45,600 ft² (approx.)</u> Depth (FT): <u>10' (max approved depth 15')</u></p> <p>Name of drainage/creek: <i>Tijuana River Pilot Channel</i> Width (FT): <u>23' -top width</u> Area (SQ FT): <u>117,254 ft² (approx.)</u> Depth (FT): <u>5'</u></p>

INDIVIDUAL MAINTENANCE ACTIVITY REPORT

<p>Is the creek lined: Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></p> <p>Notes: <u>Refer to additional description of maintenance facility type above.</u></p>	<p>Lining Type:</p> <p><input type="checkbox"/> Concrete lined both sides, bottom</p> <p><input checked="" type="checkbox"/> Earthen, both sides, bottom</p> <p><input type="checkbox"/> Riprap sides, earth bottom</p> <p><input type="checkbox"/> Concrete sides, earth bottom</p> <p><input type="checkbox"/> Other type: _____</p>
<p>Silt/Sand Removal: (How many linear feet were cleared of silt/sand)</p> <p><i>Smuggler's Gulch Channel</i> Length: <u>3,040 feet (approx.)</u></p> <p><i>Pilot Channel</i> Length: <u>3,095 feet (approx.)</u></p>	<p>Describe cause of silt/sand:</p> <p>Anthropogenic-derived sediment and trash from development and other practices in the upstream watershed (Mexico-Tijuana and US-Otay Mesa) that is conveyed downstream during rain events and accumulates within the channels because of a downstream plug (beyond STA 54+98) because the Pilot Channel terminates as it enters into the Tijuana River National Estuarine Research Reserve located on U.S. Fish and Wildlife property.</p>
<p>Debris Removal: (How many linear feet were cleared of debris)</p> <p><i>Smuggler's Gulch Channel</i> Length: <u>3,040 feet (approx.)</u></p> <p><i>Pilot Channel</i> Length: <u>5,095 feet (approx.) of 5,400 feet channel. A 100-foot segment east of Hollister Street (STA 1+00 to STA 2+00) did not require maintenance and approx. 200-foot segment west of Hollister Street Bridge (STA 2+00 to STA 4+00) was inaccessible because of standing water.</u></p>	<p>Describe debris and cause:</p> <p>Anthropogenic-derived sediment and trash from development and other practices in the upstream watershed (Mexico-Tijuana and US-Otay Mesa) that is conveyed downstream during rain events and accumulates within the channels because of a downstream plug (beyond STA 54+98) because the Pilot Channel terminates as it enters into the Tijuana River National Estuarine Research Reserve located on U.S. Fish and Wildlife property.</p>
<p>Were any toxic materials found: Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></p> <p>List toxics: N/A</p> <p>Hazardous Material Manifest: N/A</p>	<p>Were more than 9 tires recovered? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p>CTL Number: On file with City of San Diego Storm Water Division associated with TPID # 1601007-01 for Staging Area D.</p>
<p>Access via previously disturbed area: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p>	<p>Access route: Three out of four, access routes were used during maintenance. These access routes are located within existing trails and access areas that are established as approved by permit authorizations.</p>

INDIVIDUAL MAINTENANCE ACTIVITY REPORT

	<p>Route 1 leads south from an unnamed road that runs in the east-west direction between Hollister Street and Saturn Boulevard. This route provides access to the confluence for personnel vehicles only; maintenance vehicles and equipment will not be permitted on this route.</p> <p>Route 2 allows access into the Smuggler's Gulch Channel via an access ramp located on the east bank, immediately downstream (i.e., north) of the Disney Crossing. The access ramp was constructed in 2009, and is a maintained feature of the project that allows construction equipment access to the channels during maintenance. Route 2 also continues north along the eastern side of the Smuggler's Gulch Channel where the maintenance vehicles mobilize to remove excavated sediment from the northern portion of the channel.</p> <p>The portion of Smuggler's Gulch channel south of the Disney Crossing will be accessed from Route 3, an existing access route that runs along the eastern berm of the channel. Portions of the access route were flagged off to avoid environmentally sensitive areas.</p> <p>Maintenance Equipment Used:</p> <ul style="list-style-type: none"> • Bulldozer (D9 Cat, D8, D65 Komatsu) • Excavators (50 D John Deer, 345 Cat) • Front-End Loaders (980 Cat, Komatsu 380) • Backhoe (410 John Deer Skid Steer (Bobcat 553) • Rock Trucks (725 Cat) • Dump Trucks (10/12 yd with pup) • Water Truck (4,000 and 2,000 gal) • Fuel Truck (1,200 gal) • Ditch Witch
<p>Vegetation Removal: (How many linear feet were cleared of vegetation) <i>Smuggler's Gulch Channel</i> Length: <u>3,040 feet (approx.)</u></p>	<p>Types of Vegetation Removed: (Indicate bush, trees, plants, grasses, list diameter of trunk at 4' height)</p>

INDIVIDUAL MAINTENANCE ACTIVITY REPORT

<p><i>Pilot Channel</i> Length: <u>5,098 feet (approx.) of vegetation/debris cleared. A 100-foot segment east of Hollister Street (STA 1+00 to STA 2+00) did not require maintenance and approx. 200-foot segment west of Hollister Street Bridge (STA 2+00 to STA 4+00) was inaccessible because of standing water.</u></p>	<p>Vegetation types (based on Oberbauer 1996) impacted during project construction are: Giant Reed, Non-Vegetated Channel, Non-native Vegetation, Southern Riparian Forest, disturbed Southern Riparian Forest, Southern Willow Scrub, Mulefat Scrub, disturbed Mulefat Scrub and Disturbed/Ruderal</p>
<p>Ground Disturbing Activities: (How many linear feet were disturbed by activity) <i>Smuggler's Gulch Channel</i> Length: <u>3,040 feet (approx.)</u> <i>Pilot Channel</i> Length: <u>5,098 feet (approx.) of 5,400 feet channel. A 100-foot segment east of Hollister Street (STA 1+00 to STA 2+00) did not require maintenance and approx. 200-foot segment west of Hollister Street Bridge (STA 2+00 to STA 4+00) was inaccessible because of standing water.</u></p>	<p>Upland Vegetation Removed - Types & Area: Approximately 9.39 acres of non-native vegetation and disturbed/ruderal vegetation were impacted in upland areas, primarily in the two Staging Areas (B & D)</p>
<p>Were erosion controls necessary? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p>	<p>Describe interim erosion control measures: A Water Pollution Control Plan (WPCP) (URS, 2013) was prepared and implemented to address interim erosion control measures during maintenance and after. Existing vegetation was preserved to the maximum extent practicable and disturbance activities were limited to the required maintenance activity areas. Plastic covers were used on excavated material stockpile areas for temporary protection from erosion. No soil disturbing activities will be permitted outside the channels, staging areas, and access routes. Stabilized construction entrances/exits were used at the access points to the site. Silt fences, fiber rolls, and gravel bag berms were used in conjunction with soil stabilization measures on the excavated material stockpiles. Excavated material stockpile areas was surrounded with silt fence and underlain by liner of low permeability (i.e. 6 mils thick). Silt fences in conjunction with the existing earthen berms have prevented any materials from discharging</p>

INDIVIDUAL MAINTENANCE ACTIVITY REPORT

	<p>from Staging Area B into sensitive habitat and/or into the channel. No soil disturbing activities were permitted outside the channels, staging areas, and access routes. A sweeper and water truck also operated regularly on Monument Road and Hollister Street to control dust created by truck traffic.</p>
<p>Did work occur within nesting breeding season (January 15 – August 31)?: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p>	<p>Biologist/Monitor/Archaeologist present: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Names: <i>Biologist(s):</i> Thomas Liddicoat (Dudek), Paul Lemons (Dudek), Emily Wier (Dudek), Jeff Priest (Dudek), Patricia Schuyler (Dudek), Danielle Mullen (Dudek), Doug Gettinger (Dudek), Ryan Randall (URS), Laura Swadell (URS), Rick Bailey (URS), Julie Stout (URS) <i>Archaeologist(s):</i> Brad Comeau (PI, Dudek), Rachael Nixon (PI, URS), Sara Matussi (URS), Justin Linton (Red Tail)</p>
<p>Was any water quality sampling required?: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p>	
<p>Additional Maintenance Description: The maintenance methods and equipment that will be employed to perform the required maintenance at the Smuggler's Gulch Channel and the Pilot Channel are summarized below and described in detail in the attached construction plans.</p> <p>Maintenance of the channels is anticipated to begin in the Smuggler's Gulch Channel, upstream (north) of the Disney Crossing, and continue north to the confluence with the Pilot Channel. Maintenance activities will then proceed to the eastern portion of the Pilot Channel. It is anticipated that once maintenance of the eastern segment of the Pilot Channel and the northern segment of the Smuggler's Gulch Channel are complete, maintenance will then proceed to the southern (south of Disney Crossing) segment of the Smuggler's Gulch Channel and the western segment (west of the confluence area) of the Pilot Channel. Maintenance of the southern portion of the Smuggler's Gulch Channel will be performed in such a way as to avoid sensitive resources identified on the earthen berm between the channel and Staging Area B. The project would include excavation in the Smuggler's Gulch Channel within a 20-foot wide corridor, approximately 15-feet deep, for a total length of 3,040 linear feet. The Pilot Channel portion of the project would include sediment and vegetation removal within a 23-foot wide corridor centered on the channel (approximately 5-feet deep with a 15-foot wide channel bottom), for a total length of 5,300 linear feet. Equipment that will be utilized to perform maintenance activities includes bulldozers, excavators, loaders, rock trucks, bobcats, vactor, and water trucks.</p>	

INDIVIDUAL MAINTENANCE ACTIVITY REPORT

Equipment will enter the Smuggler's Gulch Channel via the temporary access ramp located upstream of the Disney Crossing. The general maintenance procedure consists of earth-moving equipment within the facility (bulldozer) pushing the accumulated material with a bucket to a central site within the channel. Material will then be scooped up with an excavator (operating within the channel, or on the access routes along the channels), so that the excavated material can be deposited into a waiting rock truck. The loaded truck will then leave the facility and transport the material to the temporary stockpile area at Staging Area B. Excavated material stockpiled at Staging Area B was transported directly to Miramar Landfill but was authorized to be transported to Staging Area D, as needed. Separation/sorting of excavated material could occur at Staging Area B and D. The relative locations of Staging Areas B and D are shown on Sheet 1 of the construction plans. Maintenance activities will generally be contained within smaller areas of the storm water facility itself, typically working in concert with several equipment crews operating at the same time in one location. Also incorporated within the Smuggler's Gulch Channel maintenance activities, is the cleaning of existing culverts under Monument Road (utilizing a vactor) and at the Disney Crossing (utilizing a bobcat and backhoe). In addition, the gabion rock mattress, located near the confluence of the Smuggler's Gulch and Pilot Channels, will be inspected and may require maintenance.

Describe surrounding land use within work area (assume 500-foot buffer area):

The Smuggler's Gulch and Pilot Channels are located in the Tijuana River Valley (Valley), within the jurisdiction of the City of San Diego (City) (Figure 1). The Tijuana River watershed covers an area of approximately 1,725 square miles, of which 73 percent is located in Mexico and 27 percent in the United States. The main Tijuana River flows in a northwesterly direction from the international border into the Valley and City jurisdiction. Approximately 21.9 square miles of the watershed (~1% of the total watershed area) is within City jurisdiction.

The Tijuana River National Estuarine Research Reserve and a portion of the City of Imperial Beach are generally west of the project area located adjacent to the Tijuana River's discharge to the Pacific Ocean. The Otay-Nestor community and the United States Naval Outlying Landing Field Imperial Beach are located north of the project area; and the community of San Ysidro is located to the east.

The Pilot Channel is included on MMP Maps 138a through 138c and the Smuggler's Gulch Channel is included on MMP Maps 138 and 139 (City of San Diego 2011a). The Pilot and Smuggler's Gulch Channels are generally located in the Valley roughly bordered by Hollister Street to the east and Monument Road to the south. The Tijuana River low flow channel splits into what are commonly referred to as the Tijuana River's Northern and Southern Channels approximately 800 feet east of Hollister Street. The Pilot Channel follows the Southern Channel.

The Valley, including the project area, is within the Federal Emergency Management Agency's (FEMA) Special Flood Hazard Areas Subject to Inundation by the 1-percent Annual Chance Flood (100-year floodplain). The project areas are zoned OF-1-1 (Open

INDIVIDUAL MAINTENANCE ACTIVITY REPORT

Space-Floodplain) and AR-1-1 (Agricultural/Residential); and are designated for Open Space and Agricultural land uses in the Tijuana River Valley Land Use Plan. In addition, the project area is within the boundaries of the County of San Diego's 2.7 square mile Tijuana River Valley Regional Park (Regional Park). The project area is also within the City's Multiple Species Conservation Program's Multi-Habitat Planning Area (MHPA).

Identify temporary/permanent impacts to habitat by area (acres/square footage) as determined by Biologist:

In the Pilot Channel, 5,098 linear feet of channel vegetation was trimmed and removed (2.62 acres), dominated primarily by giant reed (*Arundo donax*) with a stretch of Southern Willow Scrub east of the Smuggler's Gulch confluence. For the excavated section of the Pilot Channel, 3,095 linear feet (1.634 acres) of sediment and debris were removed at a depth of 3-10 feet. In the Smuggler's Gulch channel, the full permitted 3,040 linear feet (1.306) length of channel was excavated at a 4-10 foot depth and the vegetation was trimmed and removed along the same distance.

Additional Comments (Describe any unusual conditions, situations or special requirements needed to do the work such as diversion of water, construction of staging area, replacement of bank material, presence of utilities, etc.):

Berm slid into channel and was repaired on Smuggler's Gulch channel (Week 4).

Bee hive was removed (Week 2).

2 unauthorized impacts within *Arundo donax* occurred in the Pilot Channel (Week 2). One area is approximately 5 feet by 12 feet in size (0.0001 acre), is located south of the Pilot Channel near Station 44+50. The second area is approximately 20 feet by 15 feet in size (0.006 acre), is located on the north side of the Pilot Channel, near Station 47+80. Both impacted areas were entirely vegetated with giant reed (*Arundo donax*) and there were no impacts to native vegetation or species.

Diversion trench dug out in Smuggler's Gulch (Week 8).

LIST QUANTITIES REMOVED

Approximately 19,863 cubic yards (25,823 tons) of material (i.e., sediment, trash, vegetation, and debris) was excavated from Smuggler's Gulch and Pilot channels during the 2013-2014 maintenance cycle and appropriately disposed of at the Miramar landfill.

INDIVIDUAL MAINTENANCE ACTIVITY REPORT

SITE PHOTOS

Table 1
Stream Documentation Photo-Log Form

Photo Point ID	Bearing	Coordinates (State Plane Zone 6)		Subject Description	Reference Landmark (Background)
		Latitude	Longitude		
P-1	North	6303300.35	1780269.73	Smuggler's Gulch work area, directly north of Disney Bridge	Single tree on left-hand berm of gulch, riparian vegetation associated with pilot channel
P-2	North	6303306.60	1780955.15	Smuggler's Gulch work area	Tree on left-hand side of gulch, giant reed on right-hand side of gulch
P-3	South	6303300.35	1780898.90	Smuggler's Gulch work area	Ridgeline
P-4	North northwest	6303317.02	1781338.48	Smuggler's Gulch work area	Two crossed trees on right-hand side of gulch, curve in gulch to the left
P-5	South southeast	6303312.85	1781269.73	Smuggler's Gulch work area	Trees on right-hand side of gulch, southern ridgeline
P-6	East	6303160.77	1781686.40	Pilot Channel work area directly east of confluence	Mature tree lines spanning along both sides of work area
P-7	East southeast	6303112.85	1781692.65	Smuggler's Gulch work area directly south of confluence	Stand of mature trees on both sides of gulch, curve in gulch to right
P-8	West	6303071.19	1781703.07	Pilot Channel work area directly west of confluence	Mature trees on both sides of work area
P-9	East	6301979.52	1781971.82	Pilot Channel east of Saturn Boulevard Horse trail	Large stand of giant reed on both sides of channel, mature tree on right-hand side
P-10	West	6301931.60	1781971.82	Pilot Channel west of Saturn Boulevard Horse trail	Mature trees on left-hand side of channel, single trunk on right-hand side
P-11	North northwest	6303585.77	1778682.23	Staging Area B	Mature tree line
P-12	South southwest	6303483.69	1779448.90	Staging Area B	Ridgeline, mature tree line on right-hand side
P-13	East	6304162.85	1781475.98	Pilot Channel work area	Mature trees on both sides of work area
P-14	South	6308727.11	1778494.31	Staging Area D	International border fence, utility pole line
P-15	South southwest	6309123.04	1778457.29	Staging Area D	International border fence, utility pole line
P-16	North northwest	6309160.06	1777972.84	Staging Area D	Access road, utility pole line, mature trees

INDIVIDUAL MAINTENANCE ACTIVITY REPORT

TIJUANA RIVER VALLEY CHANNEL MAINTENANCE PROJECT

2013 - 2014

Pre- and Post-Maintenance Stream Photo Documentation

P-1 Photo taken 9/19/2013



Post Photo taken 2/5/2014



P-2 Photo taken 9/19/2013



Post Photo taken 11/25/2013 facing northwest instead of north due to access issues associated with channel inundation.



INDIVIDUAL MAINTENANCE ACTIVITY REPORT

P-3 Photo taken 9/19/2013



Post Photo taken 11/25/2013 facing south-southwest due to access issues associate with channel inundation.



P-4 Photo taken 9/19/2013



Post Photo taken 11/25/2013 from approximate location of P-5 due to access issues associated with channel inundation; facing north-northwest.



INDIVIDUAL MAINTENANCE ACTIVITY REPORT

P-5 Photo taken 9/19/2013



Post Photo taken 2/5/2014 (Limited access to take photo from exact position/bearing). Facing east instead of south.



P-6 Photo taken 9/19/2013



Post Photo taken 12/31/2013



INDIVIDUAL MAINTENANCE ACTIVITY REPORT

P-7 Photo taken 9/19/2013



Post Photo taken 2/5/2014. This is taken facing east due to limited access for correct photo positioning. To the right is Smuggler's Gulch, and to the left is the eastern portion of the Pilot Channel.



P-8 Photo taken 9/19/2013



Post Photo taken 2/5/2014 (Limited access to take photo from exact position/bearing). This is a view facing northwest from the horse crossing at Pilot Channel Station 19+00.



INDIVIDUAL MAINTENANCE ACTIVITY REPORT

P-9 Photo taken 9/20/2013



Post Photo taken 1/20/2014 from Pilot Channel Station 28+50 (facing east), approximately 100 feet east of 'pre' photo. Original location inaccessible due to channel inundation.



P-10 Photo taken 9/20/2013



Post Photo taken 1/25/2014



INDIVIDUAL MAINTENANCE ACTIVITY REPORT

P-11 Photo taken 9/19/2013



Post Photo taken 2/4/2014



P-12 Photo taken 9/19/2013



Post Photo taken 2/5/2014



INDIVIDUAL MAINTENANCE ACTIVITY REPORT

P-13 Photo taken 10/04/2013



Post

No photo taken due to access issues associated with channel inundation.

P-14 Photo taken 9/19/2013



Post Photo taken 2/5/2014



INDIVIDUAL MAINTENANCE ACTIVITY REPORT

P-15 Photo taken 9/19/2013



Post Photo taken 2/5/2014

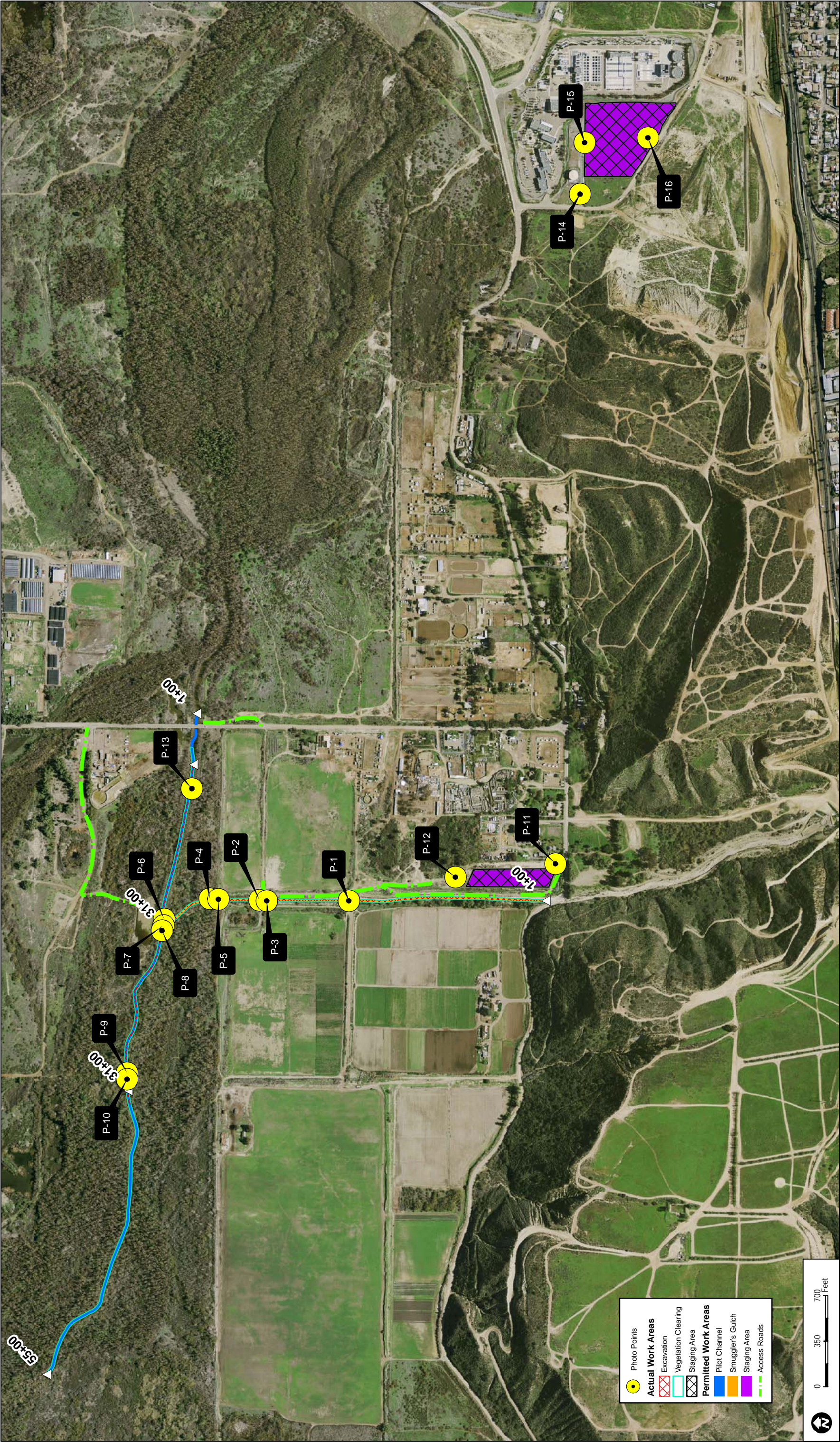


P-16 Photo taken 9/19/2013



Post Photo taken 2/5/2014



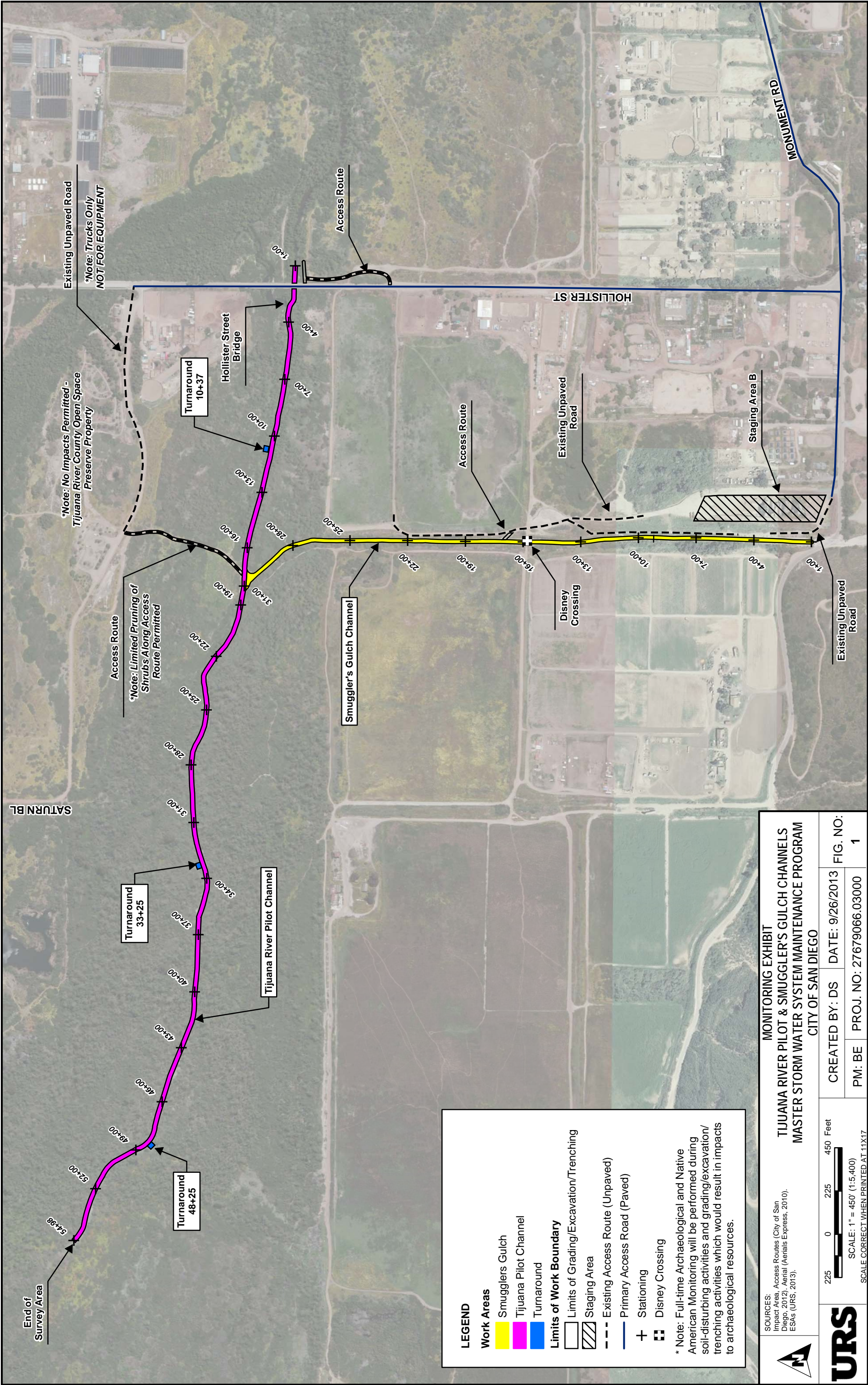


7165
APRIL 2014

SOURCE: Digital Globe 2008

Tijuana River Valley Channel Maintenance Project - Stream Photo Documentation Report

FIGURE 3
Photo Points Map



LEGEND



Work Areas

- Smugglers Gulch
- Tijuana Pilot Channel
- Turnaround

Limits of Work Boundary

- Limits of Grading/Excavation/Trenching
- Staging Area
- Existing Access Route (Unpaved)
- Primary Access Road (Paved)
- Stationing
- Disney Crossing

* Note: Full-time Archaeological and Native American Monitoring will be performed during soil-disturbing activities and grading/excavation/trenching activities which would result in impacts to archaeological resources.



SOURCES:
Impact Area, Access Routes (City of San Diego, 2012), Aerial (Aerials Express, 2010), ESAs (URS, 2013).

MONITORING EXHIBIT
TUJUANA RIVER PILOT & SMUGGLER'S GULCH CHANNELS
MASTER STORM WATER SYSTEM MAINTENANCE PROGRAM
CITY OF SAN DIEGO

CREATED BY: DS

DATE: 9/26/2013

FIG. NO: 1

PM: BE

PROJ. NO: 27679066.03000

225 0 225 450 Feet

SCALE: 1" = 450' (1:5,400)

SCALE CORRECT WHEN PRINTED AT 11X17

Attachment C
California Natural Diversity Database (CNDDB) Records Search (2016)



Summary Table Report

California Department of Fish and Wildlife

California Natural Diversity Database



Query Criteria: Quad IS (Imperial Beach (3211751)> OR (Jamul Mountains (3211668)> OR (National City (3211761)> OR (Otay Mesa (3211658)> OR (Point Loma (3211762))

Name (Scientific/Common)	CNDDB Ranks	Listing Status (Fed/State)	Other Lists	Elev. Range (ft.)	Total EO's	Element Occ. Ranks						Population Status		Presence	
						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extrap.
<i>Acanthomintha ilicifolia</i> San Diego thorn-mint	G1 S1	Threatened Endangered	Rare Plant Rank - 1B.1 SB_RSABG-Rancho Santa Ana Botanic Garden	100 600	82 S:16	0	0	2	0	5	9	8	8	11	3
<i>Accipiter cooperii</i> Cooper's hawk	G5 S4	None None	CDFW_WL-Watch List IUCN_LC-Least Concern	15 1,000	104 S:4	0	1	1	0	0	2	1	3	4	0
<i>Acmispon prostratus</i> Nuttall's acmispoun	G1G2 S1	None None	Rare Plant Rank - 1B.1 SB_RSABG-Rancho Santa Ana Botanic Garden SB_USDA-US Dept of Agriculture	0 60	38 S:15	1	2	1	3	2	6	2	13	13	0
<i>Adolphia californica</i> California adolphia	G3 S2	None None	Rare Plant Rank - 2B.1 SB_RSABG-Rancho Santa Ana Botanic Garden	100 650	124 S:30	0	2	2	0	3	23	9	21	27	2
<i>Agave shawii</i> var. <i>shawii</i> Shaw's agave	G2G3T2T3 S1	None None	Rare Plant Rank - 2B.1	40 300	6 S:5	1	0	0	1	0	3	2	3	5	0
<i>Agelaius tricolor</i> tricolored blackbird	G2G3 S1S2	None None	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_EN-Endangered NABCI_RWL-Red Watch List USFWS_BCC-Birds of Conservation Concern	30 525	724 S:5	0	0	0	0	1	4	3	2	4	0
<i>Aimophila ruficeps canescens</i> southern California rufous-crowned sparrow	G5T3 S2S3	None None	CDFW_WL-Watch List	240 1,100	197 S:11	0	4	1	0	0	6	1	10	11	0
<i>Ambrosia chenopodiifolia</i> San Diego bur-sage	G2G3 S1	None None	Rare Plant Rank - 2B.1 SB_RSABG-Rancho Santa Ana Botanic Garden	66 820	21 S:21	0	2	1	0	2	16	5	16	19	1
<i>Ambrosia monogyra</i> singlewhorl burrobush	G5 S2	None None	Rare Plant Rank - 2B.2	40 492	16 S:9	0	0	0	0	0	9	6	3	9	0



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						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
Ambrosia pumila San Diego ambrosia	G1 S1	Endangered None	Rare Plant Rank - 1B.1	10 500	56 S:17	1	0	1	1	10	4	11	6	7	3	7
Anaxyrus californicus arroyo toad	G2G3 S2S3	Endangered None	CDFW_SSC-Species of Special Concern IUCN_EN-Endangered	240 240	135 S:1	0	0	0	0	1	0	0	1	0	1	0
Anniella pulchra pulchra silvery legless lizard	G3G4T3T4Q S3	None None	CDFW_SSC-Species of Special Concern USFS_S-Sensitive	12 12	96 S:1	0	0	0	1	0	0	0	1	1	0	0
Antrozous pallidus pallid bat	G5 S3	None None	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern USFS_S-Sensitive WBGWG_H-High Priority	30 100	403 S:3	0	0	0	0	0	3	3	0	3	0	0
Aphanisma blitoides aphanisma	G3G4 S2	None None	Rare Plant Rank - 1B.2	100 123	73 S:5	0	0	0	0	0	5	3	2	5	0	0
Arctostaphylos otayensis Otay manzanita	G2 S2	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive	400 2,100	18 S:7	0	1	0	0	0	6	6	1	7	0	0
Artemisia palmeri San Diego sagewort	G3G4 S3?	None None	Rare Plant Rank - 4.2	55 900	36 S:3	0	1	0	0	0	2	3	0	3	0	0
Artemisiospiza belli belli Bell's sage sparrow	G5T2T4 S2?	None None	CDFW_WL-Watch List USFWS_BCC-Birds of Conservation Concern	900 900	58 S:2	0	1	0	0	0	1	0	2	2	0	0
Aspidoscelis hypervythra orangethroat whiptail	G5 S2S3	None None	CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern USFS_S-Sensitive	20 1,000	347 S:26	1	9	1	1	1	14	23	3	26	0	0
Aspidoscelis tigris stejnegeri coastal whiptail	G5T5 S3	None None		300 1,000	114 S:5	0	3	0	0	0	2	1	4	5	0	0
Astragalus deanei Dean's milk-vetch	G1 S1	None None	Rare Plant Rank - 1B.1 BLM_S-Sensitive USFS_S-Sensitive	230 241	18 S:2	0	0	0	0	1	1	2	0	1	0	1
Astragalus tener var. titi coastal dunes milk-vetch	G2T1 S1	Endangered Endangered	Rare Plant Rank - 1B.1 SB_RSABG-Rancho Santa Ana Botanic Garden	10 10	6 S:1	0	0	0	0	1	0	1	0	0	1	0



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<i>Athene cunicularia</i> burrowing owl	G4 S3	None None	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern USFWS_BCC-Birds of Conservation Concern	10 620	1887 S:21	0	4	3	4	5	5	6	15	16	2	3
<i>Atriplex coulteri</i> Coulter's saltbush	G3 S1S2	None None	Rare Plant Rank - 1B.2 SB_RSABG-Rancho Santa Ana Botanic Garden	7 440	102 S:5	0	0	0	0	0	5	1	4	5	0	0
<i>Atriplex pacifica</i> south coast saltscale	G4 S2	None None	Rare Plant Rank - 1B.2	10 787	95 S:25	0	0	3	1	1	20	4	21	24	1	0
<i>Bergerocactus emoryi</i> golden-spined cereus	G2 S2	None None	Rare Plant Rank - 2B.2 SB_RSABG-Rancho Santa Ana Botanic Garden	50 450	70 S:15	0	1	0	0	0	14	6	9	15	0	0
<i>Bloomeria clevelandii</i> San Diego goldenstar	G2 S2	None None	Rare Plant Rank - 1B.1 BLM_S-Sensitive	200 1,000	115 S:32	0	7	0	0	1	24	14	18	31	0	1
<i>Bombus crotchii</i> Crotch bumble bee	G3G4 S1S2	None None		500 1,050	232 S:2	0	0	0	0	0	2	2	0	2	0	0
<i>Branchinecta sandiegonensis</i> San Diego fairy shrimp	G2 S2	Endangered None	IUCN_EN-Endangered	10 900	120 S:25	0	0	3	1	1	20	3	22	24	1	0
<i>Brodiaea orcuttii</i> Orcutt's brodiaea	G2 S2	None None	Rare Plant Rank - 1B.1 BLM_S-Sensitive USFS_S-Sensitive	500 1,000	119 S:6	0	0	0	1	0	5	4	2	6	0	0
<i>Buteo swainsoni</i> Swainson's hawk	G5 S3	None Threatened	BLM_S-Sensitive IUCN_LC-Least Concern USFWS_BCC-Birds of Conservation Concern	80 1,080	2400 S:4	0	0	0	0	4	0	4	0	0	4	0
<i>California macrophylla</i> round-leaved filaree	G3? S3?	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive SB_RSABG-Rancho Santa Ana Botanic Garden SB_SBBG-Santa Barbara Botanic Garden		162 S:2	0	0	0	0	2	0	2	0	0	2	0



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<i>Callophrys thornei</i> Thorne's hairstreak	G1 S1	None None	BLM_S-Sensitive	685 1,760	6 S:3	1	2	0	0	0	0	0	3	3	0	0
<i>Calochortus dunnii</i> Dunn's mariposa-lily	G2G3 S2S3	None Rare	Rare Plant Rank - 1B.2 BLM_S-Sensitive SB_RSABG-Rancho Santa Ana Botanic Garden USFS_S-Sensitive	900 2,050	33 S:10	0	5	1	0	0	4	3	7	10	0	0
<i>Campylorhynchus brunneicapillus sandiegensis</i> coastal cactus wren	G5T3Q S3	None None	CDFW_SSC-Species of Special Concern USFS_S-Sensitive USFWS_BCC-Birds of Conservation Concern	150 900	151 S:27	1	17	7	0	0	2	23	4	27	0	0
<i>Ceanothus cyaneus</i> Lakeside ceanothus	G2 S2	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive SB_RSABG-Rancho Santa Ana Botanic Garden USFS_S-Sensitive		42 S:2	0	0	0	0	0	2	2	0	2	0	0
<i>Ceanothus otayensis</i> Otay Mountain ceanothus	G1G2 S1	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive	260 2,000	26 S:8	0	0	0	1	0	7	2	6	8	0	0
<i>Ceanothus verrucosus</i> wart-stemmed ceanothus	G3 S2	None None	Rare Plant Rank - 2B.2 SB_RSABG-Rancho Santa Ana Botanic Garden	200 300	67 S:10	0	1	2	0	2	5	3	7	8	0	2
<i>Chaenactis glabriuscula</i> var. <i>orcuttiana</i> Orcutt's pincushion	G5T1T2 S1	None None	Rare Plant Rank - 1B.1 BLM_S-Sensitive SB_RSABG-Rancho Santa Ana Botanic Garden	10 60	23 S:6	0	0	0	0	1	5	6	0	5	1	0
<i>Chaetodipus fallax fallax</i> northwestern San Diego pocket mouse	G5T3T4 S3S4	None None	CDFW_SSC-Species of Special Concern	25 500	94 S:3	0	0	1	0	0	2	1	2	3	0	0
<i>Charadrius alexandrinus nivosus</i> western snowy plover	G3T3 S2S3	Threatened None	CDFW_SSC-Species of Special Concern NABCI_RWL-Red Watch List USFWS_BCC-Birds of Conservation Concern	1 20	123 S:8	0	1	0	0	0	7	5	3	8	0	0
<i>Charina trivirgata</i> rosy boa	G4G5 S3S4	None None	IUCN_LC-Least Concern USFS_S-Sensitive	110 920	48 S:2	0	1	0	0	0	1	1	1	2	0	0



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<i>Chelonia mydas</i> green turtle	G3 S1	Threatened None	IUCN_EN-Endangered	0 0	2 S:1	0	0	0	0	0	1	0	1	1	0	0
<i>Chloropyron maritimum ssp. maritimum</i> salt marsh bird's-beak	G4?T1 S1	Endangered Endangered	Rare Plant Rank - 1B.2 SB_RSABG-Rancho Santa Ana Botanic Garden	5 10	27 S:7	0	0	1	0	1	5	2	5	6	1	0
<i>Choeronycteris mexicana</i> Mexican long-tongued bat	G4 S1	None None	CDFW_SSC-Species of Special Concern IUCN_NT-Near Threatened WBWG_H-High Priority	12 320	14 S:5	0	0	0	0	0	5	3	2	5	0	0
<i>Chorizanthe orcuttiana</i> Orcutt's spineflower	G1 S1	Endangered Endangered	Rare Plant Rank - 1B.1 SB_RSABG-Rancho Santa Ana Botanic Garden	300 400	13 S:5	1	2	0	0	1	1	2	3	4	1	0
<i>Chorizanthe polygonoides var. longispina</i> long-spined spineflower	G5T3 S3	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive SB_RSABG-Rancho Santa Ana Botanic Garden	140 500	130 S:10	0	1	0	0	0	9	4	6	10	0	0
<i>Cicindela gabbii</i> western tidal-flat tiger beetle	G2G4 S1	None None		10 10	9 S:3	0	0	0	0	0	3	3	0	3	0	0
<i>Cicindela hirticollis gravida</i> sandy beach tiger beetle	G5T2 S2	None None		10 10	34 S:4	0	0	0	0	2	2	3	1	2	0	2
<i>Cicindela latesignata latesignata</i> western beach tiger beetle	G2G4T1T2 S1	None None		5 20	15 S:8	0	0	0	0	5	3	8	0	3	0	5
<i>Cicindela senilis frosti</i> senile tiger beetle	G2G3T1T3 S1	None None		20 20	9 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Circus cyaneus</i> northern harrier	G5 S3	None None	CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern	15 600	47 S:2	0	0	0	0	0	2	0	2	2	0	0
<i>Clarkia delicata</i> delicate clarkia	G3 S3	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive	800 1,250	95 S:3	0	0	0	0	1	2	3	0	2	0	1
<i>Clinopodium chandleri</i> San Miguel savory	G2 S2	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive USFS_S-Sensitive	1,000 1,700	21 S:4	0	2	0	0	0	2	4	0	4	0	0



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Coccyzus americanus occidentalis western yellow-billed cuckoo	G5T2T3 S1	Threatened Endangered	BLM_S-Sensitive NABCI_RWL-Red Watch List USFS_S-Sensitive USFWS_BCC-Birds of Conservation Concern	50 350	155 S:3	0	1	0	0	2	0	2	1	1	0	2
Coelus globosus globeose dune beetle	G1G2 S1S2	None None	IUCN_VU-Vulnerable	10 20	49 S:3	0	0	0	0	0	3	2	1	3	0	0
Comarostaphylis diversifolia ssp. diversifolia summer holly	G3T2 S2	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive SB_RSABG-Rancho Santa Ana Botanic Garden	1,000 2,165	106 S:5	0	0	0	0	0	5	1	4	5	0	0
Corethrogyne filaginifolia var. incana San Diego sand aster	G4T1Q S1	None None	Rare Plant Rank - 1B.1	10 300	9 S:4	0	0	0	0	1	3	4	0	3	1	0
Corynorhinus townsendii Townsend's big-eared bat	G3G4 S2	None Candidate Threatened	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern USFS_S-Sensitive WBWG_H-High Priority	355 355	623 S:1	0	0	0	0	0	1	0	1	1	0	0
Crotalus ruber red-diamond rattlesnake	G4 S3	None None	CDFW_SSC-Species of Special Concern USFS_S-Sensitive	200 1,020	173 S:5	1	0	0	0	0	4	2	3	5	0	0
Cylindropuntia californica var. californica snake cholla	G3T2 S1	None None	Rare Plant Rank - 1B.1	50 950	32 S:30	1	1	3	0	1	24	7	23	29	0	1
Danaus plexippus pop. 1 monarch - California overwintering population	G4T2T3 S2S3	None None	USFS_S-Sensitive	40 300	378 S:6	0	0	2	0	0	4	1	5	6	0	0
Deinandra conjugens Otay tarplant	G1 S1	Threatened Endangered	Rare Plant Rank - 1B.1 SB_RSABG-Rancho Santa Ana Botanic Garden	200 900	36 S:35	0	7	5	6	0	17	7	28	35	0	0
Diadophis punctatus similis San Diego ringneck snake	G5T2T3 S2?	None None	USFS_S-Sensitive	290 1,340	11 S:3	0	0	0	0	0	3	0	3	3	0	0
Dicranostegia orcuttiana Orcutt's bird's-beak	G2G3 S1	None None	Rare Plant Rank - 2B.1	5 650	13 S:13	0	1	0	0	0	12	3	10	13	0	0



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<i>Dudleya attenuata</i> ssp. <i>attenuata</i> Orcutt's dudleya	G4T3? S1	None None	Rare Plant Rank - 2B.1	10 10	1 S:1	0	0	0	1	0	0	0	0	1	0	0
<i>Dudleya blochmaniae</i> ssp. <i>blochmaniae</i> Blochman's dudleya	G3T2 S2	None None	Rare Plant Rank - 1B.1 SB_RSABG-Rancho Santa Ana Botanic Garden	30 345	79 S:2	0	0	0	0	1	1	1	1	1	1	0
<i>Dudleya variegata</i> variegated dudleya	G2 S2	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive	10 1,800	108 S:54	1	8	0	0	0	6	39	34	48	3	3
<i>Dudleya viscidula</i> sticky dudleya	G2 S2	None None	Rare Plant Rank - 1B.2 USFS_S-Sensitive		23 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Empidonax traillii</i> <i>extimus</i> southwestern willow flycatcher	G5T2 S1	Endangered Endangered	NABCI_RWL-Red Watch List	260 260	70 S:1	0	1	0	0	0	0	0	1	1	0	0
<i>Eremophila alpestris</i> <i>actia</i> California horned lark	G5T3Q S3	None None	CDFW_WL-Watch List IUCN_LC-Least Concern	12 600	88 S:7	0	0	0	2	0	5	1	6	7	0	0
<i>Ericameria palmeri</i> var. <i>palmeri</i> Palmer's goldenbush	G4T2? S2	None None	Rare Plant Rank - 1B.1 BLM_S-Sensitive	100 650	34 S:13	0	1	1	2	0	9	4	9	13	0	0
<i>Eryngium aristulatum</i> var. <i>parishii</i> San Diego button-celery	G5T1 S1	Endangered Endangered	Rare Plant Rank - 1B.1 SB_RSABG-Rancho Santa Ana Botanic Garden	350 920	79 S:20	0	2	3	7	0	8	7	13	20	0	0
<i>Eumops perotis</i> <i>californicus</i> western mastiff bat	G5T4 S3S4	None None	BLM_S-Sensitive CDFW_SSC-Species of Special Concern WBWG_H-High Priority	25 380	293 S:8	0	0	0	0	0	8	3	5	8	0	0
<i>Euphorbia misera</i> cliff spurge	G5 S2	None None	Rare Plant Rank - 2B.2 SB_RSABG-Rancho Santa Ana Botanic Garden	100 500	37 S:14	2	1	2	0	1	8	4	10	13	0	1
<i>Euphydryas editha</i> <i>quino</i> quino checkerspot butterfly	G5T1T2 S1S2	Endangered None	XERCES_CI-Critically Imperiled	240 1,950	95 S:25	0	3	0	0	0	22	3	22	25	0	0
<i>Falco peregrinus</i> <i>anatum</i> American peregrine falcon	G4T4 S3S4	Delisted Delisted	CDF_S-Sensitive CDFW_FP-Fully Protected USFWS_BCC-Birds of Conservation Concern	90 90	40 S:1	0	0	0	0	0	1	1	0	1	0	0



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<i>Ferocactus viridescens</i> San Diego barrel cactus	G3? S2S3	None None	Rare Plant Rank - 2B.1 SB_RSABG-Rancho Santa Ana Botanic Garden	10 1,600	235 S:79	2	12	6	5	4	50	34	45	75	4	0
<i>Frankenia palmeri</i> Palmer's frankenia	G3? S1	None None	Rare Plant Rank - 2B.1	10 10	3 S:3	0	0	0	0	1	2	2	1	2	1	0
<i>Fremontodendron mexicanum</i> Mexican flannelbush	G1 S1	Endangered Rare	Rare Plant Rank - 1B.1 SB_RSABG-Rancho Santa Ana Botanic Garden	1,000 1,600	5 S:4	0	1	0	0	1	2	3	1	3	1	0
<i>Galium proliferum</i> desert bedstraw	G5 S2	None None	Rare Plant Rank - 2B.2	350 500	17 S:3	0	0	0	0	0	3	0	3	3	0	0
<i>Geothallus tuberosus</i> Campbell's liverwort	G1 S1	None None	Rare Plant Rank - 1B.1	200 200	4 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Grindelia hallii</i> San Diego gumplant	G2 S2	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive		60 S:2	0	0	0	0	0	2	2	0	2	0	0
<i>Harpagonella palmeri</i> Palmer's grapplehook	G4 S3	None None	Rare Plant Rank - 4.2 SB_RSABG-Rancho Santa Ana Botanic Garden	300 960	57 S:7	0	1	0	0	1	5	7	0	6	1	0
<i>Hesperocyparis forbesii</i> Tecate cypress	G2 S2	None None	Rare Plant Rank - 1B.1 BLM_S-Sensitive SB_RSABG-Rancho Santa Ana Botanic Garden SB_USDA-US Dept of Agriculture USFS_S-Sensitive	200 2,000	24 S:5	0	1	1	0	0	3	3	2	5	0	0
<i>Heterotheca sessiliflora ssp. sessiliflora</i> beach goldenaster	G4T2T3 S1	None None	Rare Plant Rank - 1B.1 SB_RSABG-Rancho Santa Ana Botanic Garden	3 3	13 S:7	0	0	0	0	1	6	3	4	6	1	0
<i>Icteria virens</i> yellow-breasted chat	G5 S3	None None	CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern	180 440	87 S:4	0	1	0	0	0	3	1	3	4	0	0
<i>Isocoma menziesii var. decumbens</i> decumbent goldenbush	G3G5T2T3 S2	None None	Rare Plant Rank - 1B.2	148 1,000	63 S:29	0	2	0	1	0	26	11	18	29	0	0



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<i>Iva hayesiana</i> San Diego marsh-elder	G3? S2	None None	Rare Plant Rank - 2B.2 SB_RSABG-Rancho Santa Ana Botanic Garden	50 1,400	95 S:41	0	8	2	2	0	29	15	26	41	0	0
<i>Lasionycteris noctivagans</i> silver-haired bat	G5 S3S4	None None	IUCN_LC-Least Concern WBGW_M-Medium Priority		138 S:2	0	0	0	0	0	2	2	0	2	0	0
<i>Lasius blossevillii</i> western red bat	G5 S3	None None	CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern WBGW_H-High Priority	80 380	119 S:6	0	0	0	0	0	6	0	6	6	0	0
<i>Lasius cinereus</i> hoary bat	G5 S4	None None	IUCN_LC-Least Concern WBGW_M-Medium Priority	280 300	235 S:3	0	0	0	0	0	3	2	1	3	0	0
<i>Lasius xanthinus</i> western yellow bat	G5 S3	None None	CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern WBGW_H-High Priority	200 450	57 S:2	0	0	0	0	0	2	2	0	2	0	0
<i>Lasthenia glabrata ssp. coulteri</i> Coulter's goldfields	G4T2 S2	None None	Rare Plant Rank - 1B.1 BLM_S-Sensitive SB_RSABG-Rancho Santa Ana Botanic Garden	5 600	97 S:6	0	0	0	0	1	5	4	2	5	1	0
<i>Laterallus jamaicensis coturniculus</i> California black rail	G3G4T1 S1	None Threatened	BLM_S-Sensitive CDFW_FP-Fully Protected IUCN_NT-Near Threatened NABCI_RWL-Red Watch List USFWS_BCC-Birds of Conservation Concern	10 10	241 S:3	0	0	0	0	0	3	3	0	3	0	0
<i>Lepechinia ganderi</i> Gander's pitcher sage	G3? S3	None None	Rare Plant Rank - 1B.3 BLM_S-Sensitive SB_RSABG-Rancho Santa Ana Botanic Garden	1,000 2,500	25 S:11	1	0	0	0	0	10	4	7	11	0	0



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<i>Lepidium virginicum</i> var. <i>robinsonii</i> Robinson's pepper-grass	G5T3 S3	None None	Rare Plant Rank - 4.3	52 1,650	142 S:16	0	3	0	0	1	12	5	11	15	1	0
<i>Leptosyne maritima</i> sea dahlia	G2 S1	None None	Rare Plant Rank - 2B.2 SB_RSABG-Rancho Santa Ana Botanic Garden	20 300	40 S:8	0	0	0	0	1	7	3	5	7	1	0
<i>Lepus californicus bennettii</i> San Diego black-tailed jackrabbit	G5T3T4 S3S4	None None	CDFW_SSC-Species of Special Concern	20 900	102 S:18	1	3	2	2	0	10	1	17	18	0	0
<i>Lycaena hermes</i> Hermes copper butterfly	G1 S1	Candidate None	IUCN_VU-Vulnerable USFS_S-Sensitive	410 920	18 S:3	2	1	0	0	0	0	0	3	3	0	0
<i>Maritime Succulent Scrub</i> Maritime Succulent Scrub	G2 S1.1	None None		200 400	10 S:7	1	1	0	0	3	2	7	0	4	0	3
<i>Melitta californica</i> California mellitid bee	G4? S2?	None None		25 25	5 S:1	0	0	0	0	1	0	1	0	0	0	1
<i>Mobergia calciculiformis</i> light gray lichen	G3 S1	None None	Rare Plant Rank - 3	30 30	1 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Monardella hypoleuca</i> ssp. <i>lanata</i> felt-leaved monardella	G4T3 S3	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive USFS_S-Sensitive		55 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Monardella stoneana</i> Jennifer's monardella	G2 S1	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive	570 1,300	9 S:4	0	2	0	1	0	1	0	4	4	0	0
<i>Monardella viminea</i> willowy monardella	G1 S1	Endangered Endangered	Rare Plant Rank - 1B.1 SB_RSABG-Rancho Santa Ana Botanic Garden		28 S:1	0	0	0	0	1	0	1	0	0	1	0
<i>Myosurus minimus</i> ssp. <i>apus</i> little mouse-tail	G5T2Q S2	None None	Rare Plant Rank - 3.1	460 640	24 S:6	0	1	1	0	0	4	5	1	6	0	0
<i>Myotis ciliolabrum</i> western small-footed myotis	G5 S3	None None	BLM_S-Sensitive IUCN_LC-Least Concern WBWG_M-Medium Priority	264 280	82 S:2	0	0	0	0	0	2	0	2	2	0	0



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<i>Myotis evotis</i> long-eared myotis	G5 S3	None None	BLM_S-Sensitive IUCN_LC-Least Concern WBWG_M-Medium Priority	280 280	107 S:1	0	0	0	0	0	1	0	1	1	0	0
<i>Myotis yumanensis</i> Yuma myotis	G5 S4	None None	BLM_S-Sensitive IUCN_LC-Least Concern WBWG_LM-Low-Medium Priority	100 640	260 S:7	0	0	0	0	0	7	0	7	7	0	0
<i>Nama stenocarpa</i> mud nama	G4G5 S1S2	None None	Rare Plant Rank - 2B.2	235 235	22 S:4	0	0	0	0	0	4	2	2	4	0	0
<i>Navarretia fossalis</i> spreading navarretia	G2 S2	Threatened None	Rare Plant Rank - 1B.1 SB_RSABG-Rancho Santa Ana Botanic Garden	275 620	74 S:20	0	5	4	1	2	8	8	12	18	1	1
<i>Navarretia prostrata</i> prostrate vernal pool navarretia	G2 S2	None None	Rare Plant Rank - 1B.1		60 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Nemacaulis denudata</i> var. <i>denudata</i> coast woolly-heads	G3G4T2 S2	None None	Rare Plant Rank - 1B.2 SB_RSABG-Rancho Santa Ana Botanic Garden	3 62	37 S:14	0	2	0	0	0	12	5	9	14	0	0
<i>Nemacaulis denudata</i> var. <i>gracilis</i> slender cottonheads	G3G4T3? S2	None None	Rare Plant Rank - 2B.2	20 100	24 S:3	0	0	0	0	2	1	3	0	1	2	0
<i>Neotoma lepida intermedia</i> San Diego desert woodrat	G5T3T4 S3S4	None None	CDFW_SSC-Species of Special Concern	500 500	115 S:2	0	0	1	0	0	1	0	2	2	0	0
<i>Nyctinomops femorosaccus</i> pocketed free-tailed bat	G4 S3	None None	CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern WBWG_M-Medium Priority	70 355	90 S:8	0	0	0	0	0	8	3	5	8	0	0
<i>Nyctinomops macrotis</i> big free-tailed bat	G5 S3	None None	CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern WBWG_MH-Medium-High Priority	200 450	32 S:4	0	0	0	0	0	4	2	2	4	0	0



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Orcuttia californica California Orcutt grass	G1 S1	Endangered Endangered	Rare Plant Rank - 1B.1 SB_RSABG-Rancho Santa Ana Botanic Garden	345 515	37 S:10	0	0	3	4	0	3	6	4	10	0	0
Ornithostaphylos oppositifolia Baja California birdbush	G3 S1	None Endangered	Rare Plant Rank - 2B.1 SB_RSABG-Rancho Santa Ana Botanic Garden	180 180	1 S:1	0	1	0	0	0	0	0	1	1	0	0
Orobancha parishii ssp. brachyloba short-lobed broomrape	G4?T4 S3	None None	Rare Plant Rank - 4.2	10 300	26 S:2	0	0	0	0	1	1	2	0	1	0	1
Pandion haliaetus osprey	G5 S4	None None	CDF_S-Sensitive CDFW_WL-Watch List IUCN_LC-Least Concern	15 15	483 S:1	0	0	0	0	0	1	0	1	1	0	0
Panoquina errans wandering (=saltmarsh) skipper	G4G5 S2	None None	IUCN_NT-Near Threatened	10 22	14 S:6	0	0	0	0	0	6	1	5	6	0	0
Passerculus sandwichensis beldingi Belding's savannah sparrow	G5T3 S3	None Endangered		0 10	36 S:7	0	1	5	1	0	0	0	7	7	0	0
Pelecanus occidentalis californicus California brown pelican	G4T3 S3	Delisted Delisted	BLM_S-Sensitive CDFW_FP-Fully Protected USFS_S-Sensitive	0 0	19 S:1	1	0	0	0	0	0	0	1	1	0	0
Perognathus longimembris pacificus Pacific pocket mouse	G5T1 S1	Endangered None	CDFW_SSC-Species of Special Concern	10 10	13 S:1	0	0	0	0	1	0	1	0	0	0	1
Phacelia stellaris Brand's star phacelia	G1 S1	None None	Rare Plant Rank - 1B.1 SB_RSABG-Rancho Santa Ana Botanic Garden	10 55	15 S:3	0	2	0	0	0	1	0	3	3	0	0
Phalacrocorax auritus double-crested cormorant	G5 S4	None None	CDFW_WL-Watch List IUCN_LC-Least Concern	240 240	37 S:1	0	1	0	0	0	0	1	0	1	0	0
Phrynosoma blainvillii coast horned lizard	G3G4 S3S4	None None	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern	40 1,050	731 S:15	2	5	1	0	3	4	11	4	12	3	0
Plestiodon skiltonianus interparietalis Coronado Island skink	G5T2T3Q S1S2	None None	BLM_S-Sensitive CDFW_SSC-Species of Special Concern	40 920	33 S:2	0	0	2	0	0	0	1	1	2	0	0



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<i>Pogogyne abramsii</i> San Diego mesa mint	G1 S1	Endangered Endangered	Rare Plant Rank - 1B.1 SB_RSABG-Rancho Santa Ana Botanic Garden	445 540	30 S:1	0	0	0	0	1	0	1	0	0	1
<i>Pogogyne nudiuscula</i> Otay Mesa mint	G1 S1	Endangered Endangered	Rare Plant Rank - 1B.1 SB_RSABG-Rancho Santa Ana Botanic Garden	445 540	14 S:13	0	1	2	2	1	7	5	8	12	0
<i>Poliopitila californica californica</i> coastal California gnatcatcher	G4G5T2Q S2	Threatened None	CDFW_SSC-Species of Special Concern NABCI_YWL-Yellow Watch List	60 1,200	814 S:59	4	18	7	1	0	29	23	36	59	0
<i>Quercus dumosa</i> Nuttall's scrub oak	G3 S3	None None	Rare Plant Rank - 1B.1 USFS_S-Sensitive	100 750	148 S:18	0	0	1	2	0	15	6	12	18	0
<i>Rallus longirostris levipes</i> light-footed clapper rail	G5T1T2 S1	Endangered Endangered	CDFW_FP-Fully Protected NABCI_RWL-Red Watch List	0 30	30 S:8	0	0	3	0	0	5	1	7	8	0
<i>Ribes viburnifolium</i> Santa Catalina Island currant	G2? S2?	None None	Rare Plant Rank - 1B.2 SB_USDA-US Dept of Agriculture	245 245	32 S:1	0	0	1	0	0	0	1	0	1	0
<i>Rosa minutifolia</i> small-leaved rose	G2G3 SXC	None Endangered	Rare Plant Rank - 2B.1 SB_RSABG-Rancho Santa Ana Botanic Garden	400 500	3 S:3	0	1	0	0	1	1	0	3	2	0
<i>Salvadora hexalepis virgulata</i> coast patch-nosed snake	G5T4 S2S3	None None	CDFW_SSC-Species of Special Concern	1,000 1,000	22 S:1	0	1	0	0	0	0	0	1	1	0
<i>Salvia munzii</i> Munz's sage	G2 S2	None None	Rare Plant Rank - 2B.2 SB_RSABG-Rancho Santa Ana Botanic Garden	120 1,887	43 S:35	2	9	4	0	1	19	13	22	34	0
<i>San Diego Mesa Claypan Vernal Pool</i> San Diego Mesa Claypan Vernal Pool	G2 S2.1	None None		280 640	19 S:18	0	2	0	0	0	16	18	0	18	0
<i>Senecio aphanactis</i> chaparral ragwort	G3 S2	None None	Rare Plant Rank - 2B.2	500 1,300	47 S:5	0	0	0	0	1	4	4	1	4	1
<i>Setophaga petechia</i> yellow warbler	G5 S3S4	None None	CDFW_SSC-Species of Special Concern USFWS_BCC-Birds of Conservation Concern	240 240	51 S:1	0	1	0	0	0	0	1	0	1	0



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Southern Coastal Salt Marsh Southern Coastal Salt Marsh	G2 S2.1	None None			24 S:4	0	0	0	0	0	4	4	0	4	0	0
Southern Interior Cypress Forest Southern Interior Cypress Forest	G2 S2.1	None None		2,400 2,400	24 S:1	0	0	0	0	0	1	0	1	1	0	0
Southern Riparian Scrub Southern Riparian Scrub	G3 S3.2	None None		10 180	56 S:3	0	0	0	0	0	3	3	0	3	0	0
Southern Willow Scrub Southern Willow Scrub	G3 S2.1	None None		40 40	45 S:1	0	0	0	0	0	1	1	0	1	0	0
Spea hammondi western spadefoot	G3 S3	None None	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_NT-Near Threatened	12 550	429 S:4	0	0	0	0	0	4	0	4	4	0	0
Sphaerocarpos drewei bottle liverwort	G1 S1	None None	Rare Plant Rank - 1B.1	200 200	3 S:1	0	0	0	0	0	1	1	0	1	0	0
Stemodia durantifolia purple stemodia	G5 S2	None None	Rare Plant Rank - 2B.1	120 574	19 S:5	0	0	0	0	0	5	3	2	5	0	0
Sternula antillarum browni California least tern	G4T2T3Q S2	Endangered Endangered	CDFW_FP-Fully Protected NABCI_RWL-Red Watch List	0 18	68 S:12	0	2	0	0	3	7	8	4	9	0	3
Streptanthus bernaardinus Laguna Mountains jewelflower	G3G4 S3S4	None None	Rare Plant Rank - 4.3 SB_RSABG-Rancho Santa Ana Botanic Garden	1,400 1,400	22 S:1	0	0	0	0	0	1	1	0	1	0	0
Streptocephalus woottoni Riverside fairy shrimp	G1G2 S1S2	Endangered None	IUCN_EN-Endangered	470 670	82 S:16	0	0	0	0	1	15	1	15	15	1	0
Stylocline citroleum oil neststraw	G3 S3	None None	Rare Plant Rank - 1B.1 BLM_S-Sensitive	200 200	84 S:1	0	0	0	0	0	1	1	0	1	0	0
Suaeda esteroa estuary seablite	G3 S2	None None	Rare Plant Rank - 1B.2		23 S:6	0	0	0	0	0	6	6	0	6	0	0
Taxidea taxus American badger	G5 S3	None None	CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern	10 500	493 S:3	0	1	0	0	0	2	3	0	3	0	0



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<i>Tetracoccus dioicus</i> Parry's tetracoccus	G3? S2	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive SB_RSABG-Rancho Santa Ana Botanic Garden USFS_S-Sensitive	500 500	46 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Thamnophis hammondi</i> two-striped gartersnake	G4 S3S4	None None	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern USFS_S-Sensitive	40 790	147 S:5	0	2	1	0	0	2	1	4	5	0	0
<i>Tortula californica</i> California screw moss	G2G3 S2S3	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive	150 150	15 S:1	0	0	0	0	0	1	0	1	1	0	0
<i>Tryonia imitator</i> mimic tryonia (=California brackishwater snail)	G2 S2	None None	IUCN_DD-Data Deficient	12 12	39 S:1	0	0	0	0	0	1	0	1	1	0	0
<i>Vireo bellii pusillus</i> least Bell's vireo	G5T2 S2	Endangered Endangered	IUCN_NT-Near Threatened NABCL_YWL-Yellow Watch List	15 920	468 S:27	5	4	5	1	1	11	2	25	26	1	0