NATIONAL CITY CARMAX PROJECT
BIOLOGICAL TECHNICAL REPORT

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Acronyms and Abbreviations

AAs	assessment areas
BMO	Biological Mitigation Ordinance
BRCAs	Biological Resource Core Areas
BTR	Biological Technical Report
CAGN	coastal California gnatcatcher
Cal-IPC	California Invasive Plant Council
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CFGC	California Fish and Game Code
CFR	Code of Federal Regulations
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CRAM	California Rapid Assessment Method
CRPR	California Rare Plant Rank
CWMW	California Wetlands Monitoring Workgroup
EPA	U.S. Environmental Protection Agency
ESA	Endangered Species Act
FESA	Federal Endangered Species Act
FR	Federal Register
GLA	Glen Lukos Associates
GPS	Global Positioning System
HCP	Habitat Conservation Plan
HMP	Habitat Management Plan
HUC	Hydrologic Unit Code
I	Interstate
I-805	Interstate 805
LBV	least Bell's vireo
MBTA	Migratory Bird Treaty Act
MSCP	Multiple Species Conservation Program
NCCP	Natural Communities Conservation Plan
NPPA	Native Plant Protection Act
NRCS	Natural Resources Conservation Service
NWR	National Wildlife Refuge
OHWM	Ordinary High Water Mark
PC	Plant Community
ROW	right of way
RWQCB	Regional Water Quality Control Board
SAMP	Special Area Management Plan

SR	State Route
SSC	species of special concern
SSURGO	Soil Survey Geographic
SWFL	southwestern willow flycatcher
USACE	U.S. Army Corps of Engineers
USDA	U.S. Department of Agriculture
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
VCM	*Vegetation Classification Manual for Western San Diego County*
WOUS	waters of the U.S.

Summary

ICF conducted a review of the onsite biological resources for the proposed CarMax Project. The project site is in National City, San Diego County, California. A portion of the temporary impacts is outside of the city limits but within unincorporated San Diego County. The project consists of construction of a CarMax automobile dealership, service building, non-public carwash, parking, and a re-routed channel within an impact footprint of approximately 15.12 acres.

The biological resources review was conducted within a study area that consisted of the project boundary and a 100-foot buffer, which surrounds the project and is bound by adjacent developed areas, including State Route 54 to the north, Sweetwater Road to the east, Plaza Bonita Road to the south, and Sweetwater Bikeway to the west. A small portion of the Project occurs outside of National City within unincorporated San Diego County.

This Biological Technical Report (BTR) will be submitted to the City of National City. The project is subject to both the National Environmental Policy Act (NEPA), due to presence U.S. Army Corps of Engineers (USACE) jurisdictional non-wetland waters, and California Environmental Quality Act (CEQA) provisions.

This BTR will also support project permitting from the state and federal biological resources agencies (e.g., U.S. Fish and Wildlife Service [USFWS] and the California Department of Fish and Wildlife [CDFW]).

Eight special-status species were identified as having a moderate to high potential to occur or were observed within the study area, including three special-status plant species and five special-status wildlife species:

<u>Federal or State Listed (Endangered Species Act [FESA] or California Endangered Species Act [CESA])</u>

- Coastal California gnatcatcher (CAGN; *Polioptila californica californica*) – FESA threatened, CDFW Species of Special Concern (SSC)
- Southwestern willow flycatcher (SWFL; *Empidonax traillii extimus*) – FESA endangered, CESA endangered
- Least Bell's vireo (LBV; *Vireo bellii pusillus*) – FESA endangered, CESA endangered
- Light-footed Ridgway's rail (*Rallus obsoletus levipes* [formerly *Rallus longirostris levipes*]) – FESA endangered, CESA endangered, CDFW Fully Protected Species

<u>CDFW SSC or California Rare Plant Rank (CRPR)</u>

- Yellow-breasted chat (*Icteria virens*) – CDFW SSC
- Yellow warbler (*Setophaga petechial*) – CDFW SSC
- San Diego sunflower (*Bahiopsis laciniata*) – CRPR 4.2
- Southern California black walnut (*Juglans californica*) – CRPR 4.2
- Southwestern spiny rush (*Juncus acutus* spp. *leopoldii*) – CRPR 4.2

Surveys were conducted in 2015 to map vegetation communities and waters of the State and to determine presence or absence of special-status plant and wildlife species. The fieldwork included a habitat assessment; vegetation mapping; delineation of potential jurisdictional waters, including a California Rapid Assessment Method analysis; focused rare plant surveys; and protocol focused surveys for CAGN, LBV, and SWFL.

Fifteen vegetation communities and other land cover types were mapped within the study area: arroyo willow thickets, cattail marshes, cottonwood trees, coyote bush scrub, mule-fat thickets, red-willow thicket, San Diego sunflower scrub, sycamore trees, disturbed habitat, eucalyptus groves, giant reed breaks, nonnative riparian, nonnative woodland, urban/developed, and naturalized warm-temperate riparian and wetland semi-natural stands. No federally or state-listed plant species were detected within the study area during 2015 surveys, but three special-status plant species were observed within the study area, including San Diego sunflower, Southern California black walnut trees, and southwestern spiny rush. The San Diego sunflower scrub occurs partially within the permanent impacts of the project (southwestern corner). The two Southern California black walnut trees are within the temporary impact areas, and the southwestern spiny rush is within the permanent impact area (southwestern corner).

In 2017, a protocol survey for light-footed Ridgway's rail was conducted and one pair of federally and state-listed light-footed Ridgway's rail was detected in southern cattail marsh patch located southwest of the project area within the Sweetwater River. No other federally or state-listed wildlife species were detected in 2015 within the survey area. In 2015, focused protocol-level surveys were conducted for LBV, SWFL, and CAGN, and no LBV, SWFL, or CAGN were observed. Two California SSC avian species were observed incidentally during surveys in 2015: yellow warbler and the yellow-breasted chat. One observation of yellow warbler occurred outside of the survey area within the Sweetwater River in 2015, and four observations of yellow-breasted chat occurred (two onsite within the proposed limits of grading and two offsite outside the survey area within Sweetwater River) in 2015. Portions of the project are within the County's Multiple Species Conservation Plan (MSCP) Subarea Plan and MSCP Linkage Area. No wildlife corridors and habitat linkages occur within the project limits, and no USFWS-designated critical habitat for any plant or wildlife species exists within the project limits

Six features, including USACE jurisdictional non-wetland waters of the United States, Regional Water Quality Control Board (RWQCB) jurisdictional waters of the State, and CDFW jurisdictional state streambed and riparian habitat, were delineated within the study area. The potentially jurisdictional features total 1.56 acres (3,100 linear feet) of waters potentially under USACE/RWQCB jurisdiction, 1.68 acres of waters potentially under RWQCB jurisdiction only, and 2.82 acres (3,100 linear feet) of waters potentially under CDFW jurisdiction. Authorization from CDFW for impacts on jurisdictional waters of the State under the regulatory administration of CDFW and a California Fish and Game Code Section 1600 et seq. Lake and Streambed Alteration Agreement application will need to be prepared. A Clean Water Act Section 404 from USACE may be required based on the USACE's Jurisdictional Determination process.

Chapter 1
Introduction

This Biological Technical Report (BTR) describes the biological resources present or potentially present in the CarMax project study area (Appendix A, Figure 1). This report provides the City of National City, resource agencies, and the public with current biological data to satisfy review of the project under the California Environmental Quality Act (CEQA) and other federal, state, and local regulations. This report also includes a review of literature sources and the results of general surveys conducted onsite.

1.1 Project Description

1.1.1 Proposed Development

The proposed Carmax development (Appendix A, Figure 3) consists of the construction of a CarMax pre-owned automobile dealership, service building, and non-public carwash with associated access drives, parking lots, and landscaped areas, within an impact footprint of approximately 7.04 acres. The buildings would encompass approximately 17,844 square feet, and the parking spaces will consist of 401 inventory spaces, 157 customer and employee spaces, and a 1.56-acre vehicle staging area.

As part of the development, an existing tributary to the Sweetwater River will be rerouted along the northwestern edge of the parcel in a new proposed channel that will continue to drain into the Sweetwater River.

Associated infrastructure included within the proposed development include the following:

- Construction of a proprietary system with underground storage.
- An existing outlet located at the northeast corner of the project area will be expanded to outlet within the proposed channel as its existing location will be filled in to create the channel banks.
- Segments of a retaining wall is proposed along a small portion of Caltrans Right of Way, located around the large outlet that enters the proposed channel from the north. A retaining wall is also proposed at two locations along the CarMax Facility. The retaining walls adequately protect both the CarMax Facility and the Caltrans Right of Way from a 100-year flood event.
- Placement of riprap dissipaters are proposed at each of the three outlets that occur within the proposed channel. Riprap will be placed around and directly downstream from each of the three outlets to minimize the risk of erosion.
- An access road to be used by the County of San Diego, SDG&E, and Caltrans will be sited along the downstream segment of the proposed channel. The access road will be actively maintained to allow for continual access to the channel and various agency facilities within the proposed channel.

The following information outlines the proposed operations based on similarly operating CarMax facilities.

1.1.2 Service Operations

CarMax currently offers limited retail vehicle service (primarily routine maintenance, tires, and diagnostic and mileage services) and provides repairs of vehicles covered by their extended service plans. All service work is performed inside fully conditioned buildings equipped with rollup doors, eliminating the need to conduct operations with open bay doors.

Retail service vehicles and vehicles awaiting disposition offsite are stored in the secured non-public staging area on a temporary basis. As a visual screen and to provide security for these vehicles, the staging area is surrounded by a 6-foot-high masonry wall or a combination of chain-link fence with privacy slats and highway guardrail. Vehicular access to that area is strictly controlled through the use of embassy-style security gates. Because the staging and storage of vehicles within this area changes on a daily basis, parking spaces are not designated on the plan.

The non-public carwash is located in the secured staging area and is used only by CarMax associates before vehicles are either placed in the vehicle display area or presented to customers.

An underground fuel storage tank with a non-public fuel pump is proposed for this site. The tank would be located in the customer and employee parking area, while the pump would be located within the staging area to fuel inventory vehicles as needed.

1.1.3 Wholesale Auctions

As an accessory use, vehicles purchased through the CarMax in-store appraisal process that do not meet the CarMax retail quality standards are sold through onsite non-public wholesale auctions. Auctions are generally held weekly or every other week; however, frequency at a given superstore is determined by the number of vehicles to be auctioned. The auctions are conducted within an enclosed building. Participation in the wholesale auction is restricted to pre-qualified licensed automobile dealers only, the majority of whom are independent dealers. While some larger dealers may bring vehicle carriers to the sale to transport their purchased vehicles, most will bring drivers to take individual vehicles away. Purchased vehicles must be removed from the site within 48 hours.

1.2 Study Area Location

The study area is located within National City, San Diego County, California, just east of the Interstate (I-) 805 and State Route (SR-) 54 intersection (Appendix A, Figure 1). The study area is within an un-sectioned portion of Township 17 South, Range 2 West of the National City, California, U.S. Geological Survey (USGS) 7.5-minute topographic map quadrangle (USGS 1996) (Appendix A, Figure 2). The center of the study area is located at the following Universal Transverse Mercator coordinates: 493491 East, 3613481 North (WGS 84).

Chapter 2
Regulatory Framework

Several regulations have been established by federal, state, and local agencies to protect and conserve biological resources. The discussion below provides a brief overview of agency regulations that may be applicable to the resources that occur within the proposed project boundary and 100-foot buffer, and their respective requirements. The final determination of whether permits would be made by the regulating agencies.

2.1 Federal Environmental Regulations

2.1.1 Federal Endangered Species Act

The Federal Endangered Species Act (FESA) of 1973 (50 Code of Federal Regulations [CFR] 17) is aimed at the protection of plants and animals that have been identified as being at risk of extinction, and classified as either threatened or endangered. The FESA also regulates the "taking" of any endangered fish or wildlife species, per Section 9 of the Act. As development is proposed, the responsible agency or individual landowners is required to submit to a formal consultation with the U.S. Fish and Wildlife Service (USFWS) to assess potential impacts on a listed species (including plants) or its critical habitat as the result of a development project, pursuant to Sections 7 and 10 of the FESA. USFWS is required to make a determination as to the extent of impact on a particular species a project would have. If it is determined that potential impacts on a species would likely occur, measures to avoid or reduce such impacts must be identified. USFWS may issue an incidental take statement, following consultation and the issuance of a Biological Opinion. This allows for take of the species that is incidental to another authorized activity, provided that the action will not adversely affect the existence of the species. Section 10 of the FESA provides for issuance of incidental take permits to private parties with the development of a Habitat Conservation Plan (HCP).

2.1.2 Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) was enacted in 1918. The MBTA (16 United States Code 703 et seq.) is a federal statute that implements treaties with several countries on the conservation and protection of migratory birds. The number of bird species covered by the MBTA is extensive, and is listed at 50 CFR 10.13. The regulatory definition of "migratory bird" is broad and includes any mutation or hybrid of a listed species and any part, egg, or nest of such birds (50 CFR 10.12). Migratory birds are not necessarily federally listed as endangered or threatened birds under the FESA. The MBTA, which is enforced by the USFWS, makes it unlawful "by any means or in any manner, to pursue, hunt, take, capture, [or] kill" any migratory bird, or attempt such actions, except as permitted by regulation. The applicable regulations prohibit the take, possession, import, export, transport, sale, purchase, barter, or offering of these activities, except under a valid permit or as permitted in the implementing regulations (50 CFR 21.11).

2.1.3 Clean Water Act

Pursuant to Section 404 of the Clean Water Act (CWA), the U.S. Army Corps of Engineers (USACE) is authorized to regulate any activity that would result in the discharge of dredged or fill material into waters of the U.S. (including wetlands), which include those waters listed in 33 CFR 328.3 (Definitions). USACE, with oversight from the U.S. Environmental Protection Agency (EPA), has the principal authority to issue CWA Section 404 permits. Pursuant to Section 401 of the CWA, the Regional Water Quality Control Board (RWQCB) certifies that the discharge will comply with state water quality standards. RWQCB, as delegated by EPA, has the principal authority to issue a CWA Section 401 water quality certification or waiver.

The National Pollutant Discharge Elimination System is the permitting program for discharge of pollutants into surface waters of the U.S. under Section 402 of the CWA. Substantial impacts on wetlands may require an Individual Permit. Projects that only minimally affect wetlands may meet the conditions of one of the existing Nationwide Permits. A water quality certification or waiver pursuant to Section 401 of the CWA is required for Section 404 permit actions.

2.1.4 Executive Order 11988, Floodplain Management

Executive Order 11988 requires federal agencies to avoid, to the extent possible, the long- and short-term adverse impacts associated with the occupancy and modification of floodplains, and to avoid direct and indirect support of floodplain development wherever there is a practicable alternative. This Executive Order provides an eight-step process that agencies carry out as part of their decision-making process for projects that have potential impacts on or within a floodplain.

2.1.5 Executive Order 11990, Protection of Wetlands

Pursuant to Executive Order 11990, each federal agency is responsible for preparing implementing procedures for carrying out the provisions of the Executive Order. The purpose of this Executive Order is to “minimize the destruction, loss, or degradation of wetlands, and to preserve and enhance the natural and beneficial values of wetlands.” Each agency, to the extent permitted by law, must avoid undertaking or providing assistance for any activity located in wetlands, unless the head of the agency finds that there is no practical alternative to such activity, and the proposed action includes all practical measures to minimize harm to wetlands that may result from such actions. In making this finding, the head of the agency may take into account economic, environmental, and other pertinent factors. Each agency must also provide opportunity for early public review of any plans or proposals for new construction in wetlands.

2.1.6 Executive Order 13112, Invasive Species

Executive Order 13112 requires federal agencies to “prevent the introduction of invasive species and provide for their control and to minimize the economic, ecological, and human health effects that invasive species cause.” An invasive species is defined by the Executive Order as “an alien species [a species not native to the region or area] whose introduction does or is likely to cause economic or environmental harm or harm to human health.”

2.2 State Environmental Regulations

2.2.1 California Environmental Quality Act

The CEQA requires that biological resources be considered when assessing the environmental impacts resulting from proposed actions. CEQA does not specifically define what constitutes an "adverse effect" on a biological resource. Instead, lead agencies are charged with determining what specifically should be considered an impact.

2.2.2 Fully Protected Species (California. Fish and Game Code, Sections 3511, 4700, 5050, and 5515)

Prior to the development of the federal and state ESAs, species were listed as "fully protected" by California. Fully protected species, including fish, amphibians, reptiles, birds, and mammals, were identified to allow for the protection of those animals that were rare or that were threatened by potential extinction. The majority of fully protected species have since been listed as threatened or endangered under the California Endangered Species Act (CESA) and/or the FESA. Per Section 4700 of the California Fish and Game Code (CFGC), the possession or taking of fully protected species is only allowed as provided in Section 2081.7 and Section 2835 of the CFGC.

The CFGC designates 37 fully protected species and prohibits the take or possession at any time of such species with certain limited exceptions. Fully protected species are described in Sections 3511 (birds), 4700 (mammals), 5050 (reptiles and amphibians), and 5515 (fish) of the CFGC. These protections state that "…no provision of this code or any other law shall be construed to authorize the issuance of permits or licenses to take any fully protected [bird], [mammal], [reptile or amphibian], [fish]."

2.2.3 Sections 1600–1602 of the California Fish and Game Code – Lake or Streambed Alteration

Pursuant to Division 2, Chapter 6, Section 1602 of the CFGC, the California Department of Fish and Wildlife (CDFW) regulates all diversions, obstructions, or changes to the natural flow or bed, channel or bank of any river, stream or lake that supports fish or wildlife. A Lake or Streambed Alteration Agreement Application must be submitted to CDFW for "any activity that may substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake." CDFW has jurisdiction over riparian habitats associated with watercourses. Jurisdictional waters are delineated by the outer edge of riparian vegetation or at the top of the bank of streams or lakes, whichever is wider. CDFW jurisdiction does not include tidal areas or isolated resources. CDFW reviews the proposed actions and, if necessary, submits (to the applicant) a proposal that includes measures to protect affected fish and wildlife resources. The final proposal that is mutually agreed upon by CDFW and the applicant is the Lake or Streambed Alteration Agreement.

2.2.4 California Endangered Species Act (California Fish and Game Code Sections 2050–2085)

The CESA prohibits the take of any fish, wildlife, or plant species listed as endangered or threatened, or designated as candidates for listing, under CESA. Take refers to the mortality or injury of the listed species itself and not the modification of listed species habitat. Compared to the FESA process, CESA contains a procedure for CDFW to issue a Section 2081 incidental take permit authorizing the take of listed and candidate species incidental to an otherwise lawful activity, subject to specified conditions, including that the impacts of the take are fully mitigated.

2.2.5 California Fish and Game Code Sections 3503, 3511, 3513, 3801, 4700, 5050, and 5515

Within California, fish, wildlife, and native plant resources are protected and managed by CDFW. The California Fish and Game Commission and/or CDFW are responsible for issuing permits for the take or possession of protected species. The following sections of the CFGC address protected species: Section 3511 (birds), Section 4700 (mammals), Section 5050 (reptiles and amphibians), and Section 5515 (fish). In addition, the protection of avian species, including birds of prey, is provided for in Sections 3503, 3503.5, 3513, and 3800 of the CFGC.

2.2.6 Native Plant Protection Act

The Native Plant Protection Act (NPPA) was adopted in 1977 (CFGC Sections 1900–1913) to preserve, protect, and enhance rare and endangered plants. CDFW is responsible for administering the NPPA, while the California Fish and Wildlife Commission has the authority to designate native plants as “endangered” or “rare” and provide measures to avoid take.

2.2.7 Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act provides for statewide coordination of water quality regulations. The State Water Resources Control Board was established as the statewide authority, and nine separate RWQCBs were developed to oversee water quality on a day-to-day basis.

2.2.8 Regional Water Quality Control Board

The RWQCB is the primary agency responsible for protecting water quality in California. The RWQCB regulates discharges to surface waters under the federal CWA and the California Porter-Cologne Water Quality Control Act. The RWQCB’s jurisdiction extends to all waters of the State and to all waters of the U.S., including wetlands (isolated and non-isolated conditions).

Through 401 Certification, Section 401 of the CWA allows the RWQCB to regulate any proposed federally permitted activity, which may affect water quality. Such activities include the discharge of dredged or fill material, as permitted by USACE, pursuant to Section 404 of the CWA. The RWQCB is required to provide “certification that there is reasonable assurance that an activity that may result in the discharge to waters of the U.S. will not violate water quality standards,” pursuant to Section 401. Water Quality Certification must be based on the finding that proposed discharge will comply with applicable water quality standards. In addition, pursuant to the Porter-Cologne Water Quality Control Act, the state is given authority to regulate waters of the State, which are defined as any surface water or groundwater, including saline waters. As such, any person proposing to discharge waste into a water body that could affect its water quality must first file a *Report of Waste Discharge* if a Section 404 does not apply. "Waste" is partially defined as any waste substance associated with human habitation, including fill material discharged into water bodies.

Chapter 3

Methods

Surveys and assessments to inventory and evaluate biological resources were conducted within the study area during 2015. The study area consists of the project boundary and an approximate 100-foot buffer. The study area encompasses approximately 27.93 acres. A list of the survey personnel and dates for each survey is provided in Appendix B.

3.1 Literature Review

Prior to conducting field surveys, a literature and records search was conducted to establish the existence or potential occurrence of sensitive, or special interest, biological resources (i.e., plant or animal species) on or within the vicinity of the study area.

The following databases/resources were reviewed:

- California Natural Diversity Database (CNDDB) (CDFW 2015 and 2017a), CNPS Online Inventory of Rare and Endangered Plants, 8th Edition (CNPS 2015), for surrounding quadrangles: El Cajon, Imperial Beach, Jamul Mountains, La Jolla, La Mesa, National City, Otay Mesa, and Point Loma
- National Wetlands Inventory database
- U.S. Geological Survey (USGS) 7.5-minute topographical maps of the study area and vicinity
- U.S. Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) Soil Survey maps
- The CDFW Special Animals List (CDFW 2017b)

The results of the literature review were then refined through site visits involving habitat assessments for these species and resources. Only special-status species with potential to occur within the study area are discussed in this BTR. For the purposes of this report, species are considered to have special status if they meet at least one of the following criteria:

- Species listed or proposed for listing as threatened or endangered under the FESA (50 CFR, Title 50, Section 17.12 [listed plants]); and 50 CFR 17.11 ([listed animals]), and various notices in the *Federal Register* (FR) (proposed species)
- Species that are candidates for possible future listing as threatened or endangered under the FESA (79 FR 72450, December 5, 2014)
- Species listed or proposed for listing by the State of California as threatened or endangered under the CESA (14 California Code of Regulations [CCR], Title 14, Section 70.5)
- Plant species listed as rare under the California Native Plant Protection Act (CFGC Section 1900, et seq.)
- Species that meet the definitions of “rare” or “endangered” under CEQA (State CEQA Guidelines Sections 15380 and 15125)
- Animal species of special concern to the CDFW

- Bird species of conservation concern as identified by USFWS in *Birds of Conservation Concern 2008*
- Animals that are fully protected in California (CFGC Sections 3511 [birds], 4,700 [mammals], 5050 [amphibians and reptiles], and 5515 [fish])
- Listed as having a California Rare Plant Rank (CRPR) as 1A (presumed extinct in California), 1B (rare, threatened, and endangered in California and elsewhere), or 2 (rare, threatened, or endangered in California, but more common elsewhere). CRPR List 1A, 1B, and 2 species are considered special-status plant species as defined in the NPPA, CFGC Section 1901 or the CESA, CFGC Sections 2050 through 2098.
- CRPR 3 (plants for which more information is needed [a review list]), or 4 (plants of limited distribution [watch list]) (CNPS 2015). Many CNPS CRPR 3 and 4 species do not meet the definitions of special status as defined in the NPPA, CFGC Section 1901 or the CESA, CFGC Sections 2050 through 2098, but are strongly recommended for consideration under CEQA (CNPS 2001).

3.2 Vegetation Communities

Surveyors conducted vegetation mapping within the study area by walking meandering transects and from selected vantage points that allowed an expansive view of the study area.

Habitats were classified based on the dominant and characteristic plant species, in accordance with the *Vegetation Classification Manual for Western San Diego County* (AECOM 2011). Field biologists used ortho-rectified maps at a scale of 1 inch equals 200 feet and sub-meter Global Positioning System (GPS) equipment for vegetation mapping. The minimum mapping unit was 0.5 acre for upland communities, and 0.1 acre for wetland communities. Additionally, all native trees on the site that are not directly associated with a native vegetation community were mapped.

3.3 Jurisdictional Waters and Wetlands Survey

Prior to the field visit, a 200-foot-scale (1 inch = 200 feet) aerial photograph of the study area was obtained and compared with the National City, California, USGS 7.5-minute topographic quadrangle and Google Earth (Google Earth 2015) imagery (dated April 14, 2015) to identify drainage features within the study area as indicated by vegetation types, topographic changes, or visible drainage patterns.

In addition, the following sources were reviewed during the preparation of this report.

- National Hydrography Dataset (USGS 2015)
- Federal Emergency Management Agency 100-year floodplain maps (U.S. Department of Homeland Security 2015)
- Hydrologic Unit Code (HUC) 8 Watershed Map—Calwater 2.2.1 (California Department of Forestry and Fire Protection 2015)
- HUC 10 Watershed Map—Calwater 2.2.1 (California Department of Forestry and Fire Protection 2015)
- USDA/NRCS Soil Survey Geographic (SSURGO) database (USDA/NRCS 2011a)

- National Wetlands Inventory Map (USFWS 2015)

ICF biologists Paul Schwartz and Dale Ritenour conducted the jurisdictional waters and wetland delineation within the survey area on May 19, 2015. A follow up visit was conducted on July 6, 2015. The survey was conducted on foot, and jurisdictional limits were recorded using high-resolution aerial photographs (1 inch = 200 feet) and a sub-meter accuracy Trimble global positioning system (GPS) unit. Existing conditions were documented as field notes and site photographs. Additional field surveys were conducted by Lanika Cervantes and Nicole Salas on July 26, 2017 to complete additional wetland determination forms. On September 11, 2018 a field verification with the USACE and RWQCB was conducted and another feature was also mapped at that time.

Common plant species observed were identified by visual characteristics and morphology in the field. Taxonomic nomenclature for plants follows the *Jepson Manual: Vascular Plants of California* (Baldwin et al. 2012).

Potential Waters of the U.S. and wetlands were delineated using methods established in the *Wetland Delineation Manual* (Environmental Laboratory 1987), the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* (USACE 2008a), *A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States* (USACE 2008b), and *Draft Guidance on Identifying Waters Protected by the Clean Water Act* (USACE/EPA 2011). Non-wetland waters were delineated based on the presence of OHWM indicators, and OHWM data sheets were recorded where appropriate (i.e., named blue-line features [lakes, streams, irrigation ditches, and other hydrographic features as depicted on USGS topographic maps]).

Evaluation of state jurisdiction followed guidance from Section 401 of the CWA and typically follows the same jurisdictional areas as USACE.

CDFW jurisdiction typically includes water features with a defined bed and bank. Evaluation of potentially jurisdictional areas followed the guidance of standard practices by CDFW personnel. Briefly, CDFW jurisdiction was delineated by measuring outer width and length boundaries of potentially jurisdictional areas (lakes or streambeds), consisting of the greater of either the top of bank measurement or the extent of associated riparian or wetland vegetation. Detailed methods and results of the jurisdictional delineation are presented in the 2017 Jurisdictional Delineation Report CarMax National City (ICF 2017a) and 2019 Jurisdictional Delineation Addendum (ICF 2019) included in Appendix C.

3.4 California Rapid Assessment Method Analysis

On May 20, 2015, ICF biologists Paul Schwartz and Dale Ritenour (both certified California Rapid Assessment Method Analysis [CRAM] practitioners) conducted a CRAM analysis of the riverine features in the project boundary. The CRAM analysis was performed using the CRAM Riverine Model as outlined in the 2013 CRAM User's Manual v. 6.1 (California Wetlands Monitoring Workgroup [CWMW] 2013a) and 2013 CRAM Riverine Wetlands Field Book, v. 6.1 (CWMW 2013b).

Prior to visiting the site, ICF CRAM practitioners reviewed aerial imagery of the study area, vegetation maps, and the results of a jurisdictional delineation conducted for the study area. Three separate riverine CRAM assessment areas (AAs) were established within the study area (Appendix A, Figure 4). Two AAs were established within Feature 1, with AA1 upstream of the confluence with Feature 2 and the second (AA 2) downstream of the confluence. AA3 was established within

Feature 2 (Appendix A, Figure 4). In the field, the CRAM practitioners walked each AA, delineated the upstream and lateral limits, and documented information used to score each metric. Where appropriate certain landscape and hydrology metrics were scored in the office using aerial imagery at different scales. In addition, photos were taken at four points around the perimeter of each AA. After recording observations within the AAs, the ICF CRAM practitioners scored each CRAM metric/submetric and calculated the attribute scores and a final overall CRAM score (see description below). Detailed methods and results of the CRAM analysis are presented in the 2015 National City CarMax CRAM Analysis Report (ICF 2015a) included in Appendix D.

3.5 Sensitive Plant Species

Sensitive plant species surveys were conducted within the study area on January 13, April 27, May 19 and 20, and July 6, 2015, by Paul Schwartz and Dale Ritenour of ICF (Appendix B). The survey dates coincided with the most likely time when sensitive plant species would be identifiable. A list of potentially occurring sensitive plant species was compiled through searches of the CDFW CNDDB (CDFW 2015) and CNPS Online Inventory (CNPS 2015).

All plant species observed within the study area were recorded. The portions of the study area with potential to support rare plants were surveyed by botanists walking meandering transects. The surveys included all accessible locations within the study area where suitable habitats for sensitive plant species were present. If a sensitive plant population was located, the population was assessed and the number of individuals was counted. All sensitive plant locations identified were recorded with a submeter-accurate GPS unit. All data recorded was post-processed and uploaded into ArcGis for analysis.

3.6 Sensitive Wildlife Species

Focused protocol surveys were deemed necessary to determine the presence/absence of the following special-status species within and adjacent to the study area: least Bell's vireo (LBV), southwestern willow flycatcher (SWFL), coastal California gnatcatcher (CAGN), and light-footed Ridgway's rail. The methodology for these focused protocol surveys is described below.

General wildlife surveys occurred concurrently with focused protocol surveys. ICF biologists recorded wildlife sign, track, and direct observations during focused protocol surveys.

3.6.1 Least Bell's Vireo Surveys

The LBV survey area was limited to all riparian habitats within the proposed study area and 300-foot survey area buffer. Protocol-level surveys were conducted between April 27 and July 24, 2015, by permitted ICF biologist ICF biologist Monica Alfaro (TE-051242-2), following current USFWS survey protocol for the species (USFWS 2001). Per the current USFWS protocol, suitable habitats within the survey area were surveyed eight times, at least 10 days apart, during the LBV breeding period (April 10 through July 31). Biologists walked all potential LBV habitat during morning hours, prior to 11 a.m., when vireos are most active, and stopped frequently to look for individuals and listen for vocalizations (songs and/or scolds). In addition to any LBV observations/detections, all avian species detected were recorded.

Detailed methods and the results of the focused LBV surveys are presented in *Focused Survey Results for Least Bell's Vireo* (*Vireo bellii pusillus*) *and Southwestern Willow Flycatcher* (*Empidonax trailii extimus*) *for the Proposed National City CarMax Project Area* (ICF 2015b), included in Appendix E.

3.6.2 Southwestern Willow Flycatcher Surveys

The SWFL survey area was conducted within all riparian habitats within the study area in addition to a 300-foot survey area buffer. Five presence/absence surveys for SWFL were conducted by permitted ICF biologist Monica Alfaro (TE-051242-2) between May 19 and July 14, 2015; one within the first survey period (May 15–31), two within the second survey period (June 1–24), and two within the third survey period (June 25–July 17). The amended published survey methodology (Sogge et al. 2010, USFWS 2000) was followed during the surveys. Each survey was conducted at least 10 days apart and included thorough coverage of all potentially suitable habitats. This included walking slowly with frequent stops to look, listen, and play recordings of flycatcher vocalizations. Recordings were played every several minutes, or at distance intervals of approximately 75–100 feet, and only while stationary after first looking and listening for any potential SWFL. In addition to any SWFL observations/detections, all avian species detected were also recorded.

Detailed methods and the results of focused SWFL surveys are presented in *Focused Survey Results for Least Bell's Vireo* (*Vireo bellii pusillus*) *and Southwestern Willow Flycatcher* (*Empidonax trailii extimus*) *for the Proposed National City CarMax Project Area* (ICF 2015b), included in Appendix E.

3.6.3 Coastal California Gnatcatcher Surveys

Six protocol-level surveys were conducted by ICF wildlife biologist Monica Alfaro under TE-051242 between May 15 and June 30, 2015. Approximately 0.12 acre of suitable CAGN habitat was surveyed within the study area. Protocol surveys followed the current USFWS survey protocol for the species (USFWS 1997). The surveys consisted of walking meandering transects in all habitats with potential to support the species, including all scrub habitats. A digital vocalization of CAGN was broadcast only if no CAGN were initially detected. The digital vocalization was stopped with any positive CAGN response. In addition to any CAGN observations/detections, all avian species detected were also recorded.

Detailed methods and the results of the focused CAGN surveys are presented in the *Focused Survey Results for Coastal California Gnatcatcher* (*Polioptila californica californica*) *for the Proposed National City CarMax Project Area* (ICF 2015c), included in Appendix F.

3.6.4 Light-footed Ridgway's Rail Surveys

Six focused surveys for light-footed Ridgway's rail were conducted at least 7 days apart in the cattail marsh area within the Sweetwater River southwest of the project site by wildlife biologist John Konecny between April 10 and May 22, 2017(Appendix K). Dawn surveys were conducted on April 10, 18, and 27. Dusk surveys were conducted on May 8, 15, and 22. Each survey lasted approximately 1 hour. The surveys were conducted in accordance with the recommendations provided to the USFWS by the Clapper Rail Study Team (2009). The surveys were conducted by walking the bicycle path through the CarMax site and the River crossing path, and stopping and listening for vocalizing light-footed Ridgway's rails. If rails were not detected passively, a digital call-prompt of the light-footed clapper rail "dueting" was played with an iPod and amplified speakers at

30-second intervals. The surveyor listened for a response for approximately 10 minutes before proceeding to the next survey station.

Chapter 4
Existing Conditions

4.1 Environmental Setting

4.1.1 Regional Context

A small portion of the project area is outside of National City and within unincorporated lands of San Diego County. This land is within the jurisdiction of the County's MSCP Subarea Plan, and is designated as Unincorporated Land within the Metro-Lakeside-Jamul Segment of the MSCP.

The MSCP, completed in 1998, is a program designed to balance development and protection of native habitat in southwestern San Diego. The MSCP is an agreement between the County of San Diego, USFWS, and CDFW. The primary goal of the MSCP is to conserve native species habitat areas and areas of biological importance while allowing property owners to develop other lands without engaging in state and federal environmental permit processes. Local jurisdictions implement the MSCP through subarea plans. These subarea plans serve as multiple-species federal HCPs pursuant to Section 10(a)(1)(B) of the federal Endangered Species Act and a state Natural Community Conservation Plan (NCCP) pursuant to the California NCCP Act of 1991 and the State Endangered Species Act. The Biological Mitigation Ordinance (BMO) provides the local regulatory basis for implementing the MSCP plans. The BMO includes specific project design criteria, designed to protect biological resources that must be incorporated into each project in order for the project to conform to the MSCP plan, along with specific provisions that address the need to protect important populations of rare and endangered species. All development projects that are not take-authorized must be in conformance with the MSCP through the BMO. National City is not a participating agency in the MSCP. Therefore, development within National City limits is not subject to the BMO nor is it required to demonstrate compliance with the MSCP. However, the small portion of the project area that is within unincorporated San Diego County within the Metro-Lakeside-Jamul Segment of the MSCP will be subject to the BMO and will require concurrence by the County of San Diego biology staff.

In addition, a larger portion of the project area has been identified as important as MSCP Linkage lands. This map layer also extends over lands owned by National City, which is not a participant in the MSCP.

4.1.2 Climate, Topography, and Hydrology

The project area is located in southern San Diego County, within 3 miles of San Diego Bay. San Diego County is generally characterized by warm, dry summers and mild winters, with annual precipitation typically falling between November and March. The project area is largely influenced by the coastal climate weather regime with moderating sea breezes, frequent formations of marine layer during spring and early summer, and milder summer temperatures than those that occur inland.

The study area resembles a basin as it is lower than the surrounding lands and has a relatively level bottom and slopes on the west, north, and east side. Within the study area the elevation ranges from approximately 20 to 30 feet above mean sea level. The study area was historically within the floodplain of the Sweetwater River; however, currently a concrete and riprap levee separates the study area from the Sweetwater River, which is immediately southwest of the study area.

The majority of the flows within the study area originate from culverts located northwest and northeast of the study area, which then flow through a box culvert and enter the Sweetwater River. The majority of the upstream and contributing watershed is developed with both residential and commercial uses, and most of the stream features now exist as underground features. Immediately downstream of the study area is the Sweetwater River, a major river in San Diego County (Appendix A, Figure 2). Both the un-named blue line features located above the study area as well as the Sweetwater River are depicted as having intermittent flows on the National City, California, USGS topographic map (USGS 1996).

4.1.3 Existing Land Use

A variety of land uses occur within the vicinity, of the study area including regional transportation uses associated with I-805 and SR-54 to the west and north, residential uses to the north, commercial uses associated with the Plaza Bonita Mall to the east, and natural areas with recreational use associated with the Sweetwater River to the south. The study area has been subject to long-term inhabitation by the local homeless population and contains several "home" sites that have been inhabited for several years. In addition it appears that the study area is used as a recreation site for paintball enthusiasts. The study area contains many trails and paths and contains a variety of trash and debris including shopping carts, tarps, old clothing, and wood scraps. Much of the trash and debris is located in the stream features.

4.1.4 Soils

NRCS has mapped the following soil series as occurring within the study area based on the SSURGO database (USDA/NRCS 2011a): Chino Silt Loam, Saline 0-–2 Percent Slopes. Appendix A, Figure 5 depicts the project study area and the SSURGO data.

A description of all of the series is provided below based on the official soil descriptions provided by USDA (USDA/NRCS 2011b).

4.1.4.1 Chino Silt Loam, Saline 0–2 Percent Slopes

The Chino series consists of poorly drained soils that formed in alluvial material from granite rock sources. Chino soils are located in basins and floodplains from near sea level to an elevation of 3,100 feet. Many areas mapped as consisting of Chino series soils have been drained by stream channel entrenchment or reduction of groundwater by pumping. Runoff for this soil series is considered slow to very slow and permeability is moderately slow. Soils are usually moist between 4 to12 inches from November to May and are dry the remaining portions of the year. Chino soils are commonly used for grazing, with drained areas for growing irrigated crops. Typical vegetation consists of annual grasses, weeds, and shrubs.

4.2 Vegetation Communities

Fifteen vegetation communities and land cover types were mapped within the 27.93-acre study area (Table 4-1; Appendix A, Figure 6). Vegetation communities were classified based on the dominant and characteristic plant species, in accordance with the *Vegetation Classification Manual for Western San Diego County* (Sproul et al. 2011; VCM). All VCM vegetation alliances were cross-walked to the modified Holland classification system (Oberbauer et al*.* 2008; Holland 1986). Additionally, vegetation community types and land cover types that are not described by the VCM (e.g., nonnative riparian, nonnative woodland, disturbed habitat, and urban/developed) are described using the modified Holland classification system (Oberbauer et al. 2008; Holland 1986).

Overall, habitat quality is low due a number of factors, including the presence of a high cover of nonnative, invasive plant species; homeless human encampments; feral domestic animals; and habitat isolation from development or transportation infrastructure on three sides of the project boundaries. However, the project contains jurisdictional waters and riparian habitat and is directly adjacent to high-quality riparian habitat on the fourth side, which also functions as an important regional wildlife corridor.

4.2.1 Native Vegetation Communities

Arroyo Willow Thickets

Approximately 1.69 acres of the study area are composed of arroyo willow thickets. Areas supporting this vegetation community are dominated by arroyo willow (*Salix lasiolepis*) and other willows such as Goodding's willow (*Salix gooddingii*) and red willow (*Salix laevigata*). In addition, this vegetation community supports native species such as mule-fat (*Baccharis salicifolia*), Southern California black walnut (*Juglans californica*), western ragweed (*Ambrosia psilostachya*), and mugwort (*Artemisia douglasiana*). Nonnative species within this vegetation community include Canary Island date palm (*Phoenix canariensis*), Mexican fan palm (*Washingtonia robusta*), tree of heaven (*Ailanthus altissima*), and Brazilian pepper tree (*Schinus terebinthifolius*). The majority of this vegetation community is distributed along the intermittent channels that traverse the study area.

Cattail Marshes

Approximately 0.43 acre of the study area is composed of cattail marshes. Areas supporting this vegetation community are dominated by cat-tail (*Typha latifolia*). Other species present within this community include bulrush (*Schoenoplectus americanus*), California bulrush (*Schoenoplectus californicus*), mugwort, and bristly ox-tongue (*Helminthotheca echioides*). This vegetation community occurs in several small patches along the intermittent drainage channels that traverse the study area.

Table 4-1. Vegetation Communities and Land Cover Types Occurring within the Study Area (acres)

Vegetation Communities and Land Cover Types	Vegetation Classification Manual Code[1]	Oberbauer Code[2]	Project Boundary (Onsite)			Offsite Areas	Buffer	Total Study Area[4]
			CarMax Facilities	Channel Onsite[3]	Access Rd			
Native Vegetation Communities			**0.70**	**1.11**	**0.00**	**0.15**	**1.82**	**3.78**
Arroyo Willow Thickets	3.1	63320	0.56	0.93	0.00	0.07	0.13	1.69
Cattail Marshes	5.35	52410	0.07	--	--	--	0.36	0.43
Cottonwood Tree	N/A	N/A	--	0.08	--	--	--	0.08
Coyote Brush Scrub	4.1	32530	--	0.02	--	--	--	0.02
Mule-Fat Thickets	4.11	63310	0.07	0.01	--	0.00	--	0.09
Red Willow Thickets	3.9	62500	--	--	--	--	1.26	1.26
San Diego Sunflower Scrub	4.13	32500	0.01	0.07	--	--	0.03	0.10
Sycamore Tree	N/A	N/A	--	--	--	0.08	0.03	0.11
Nonnative Vegetation Communities			**6.34**	**5.91**	**0.07**	**1.77**	**10.07**	**24.16**
Disturbed Habitat	N/A	11300	3.43	2.56	0.05	0.47	0.36	6.87
Eucalyptus Groves	3.2	79100	1.67	1.23	--	0.07	0.70	3.65
Giant Reed Breaks	5.4	65100	0.36	1.53	--	0.66	0.02	2.59
Naturalized Warm-Temperate Riparian and Wetland	5.25	11200	0.14	0.00	--	--	--	0.14
Nonnative Riparian	N/A	65000	0.14	0.14	--	0.08	0.00	0.37
Nonnative Woodland	N/A	79000	0.55	0.27	--	0.28	1.30	2.39
Urban/Developed	N/A	12000	0.05	0.17	0.02	0.21	7.69	8.14
Total[4]	--	--	**7.04**	**7.02**	**0.07**	**1.92**	**11.89**	**27.93**

1 Sproul et. al. 2011
2 Oberbauer et. al. 1986
3 "Channel Onsite" includes channel riprap dissipater areas.
4 Totals may vary from sum of reported values due to rounding of decimal places.

4.2.1.3 Cottonwood Trees

Approximately 0.08 acre of cottonwood trees occur in the southwestern portion of the study area. Areas supporting this vegetation community are dominated by black cottonwood (*Populus balsamifera*). The understory of this community consisted of nonnative grasses and herbs such as rip-gut brome (*Bromus diandrus*), garland chrysanthemum (*Glebionis coronaria*), and Bermuda grass (*Cynodon dactylon*).

4.2.1.4 Coyote Brush Scrub

Approximately 0.02 acre of coyote brush scrub occurs in the southwestern portion of the study area. Areas supporting this vegetation community are dominated by coyote brush (*Baccharis pilularis*). Additional species present include garland chrysanthemum, Hottentot fig (*Carpobrotus edulis*) and rip-gut brome.

4.2.1.5 Mule-Fat Thickets

Approximately 0.09 acre of the study area is composed of mule-fat thickets. Areas supporting this vegetation community are dominated by mule-fat but may also include species from adjacent vegetation communities. This community is chiefly associated with the drainage channels in the study area, but several patches are located in the upland portions of the study area and are not associated with a drainage feature.

4.2.1.6 Red Willow Thickets

Approximately 1.26 acres of the buffer area is composed of red willow thickets. Areas supporting this vegetation community are dominated by red willow and other willows such as Goodding's willow. In addition, this vegetation community supports native species such as mule-fat, western ragweed (*Ambrosia psilostachya*), and mugwort. Nonnative species within this vegetation community include Canary Island date palm, Mexican fan palm, tree of heaven, and Brazilian pepper tree. The majority of this vegetation community is community is distributed along the Sweetwater River.

4.2.1.7 San Diego Sunflower Scrub

Approximately 0.10 acre of the study area is composed of San Diego sunflower scrub. This vegetation community is dominated by San Diego sunflower (CNPS CRPR 4.2). Additional plants within this vegetation community include brittlebush (*Encelia farinosa*), garland chrysanthemum, and rip-gut brome. This vegetation community occurs in two small patches in the southern portion of the study area, within the impact area of the project and has an overstory of eucalyptus (*Eucalyptus polyanthemos/globulus*).

4.2.1.8 Sycamore Trees

Approximately 0.11 acre of sycamore trees occurs in the northwestern portion of the study area. This vegetation community is dominated by western sycamore (*Platanus racemosa*). Additional plants within this vegetation community include garland chrysanthemum, wild radish (*Raphanus sativa*), and rip-gut brome.

4.2.2 Nonnative Vegetation Communities

4.2.2.1 Disturbed Habitat

Approximately 6.87 acres of the study area are composed of disturbed habitat. These areas consists of bare ground in the form of footpaths and other previously disturbed areas that are dominated by ruderal nonnative species such as garland chrysanthemum, Russian thistle (*Salsola tragus*), wild oats (*Avena* sp.), and rip-gut brome. This vegetation community occurs throughout the upland portions of the study area.

4.2.2.2 Eucalyptus Groves

Approximately 3.65 acres of the study area are dominated by eucalyptus groves. This vegetation community is dominated by Tasmanian blue gum (*Eucalyptus globulus*) and silver dollar gum (*Eucalyptus polyanthemos*). This vegetation community is present throughout the upland portions of the study area.

4.2.2.3 Giant Reed Breaks

Approximately 2.59 acres of the study area are composed of giant reed breaks. Areas supporting this vegetation community are dominated by giant reed (*Arundo donax*). Additional plants present within this vegetation type include rip-gut brome, Hottentot fig, castor bean (*Ricinus communis*), tamarisk (*Tamarix ramosissima*), and Bermuda grass. The majority of this vegetation type occurs along the drainage channels in the western portion of the study area.

4.2.2.4 Naturalized Warm-Temperate Riparian and Wetland Semi-Natural Stands

Approximately 0.14 acre of the study area is composed of naturalized warm-temperate riparian and wetland semi-natural stands. Areas supporting this vegetation community contain a variety of herbaceous grasses and forbs including rabbit's-foot grass (*Polypogon monspeliensis*), tall flat sedge (*Cyperus eragrostis*), perennial rye grass (*Festuca perennis*), curly dock, bristly ox-tongue, and Bermuda grass. Small intermittent patches of cat-tail and bulrush occur throughout the vegetation type. This vegetation type occurs within the drainage channel in the central portion of the study area.

4.2.2.5 Nonnative Riparian

Approximately 0.37 acre of the study area is composed of nonnative riparian vegetation community. This community consists of several woody and herbaceous nonnative species including tamarisk, Mexican fan palm, Canary Island date palm, Shamel ash (*Fraxinus uhdei*), Brazilian pepper tree, and castor bean. Herbaceous species can include wild radish, white sweet clover (*Melilotus albus*), curly dock, bristly ox-tongue, and smilo grass (*Stipa miliaceum*). This vegetation community occurs in several small patches throughout the riparian portions of the study area.

4.2.2.6 Nonnative Woodland

Approximately 2.39 acres of the study area is composed of nonnative woodland. The nonnative woodland vegetation community consists of several nonnative species including Brazilian pepper tree, bottlebrush tree, tree of heaven, acacia, and Mexican fan palm. Herbaceous species include garland chrysanthemum, western ragweed, wild radish, smilo grass, rip-gut brome, perennial rye grass, and Bermuda grass. This vegetation community occurs throughout the upland portions of the study area.

4.2.2.7 Urban/Developed

Approximately 8.14 acres of the study area is composed of urban/developed lands. This land use consists of paved pedestrian paths, riprap, and box culverts. The majority of the Urban/Developed lands are located in the southern portion of the study area.

4.3 Jurisdictional Waters and Wetlands

Six features (features 1, 1b, 2, 2b, 2c, and 3) of potential jurisdictional waters were identified within the jurisdictional delineation study area. Additionally, RWQCB waters of the State has also been expanded (ICF 2019). This includes 1.56 acres (3,100 linear feet) of waters potentially under USACE/RWQCB jurisdiction, 1.68 acres of waters potentially under RWQCB jurisdiction only, and 2.82 acres (3,100 linear feet) of waters potentially under CDFW jurisdiction. These features and the respective jurisdictional limits are depicted on Appendix A, Figures 7 and 8, and summarized in Table 4-2. Based on negotiations with the RWQCB, as described fully in the Jurisdictional Delineation Addendum (ICF 2019), waters of the State have been expanded wider than waters of the U.S. limits. These features meet the definition of a potential waters of the U.S. and contains areas that meet the definition of a USACE wetland as regulated by USACE under Section 404 of the CWA. As such, these features would be regulated by RWQCB under Section 401 of the CWA and would be considered a water of the State under the Porter-Cologne Water Quality Control Act. In addition, these features within the study area meet the definition of an aquatic feature with a definable bed and banks that would be regulated by CDFW under CFGC Sections 1600–1616. All features in the study area originate from separate culverts and confluence into one main feature (Feature 1), which then conveys flows to the Sweetwater River through a box culvert located at the southern end of the study area. The Sweetwater River then flows 3 miles before terminating at San Diego Bay, which is a direct tributary to the Pacific Ocean.

Table 4-2. Jurisdictional Delineation Results Summary

Drainage	Waters of the U.S. (acres)		Waters of the State RWQCB Only[1] (acres)	CDFW (acres)		U.S./State/ CDFW (linear feet)
	Non-wetland	Wetland		Un-vegetated Streambed	Riparian	
Feature 1	0.50	0.47	---	0.40	1.63	1,809
Feature 1b	0.01	0.03	---	0.01	0.18	266
Feature 2	0.20	---	---	0.26	---	709
Feature 2b	0.01	---	---	0.01	---	55
Feature 2c	0.01	---	---	0.01	---	261
Feature 3	---	0.33	---	--	0.33	--
Waters of the State – RWQCB Only	---	---	1.68	---	---	---
Total[2]	**0.73**	**0.83**	**1.68**	**0.68**	**2.14**	**3,100**

[1] Full RWQCB jurisdiction includes waters of the U.S. plus the waters of the State RWQCB only areas.
[2] Totals may vary from sum of reported values because of rounding of decimal places.

4.4 CRAM Analysis

The results below represent the wetland condition of the site as quantified by the CRAM metrics and submetrics. This data is based on ambient conditions present during the May 29, 2015, field visit. All AAs were determined to be non-confined riverine features. Table 4-3 provides a breakdown of the CRAM scores for each AA, including the attribute, metric, and submetric scores, as well as the overall CRAM score.

Table 4-3. Scores for CRAM Attributes, Metrics, and Submetrics for Each Assessment Area

Attributes	CRAM Metrics and Submetrics	AA 1	AA 2	AA 3
Buffer and Landscape Context	Stream Corridor Continuity	D (3)	D (3)	D (3)
	Percent of Assessment Area with Buffer	A (12)	A (12)	A (12)
	Average Buffer Width	D (3)	C (6)	D (3)
	Buffer Condition	C (6)	C (6)	C (6)
	Final Attribute Score (%)	**38%**	**42%**	**38%**
Hydrology	Water Source	C (6)	C (6)	C (6)
	Channel Stability	B (9)	B (9)	B (9)
	Hydrologic Connectivity	A (12)	B (9)	A (12)
	Final Attribute Score	**75%**	**58%**	**75%**
Physical Structure	Structural Patch Richness	D (3)	C (6)	D (3)
	Topographic Complexity	C (6)	C (6)	C (6)
	Final Attribute Score	**38%**	**50%**	**38%**

Attributes	CRAM Metrics and Submetrics	AA 1	AA 2	AA 3
Biotic Structure	Plant Community (PC): Number of Plant Layers	C (6)	B (9)	C (6)
	PC: Number of Co-dominant Species	D (3)	C (6)	D (3)
	PC: Percent Invasion	C (6)	D (3)	D (3)
	Horizontal Interspersion	B (9)	C (6)	D (3)
	Vertical Biotic Structure	C (6)	C (6)	D (3)
	Attribute Score (Raw/Final)	**56%**	**50%**	**28%**
	Overall AA Score (%)	52%	50%	45%

4.5 Attribute 1: Buffer and Landscape Context

4.5.1 Metric 1: Stream Corridor Continuity

AA1, AA 2, and AA 3 all received D scores for this as metric as the combined total length of non-buffer segments for each is greater than 200 meters upstream of the AAs where both streams drop underground and into structures.

4.5.2 Metric 2: Buffer

The buffer metric is composed of three submetrics. The scorings for these submetrics are combined with the Landscape Connectivity metric score in a simple algorithm that results in the overall Buffer and Landscape attribute score.

4.5.2.1 Submetric 1: Percent of Assessment Area with Buffer:

All of the AAs received an A score for this submetric, as each AA is surrounded by 100% buffer (Appendix A, Figure 4). In this case, the buffer consists of a mixture of native and nonnative habitats present within the study area.

4.5.2.2 Submetric 2: Average Buffer Width:

AA 1 and AA 3 received a D score for this submetric as the average buffer widths are 52 and 62 meters wide, respectively. AA 2 received a C score as its average buffer width is 68 meters wide. The threshold to obtain a C score is to have a minimum of 65 meters average buffer width. The southern portion of the study area where AA 2 is located is slightly wider than the study area where AA 1 and AA 3 are located resulting in a higher score.

4.5.2.3 Submetric 3: Buffer Condition:

All of the AAs received a C for buffer condition due to the presence of a substantial amount of nonnative vegetation (> 75%), a moderate degree of soil disturbance or compaction, and a moderate intensity of human visitation. The buffer condition is being impacted mostly by the substantial amount of nonnative vegetation cover as well as the presence of long-term homeless encampments in the study area.

4.5.3 Attribute 2: Hydrology

4.5.3.1 Metric 1: Water Source

Each AA scored a C for this metric because freshwater sources that affect the dry season condition of the AAs are primarily unnatural, as the water source consists chiefly of urban runoff. This is evidenced in that the immediate drainage basin upstream of the AAs consists of more than 20% developed lands, which contributes substantially to the water sources affecting the AAs.

4.5.3.2 Metric 2: Channel Stability

All AAs received a score of B for channel stability, indicating there is some evidence of aggradation or degradation but nothing severe. AA 1 exhibited three field indicators of channel equilibrium, no indicators of active degradation, and one indicator of active aggradation. AA 2 exhibited three field indicators of channel equilibrium, two indicators of active aggradation, and two indicators of active degradation. AA 3 exhibited five field indicators of channel equilibrium, no indicators of active degradation, and one indicator of active aggradation.

4.5.3.3 Metric 3: Hydrologic Connectivity

AA 1 and AA 3 each received a score of A for this metric while AA 2 received a score of B. AA 1 and AA 3 each were determined to have an entrenchment ratio of 7 and 10.5, respectively, which means that storm flows during a storm event have the potential to "overbank" and extend onto the adjacent floodplain allowing for the exchange of water, sediment, nutrients, and organic carbon. AA 2 was determined to have an entrenchment ratio of 2, which means that storm flows would not normally overbank and would not extend onto the adjacent flood plain.

4.5.4 Attribute 3: Physical Structure

4.5.4.1 Metric 1: Structural Patch Richness

AA 1 and AA 3 received a score of D for this metric as they contained four and three patch types, respectively. AA 2 received a score of C as it contained six patch types. All three AAs contained a*bundant wrackline or organic debris in the channel or floodplain*, and *pools or depressions in the channels*. Both AA 2 and AA 3 contained *point bars and in-channel bars*. In addition, AA 1 contained *standing snags*, and *swales on floodplain or along shoreline*, and AA 2 contained *bank slumps or undercut banks in channels or along shoreline*, *cobbles and boulders*, and *riffles and rapids*.

4.5.4.2 Metric 2: Topographic Complexity

All of the AA's received a score of C for this metric in that all three AAs have are characterized as having a single bench that lacks abundant micro-topographic complexity.

4.5.5 Attribute 4: Biotic Structure

4.5.5.1 Metric 1: Plant Community

The plant community metric is composed of three submetrics. The scorings for these submetrics are averaged for an overall metric score that is combined with the other biotic structure metric scores to get an overall attribute score.

Submetric 1. Number of Plant Layers

AA 1 and AA 3 were scored a C for this submetric, while AA 2 was scored a B. AA 1 was determined to support two plant layers, a short layer dominated by nonnative ripgut brome and a very tall layer dominated by arroyo willow and Goodding's black willow, silver dollar gum, and giant reed. AA 2 was determined to support three layers, a short layer dominated by nonnative grasses, wild oats (*Avena* sp.), and ripgut brome; a medium layer dominated by mule-fat; and a very tall layer dominated by silver dollar gum, giant reed, and black cottonwood. AA 3 was determined to support two layers, a short layer dominated by Hottentot fig and a very tall layer dominated by giant reed.

Submetric 2: Number of Co-dominant Species

This submetric assesses the number of dominant species within the AA. For each plant layer present in the AA, all living plant species represented that comprise at least 10 percent relative cover within each of the layers are considered to be a dominant species. The co-dominant species within each AA is listed above under the discussion for Submetric 1. AA 1 and AA 3 were scored a D for this submetric while AA 2 was scored a C. AA 1 supported five co-dominate species, AA 2 supported six co-dominant species, and AA 3 supported two co-dominate species.

Submetric 3: Percent Invasion

This submetric assesses the percentage of dominants in the AA that are listed as invasive by the California Invasive Plant Council (Cal-IPC). AA 1 supported only one co-dominant invasive species (ripgut brome) and scored a C with 20% invasive species. AA 2 supported three co-dominant invasive species, including wild oats, ripgut brome, and giant reed, and scored a D with 50% invasive species. Finally, AA3 had two co-dominant invasive species, including Hottentot fig and giant reed, which resulted in a score of D with 100% invasive species.

4.5.5.2 Metric 2: Horizontal Interspersion

For this metric, AA 1 was scored a B, AA 2 was scored a C, for this metric and AA 3 was scored a D for this metric. AA 1 supports five co-dominate species within three layers that have a moderate degree of horizontal interspersion. AA 2 supports five co-dominant species within two layers and has a low degree of horizontal interspersion. AA 3 had minimal plant interspersion due to the AA having very limited plant species composition (only two co-dominates within two layers).

4.5.5.3 Metric 3: Vertical Biotic Structure

AA 1 and AA 2 were scored a C as 25–50% of the vegetated portion of the AAs supported at least a moderate overlap of two plant layers. AA 3 was scored a D as less than 25% of the AA supported a moderate overlap of two plant layers.

4.5.6 Overall CRAM Score

The metric and sub-metric scores described above were used to calculate the four attribute scores in addition to the overall CRAM score (Table 4-4). Overall CRAM scores ranged from 45 to 52. CRAM scores were relatively consistent for all three AAs as all AAs are in relative close proximity to each other and are subject to similar buffer and landscape attribute conditions and similar water source metric conditions. In addition, the biotic structure attribute conditions are more or less consistent throughout the study area due to the low diversity, high invasive/nonnative cover, and low-minimal horizontal and vertical interspersion. Overall CRAM scores for the AAs could improve with enhancement/restoration activities, such as; management of nonnative species; planting of native forbs, shrubs, and trees; and reducing human influence/habitation within the study area.

Table 4-4. Attribute and Overall CRAM Scores

	Attribute % Score[1]		
CRAM Attributes	**AA 1**	**AA 2**	**AA 3**
Buffer and Landscape Context	38%	42%	38%
Hydrology	75%	58%	75%
Physical Structure	38%	50%	38%
Biotic Structure	56%	50%	28%
Overall CRAM Score[2]	50%	50%	45%

[1] The attribute % score is based on the maximum possible attribute score, which ranges from 25 to 100% for each attribute. See Attachment 2.

[2] The overall score is a percentage of the total possible CRAM score and is calculated as follows: sum of attribute scores/120 × 100 and ranges from 25 to 100%.

4.6 Flora

This section discusses plant species detected within the study area or with potential to occur within the study area. Approximately 88 plant species were detected within study area; of these species, 55 are nonnative (Appendix G).

Based on searches of the CNDDB and CNPS Online Inventory, 94 sensitive plant species are known from the project vicinity. Appendix H provides the probability of occurrence, presence, or absence of each of these species within the study area. Of these 94 sensitive plant species, three were detected within the study area and are discussed below and displayed in Appendix A, Figure 6. The remaining 91 sensitive plant species known from the project vicinity, have a probability of "low" or are not reasonably expected to have potential to occur within the study area and are therefore not discussed further in this document.

4.6.1 Federally Listed Plant Species

No federally listed plant species are expected to occur within the study area and none were detected during surveys.

4.6.2 State-Listed Plant Species

No state-listed plant species are expected to occur within the study area and none were detected during surveys.

4.6.3 Other Special-Status Plant Species

Three plant species considered sensitive by the CNPS (Rank 4.2) were detected within the study area and are discussed below and shown in Appendix A, Figure 6.

4.6.3.1 San Diego Sunflower

San Diego sunflower (*Bahiopsis laciniata*) is a CRPR 4.2 species. This small to medium-sized shrub occurs on clay soils within chaparral and coastal sage scrub on south-facing slopes from Orange County south to Baja California and Sonora, Mexico. Several small patches of this species were detected near the western edge of the study area just south and slightly protruding into the proposed development area.

4.6.3.2 Southern California Black Walnut

Southern California black walnut (*Juglans californica*) ranges from Ventura County south to San Diego County. This species is a deciduous tree found in alluvial habitats, including; chaparral, costal scrub, cismontane woodland, and riparian woodland. Southern California black walnut is found in the southeastern portion of the study area in an area of southern willow scrub.

4.6.3.3 Southwestern Spiny Rush

Southwestern spiny rush (*Juncus acutus* ssp. *leopoldii*), which is a CRPR 4.2 species, ranges from Southern California south to Baja California, Mexico. Coastal salt marsh, brackish marsh, and alkaline meadows are all suitable habitat for this species (Reiser 2001). Southwestern spiny rush is found near the western edge of the study area in a low lying area of disturbed habitat.

4.7 Wildlife Species

This section discusses wildlife species detected within the study area or with potential to occur within the study area. A total of 38 wildlife species were detected within the study area and an additional 300-foot survey area buffer, including; 35 bird species and 3 mammal species (Appendix I).

Forty-seven special-status wildlife species were determined to have potential to occur in the project vicinity. The probability of occurrence, presence, or absence of each of these species within the study area is detailed in Appendix J. Of these 47 special-status wildlife species, three had a moderate potential to occur and two were detected within the study area (the project area plus 100-foot buffer) and within the additional 300-foot survey area buffer. These species include LBV, SWFL, and CAGN; all federally listed wildlife species with a moderate potential to occur but not observed; and yellow-breasted chat (*Icteria virens*) and yellow warbler (*Setophaga petechia*), both observed within the study area and/or the study area plus the additional 300-foot survey area buffer, discussed below. In addition, previous detections of light-footed Ridgway's rail (*Rallus obsoletus levipes*) are documented offsite to the southwest of the project area within the Sweetwater River. Observations of these species are displayed in Appendix A, Figure 9. The remaining 43 special-status wildlife species known from the project vicinity have a probability of "low" or are not reasonably expected to have potential to occur within the study area and are therefore not discussed further in this document.

4.7.1 Federally Listed Wildlife Species

4.7.1.1 Least Bell's Vireo

LBV was listed by the California Fish and Game Commission as state endangered in 1980 and as federally endangered in 1986 with critical habitat for this species designated in 1994. No critical habitat for this species occurs within the study area.

LBV is a small, migratory insect gleaner that breeds in mid- to Southern California and northern Baja California, with the majority in San Diego County. This species selects dense vegetation in riparian zones for nesting. As discussed in Franzreb (1989), among 126 locations of California nests recorded in the literature and in museum records, 71 (56%) were in willows and 14 (11%) were in wild rose (*Rosa californica*). The remaining nests were distributed among 20 other species of vines, shrubs, herbs, and trees.

Willows often dominate the canopy layer in the species' territories, with a mean canopy height of about 8 meters. A dense, shrubby layer near the ground is a critical component in the breeding habitat (Salata 1983). As determined from field data (San Diego Association of Governments and Regional Environmental Consultants 1990) for Southern California, vireo nest sites were most frequently located in riparian stands between 5 and 10 years old. Even though mature trees are present at many of the sites, the average age of willow vegetation in the immediate vicinity of most nests was between 4 and 7 years. When mature riparian woodland is selected, vireos nest in areas with a substantial robust understory of willows as well as other plant species (Goldwasser 1981). Based on rigorous statistical analysis of vireo habitat structure and composition (San Diego Association of Governments and Regional Environmental Consultants 1990), vireos appear to select sites with large amounts of both shrub and tree cover, a large degree of vertical stratification, and small amounts of aquatic and herbaceous cover.

Due to presence of suitable foraging and breeding habitat within the study area, focused surveys were conducted for LBV. Riparian habitat within the study area has been subject to continual disturbance by activities related to unauthorized long-term homeless human encampments. A feral cat colony exists in the area, posing a threat to all native wildlife and a particular threat to nesting birds. Portions of the river occurring within the additional 300-foot survey area buffer exist in close proximity to I-805 and SR-54 and are subject to noise.

Because LBV are extremely vulnerable to cowbird parasitism, the presence of brown-headed cowbird (*Malothrus ater*) in the study area may also contribute to the absence of this species in the area (Kus 1999).

No LBV were detected during the 2015 surveys conducted by ICF. LBV presence was previously documented within the Sweetwater River adjacent to the project in 2003, 2006, and 2010 (CDFW 2017a, USFWS 2016). LBV protocol surveys conducted in 2004 by Glenn Lukos and Associates were negative.

4.7.1.2 Southwestern Willow Flycatcher

The willow flycatcher (*Empidonax traillii*) as a whole was given protection by the state of California as an endangered species on December 3, 1990, and the SWFL subspecies (*Empidonax traillii extimus*) was federally listed as an endangered species effective March 29, 1995, with critical habitat designated in 2005. No critical habitat for this species occurs within the study area. SWFL occurs in riparian habitats along rivers, streams, or other wetlands, where dense growths of willows, mule-fat (*Baccharis salicifolia*), arrowweed (*Pluchea* sp.), or other plants are present, often with a scattered overstory of cottonwood (*Populus fremontii*) (USFWS 1995). Throughout the range of SWFL these riparian habitats tend to be rare, widely separated, small and/or linear locales, separated by vast expanses of arid lands. SWFL has experienced extensive loss and modification of this habitat.

Due to presence of suitable foraging and breeding habitat occurring within the study area, focused surveys were conducted for SWFL. Riparian habitat within the study area has been subject to continual disturbance by illegal lodging, fires, and other unauthorized recreational activities. The feral cat colony in the study area may be a deterrent for birds that nest in the lower vegetation. Portions of the Sweetwater River occurring within the additional 300-foot survey area buffer exist in close proximity to I-805 and SR-54 and are subject to noise. Several persons were observed lodging illegally with pets, including dogs, in this portion of the River. Finally, the presence of brown-headed cowbird, a species known to parasitize SWFL nests (Unitt 1987) may also contribute to the absence of this species in the area.

No SWFL were detected during the 2015 protocol surveys conducted by ICF. SWFL protocol surveys conducted in 2006 by Glenn Lukos and Associates were negative.

4.7.1.3 Coastal California Gnatcatcher

CAGN is a CDFW Species of Special Concern and was listed as federally threatened in 1993 with critical habitat for this species designated in 2000. No critical habitat for this species occurs within the study area. CAGN is a local and uncommon year-round resident of Southern California. This species is found in the six southernmost California counties located within the coastal plain (San Bernardino, Ventura, Los Angeles, Orange, San Diego, and Riverside). CAGN generally inhabits Diegan coastal sage scrub and Riversidian coastal sage scrub dominated by coastal sagebrush and California buckwheat, generally below 1,500 feet in elevation along the coastal slope. The primary cause of this species' decline is the cumulative loss of coastal sage scrub vegetation to urban and agricultural development.

Because of the presence of suitable foraging and breeding habitat (total of 0.12 acre comprised of coyote brush scrub and San Diego sunflower scrub) in the study area for CAGN, focused surveys were conducted. Suitable habitat within the study area is disturbed and occurs only as small patches that may not be large enough to support breeding for this species. The study area has been degraded by continuous illegal human habitation as well as brush fires and recreational activities such as cycling and paintball.

No CAGN were detected during 2015 protocol surveys conducted by ICF. CAGN protocol surveys conducted in 2006 by Glenn Lukos and Associates were negative; however, a foraging juvenile was detected in 2006 on two occasions during protocol surveys for LBV and SWFL. Previous surveys for the Ridgway's rail in the adjacent Sweetwater River noted incidental observation of the CAGN. Other observations of CAGN in the adjacent Sweetwater River were made in 2002 and 2007 (USFWS 2016).

4.7.1.4 Light-Footed Ridgway's Rail

Light-footed Ridgway's rail was listed as federally endangered in 1970 (USFWS 2017), is listed as endangered under the CESA, and is designated as a State Fully Protected Species (CDFW 2017b). Formerly known as the light-footed clapper rail, this species is a permanent resident of coastal salt marsh traversed by tidal sloughs, usually characterized by cordgrass (*Spartina foliosa*) and pickleweed (*Salicornia* spp.; Grinnell and Miller 1944, USFWS 1994). They have also nested in cattail marsh characterized by cattails (*Typha* sp.) and bulrush (*Scirpus* sp.) at Buena Vista, Agua Hedionda, Batiquitos, San Elijo, and San Dieguito Lagoons in San Diego County (Zembal *et al* 2016); and in spiny rush (*Juncus acutus*) at Naval Air Station (NAS) Point Mugu. They require shallow water and mudflats for foraging, with adjacent higher vegetation for cover during high water. The pair bond among light-footed Ridgway's rails endures throughout the season and often from year to year. Populations have undergone decline in the United States due to the rail's limited distribution and destruction and degradation of coastal salt marsh habitat. The statewide population in 2016 was reported to be 654 pairs in 18 marshes (Zembal *et al.* 2016), which represents the highest count since the statewide census began in 1980. Fifty percent of these pairs were found in two coastal salt marsh complexes at Upper Newport Bay and the Tijuana Marsh National Wildlife Refuge (NWR). Five other marshes—NAS Point Mugu, Batiquitos Lagoon, San Elijo Lagoon, Seal Beach NWR, and Kendall-Frost Marsh in Mission Bay—had between 16 and 70 pairs each, representing an additional 45 percent of the state total. The remaining 11 marshes had between one and 14 pairs, representing 5 percent of the state population.

Described as "formerly common in all coastal marshes" by Grinnell and Miller (1944), the light-footed Ridgway's rail has not been a common bird species at the Sweetwater Marsh over the past 20 years (Zembal *et al* 2016). Eight pairs were present in 1996; one pair in 2003; four pairs in 2012, 2013, and 2014; and seven pairs in 2016 (Zembal *et al* 2016).

Previous surveys conducted by the Sweetwater River Authority indicated the presence of one or two light-footed Ridgway's rails immediately south of the project site in the lower Sweetwater River channel; no date of the observations was presented in the source document (GLA 2006). There were no observations of light-footed Ridgway's rails on the project site during any of the biological surveys conducted by Glenn Lukos and Associates in 2003, 2004, or 2006 (GLA 2006). Konecny Biological Services has surveyed the reach of the Sweetwater River between the CarMax cattail marsh site and I-5 annually for the past 11 years. Three pairs were present in 2012, two pairs and a single male were present in 2011, one pair and one advertising male were present in 2010, two pairs in 2009, one pair in 2008, and one pair and an advertising female in 2007 (Konecny 2016). Except for surveys completed in 2013, 2015, and 2016, one pair has consistently been detected in within the cattail marsh patch by the existing bike path (Konecny 2016).

A protocol survey for light-footed Ridgway's rail was conducted in spring 2017 by permitted biologist John Konecny of Konecny Biological Services in accordance with the recommendations provided to the USFWS by the Clapper Rail Study Team (2009). One pair of light-footed Ridgway's rail was detected in southern cattail marsh patch on three occasions in 2017. The pair likely uses the entire cattail marsh patch.

4.7.2 State-Listed Wildlife Species

No state-listed wildlife species were detected within the study area during the 2015 surveys. As described in Section 4.6.1.4 above, light-footed Ridgway's rail was previously observed immediately south of the project site in the Sweetwater River channel.

4.7.3 Other Special-Status Wildlife Species

4.7.3.1 Yellow-Breasted Chat

Yellow-breasted chat is a CDFW Species of Special Concern. This species is typically found in second growth, shrubby old pastures, thickets, brushy areas, scrub, woodland undergrowth, and fence rows. Yellow-breasted chat is often found in low, wet places near streams, pond edges, or swamps. Nesting yellow-breasted chats occupy early successional riparian habitats with a well-developed shrub layer and an open canopy.

Suitable foraging and nesting habitat for yellow-breasted chat occurs within riparian, mule-fat, and southern willow scrub habitats within the study area and the additional 300-foot survey area buffer.

Yellow-breasted chat was observed during the 2015 surveys in riparian habitat at the southwestern terminus of the 300-foot survey area buffer during focused LBV and SWFL surveys (Appendix A, Figure 9).

4.7.3.2 Yellow Warbler

Yellow warbler is a CDFW Species of Special Concern. This species nests in mature riparian woodland from coastal and desert lowlands up to 8,000 feet in elevation. Yellow warbler prefers to nest in mature cottonwood, willow, alder, and ash trees. This species frequents open to medium-density woodlands and forests with a heavy brush understory in breeding season.

Suitable foraging and nesting habitat for yellow warbler occurs within riparian, mule-fat, and southern willow scrub habitats within the study area and the additional 300-foot survey buffer.

Yellow warbler was observed in riparian habitat during focused LBV and SWFL surveys in the study area and the additional 300-foot survey area buffer (Appendix A, Figure 9). They were also detected during surveys conducted in 2004 and 2006 by Glenn Lukos and Associates.

4.7.4 Habitat Connectivity and Wildlife Corridors

The project site is adjacent to open space and provides wildlife habitat, but does not serve as a wildlife corridor that connects areas of open space. The project site is surrounded by developed areas on the east and north and bordered by a major freeway to the west. It is immediately adjacent on the southwestern project border to the Sweetwater River, which is an important undeveloped wildlife habitat area supporting native riparian vegetation communities and which functions as an important regional wildlife corridor.

The project site provides limited breeding and foraging habitat for wildlife due to the presence of homeless human encampments and regular disturbance. It does, however, provide for limited local movement of animals in the vicinity.

Chapter 5
Project Effects

5.1 Impact Definitions

Biological resource impacts can be considered direct, indirect, or cumulative. They will also be either permanent or temporary in nature.

Direct: Occur when biological resources are altered, disturbed, or destroyed during project implementation. Examples include clearing vegetation, encroaching into wetland buffers, diverting surface water flows, and the loss of individual species and/or their habitats.

Indirect: Occur when project-related activities affect biological resources in a manner that is not direct. Examples include elevated noise and dust levels, increased human activity, decreased water quality, and the introduction of invasive wildlife (e.g., domestic cats and dogs) and/or plants.

Cumulative: Occur when biological resources are either directly or indirectly impacted to a minor extent as a result of a specific project, but the project-related impacts are part of a larger pattern of similar minor impacts. The overall result of these multiple minor impacts from separate projects is considered a cumulative impact on biological resources.

Temporary: Temporary impacts can be direct or indirect and are considered reversible. Examples include the removal of vegetation from areas that will be revegetated, temporary elevated noise levels, and temporary increased levels of dust (such as increased dust associated with construction activities).

Permanent: Permanent impacts can be direct or indirect and are not considered reversible. Examples include the removal of vegetation from areas that will have permanent structures placed on them or landscaping an area with nonnative plant species. Permanent project impacts include the CarMax facility and associated infrastructure, access road on the southern end of the parcel, and riprap that will be placed along the three outlet structured within the proposed channel. Permanent impacts associated with the retaining wall are subsumed within the larger permanent area footprint associated with the CarMax facility.

5.2 Project Impacts

Impacts on each sensitive biological resource are summarized below. The total project footprint includes impacts associated with equipment staging, soil removal, and soil stockpiling. Impacts associated with this project would be both permanent and temporary.

5.2.1 Habitat and Vegetation Communities

Implementation of the proposed CarMax project would result in direct and indirect permanent and temporary impacts on 15.12 acres, as summarized in Table 5-1. Appendix A, Figure 10 shows the acreage that would be permanently or temporarily affected from implementation of the proposed CarMax project.

Table 5-1. Permanent and Temporary Impacts on Vegetation Communities and Land Cover Types (acres)Vegetation Communities and Land Cover Types

	Project Boundary (Onsite)				Offsite Areas		Total Impacts for All Areas[4]		
	Access Road	CarMax Facilities	Channel Onsite[1]						
	Permanent Impact	Permanent Impact	Temporary Impact	Permanent Impact	Permanent Impact[2,3]	Temporary Impact	Permanent Impact	Temporary Impact	Total Impact[5]
Native Vegetation Communities									
Arroyo Willow Thickets	--	0.56	0.10	0.01	--	0.07	0.56	0.17	0.73
Cattail Marshes	--	0.07	--	--	--	--	0.07	--	0.07
Coyote Brush Scrub	--	--	0.02	--	--	--	--	0.02	0.02
Mule-Fat Thickets	--	0.07	<0.01	--	--	<0.01	0.07	0.01	0.07
San Diego Sunflower Scrub	--	0.01	0.07	--	--	--	0.01	0.07	0.07
Sycamore Tree	--	--	--	--	--	0.08	--	0.08	0.08
Nonnative Vegetation Communities									
Disturbed Habitat	0.05	3.43	2.56	--	--	0.47	3.47	3.03	6.50
Eucalyptus Groves	--	1.67	1.22	0.01	0.01	0.06	1.68	1.27	2.95
Giant Reed Breaks	--	0.36	1.52	0.01	<0.01	0.66	0.38	2.19	2.57
Naturalized Warm-Temperate Riparian and Wetland Semi-Natural Stands	--	0.14	0.00	--	--	--	0.14	<0.01	0.14
Nonnative Riparian	--	0.14	0.14	<0.01	<0.01	0.08	0.15	0.23	0.37
Nonnative Woodland	--	0.55	0.26	0.01	--	0.28	0.56	0.54	1.10
Urban/ Developed	0.02	0.05	0.17	--	--	0.21	0.07	0.38	0.45
Total[4]	**0.07**	**7.04**	**5.98**	**0.04**	**0.01**	**1.91**	**7.16**	**7.99**	**15.12**

[1] "Channel Onsite" includes channel and riprap dissipater areas. Permanent impacts within "Channel Onsite" areas include only the riprap areas. The remainder of the channel is considered a temporary impact area because restoration/revegetation will occur consistent with permit conditions. Native vegetation communities that occur within the proposed channel bottom will be avoided and incorporated into the proposed channel restoration efforts (Figure 15) and are therefore not included in the impact calculations.

[2] Permanent impacts between the CarMax Facility and Bonita Road are considered "offsite" impacts as they are not within the parcel that will be purchased by CarMax.

[3] A portion of the proposed channel and area that will be built up to be outside of the 100-year floodplain is located within Caltrans ROW. This area would be revegetated with native vegetation and; therefore, is considered temporary offsite impacts.

[4] Totals may vary from sum of reported values due to rounding of decimal places.

[5] Total impacts equals the sum of total permanent and temporary impacts combined.

5.2.2 Special-Status Plant Species

Implementation of the proposed project would result in the direct loss of the majority of locations and individuals of sensitive plant species identified in Appendix A, Figure 10. Three plant species considered sensitive by the CNPS (CRPR 4.2) were detected within the study area: San Diego sunflower, Southern California black walnut, and southwestern spiny rush. Several small patches of San Diego sunflower were detected within the proposed CarMax development area and within the area proposed for the permanent access road at the southern end of the property. Two individuals of Southern California black walnut were detected in the southeastern portion of the temporary impact area of the proposed CarMax project. Several individuals of southwestern spiny rush spiny rush were detected within the proposed CarMax development area. No federally or state-listed plant species are expected to occur within the study area, and none were detected during surveys.

5.2.3 Special-Status Wildlife Species

The proposed project would directly affect 1.39 acres of suitable riparian woodland habitat known to support, or likely to support, sensitive wildlife species, including arroyo willow thickets, cottonwood trees, mule-fat thickets, red willow thickets, naturalized warm-temperate riparian and wetland semi-natural stands, nonnative riparian, and sycamore trees (Table 5-1). Special-status wildlife species documented onsite include yellow-breasted chat, yellow warbler, coastal California gnatcatcher (Appendix A, Figure 9). Vegetation impacts would reduce the capacity for the site to support nesting and foraging habitat for these sensitive wildlife species. Additionally, existing mature trees that could be used by nesting birds would be affected by the project and reduce potential nesting habitat. The project would potentially impact offsite populations of light-footed Ridgway's rail, coastal California gnatcatcher, and least Bell's vireo.

5.2.4 Jurisdictional Resources

The proposed project would affect jurisdictional waters, including wetlands. Jurisdictional waters and wetlands covered under the authority of the USACE (waters of the U.S.), CDFW (waters of the State), and RWQCB (waters of the State) would be affected. Waters of the U.S. wetland and non-wetland waters total 1.23 acres (0.63 acre permanent and 0.60 acre temporary). Impacts to waters of the State under RWQCB jurisdiction Only total 1.68 acres (0.78 acre of permanent and 0.90 acre of temporary). Impacts on CDFW jurisdictional un-vegetated streambed and riparian total 2.49 acres (1.02 acres permanent and 1.47 acres temporary). Impacts on jurisdictional resources are considered significant without mitigation. Acreages for direct impacts on jurisdictional waters, including wetlands, are summarized by jurisdiction in Tables 5-2 and 5-3.

5.2.5 Habitat Linkages and Wildlife Corridors

The proposed project would temporarily affect 0.47 acre of MSCP Subarea Plan located west of the SR-54/I-805 interchange, and would temporarily affect 2.09 acres and permanently affect 1.23 acres of MSCP Linkage Area designated along the Sweetwater River (Figure 16). The areas of impacts would occur along the edges of both features, and would not affect the ability of wildlife to traverse habitat within the Sweetwater River wildlife corridor. The project area provides wildlife habitat and provides for local wildlife movement but does not function as a regional wildlife corridor.

Therefore, the proposed project development is not likely to interfere with the regional movement of wildlife species, and impacts are not expected.

Table 5-2. Project Impacts on Jurisdictional Waters of the U.S./Waters of the State (USACE/RWQCB)

		Project Boundary (Onsite)						Offsite Areas				Total Impacts for All Areas[3]	
		CarMax Facilities Permanent Impact		Channel[1] Temporary Impact		Channel[2] Permanent Impact		Temporary Impact[1]		Permanent Impact		Temporary Impact	Permanent Impact
Drainage	**Habitat Type**	**Linear Feet**	**Acres**	**Linear Feet**	**Acres**	**Linear Feet**	**Acres**	**Linear Feet**	**Acres**	**Linear Feet**	**Acres**	**Acres**	**Acres**
Waters of the U.S.													
Feature 1	Non-wetland	884	0.105	460	0.254	302	0.085	163	0.060	--	--	0.313	0.192
	Wetland	--	0.264	--	0.144	--	0.062	--	--	--	--	0.144	0.326
Feature 1b	Non-wetland	152	0.004	--	--	--	--	--	--	--	--	--	0.004
	Wetland	114	0.034	--	--	--	--	--	--	--	--	--	0.034
Feature 2	Non-wetland	127	0.032	410	0.124	110	0.029	40	0.013	22	0.005	0.137	0.067
Feature 2b	Non-wetland	--	--	20	0.002	30	0.003	--	--	5	0.001	0.002	0.004
Feature 2c	Non-wetland	--	--	--	--	--	--	--	--	261	0.006	--	0.006
Total Waters of the U.S.		**1,277**	**0.439**	**890**	**0.524**	**442**	**0.179**	**203**	**0.073**	**288**	**0.012**	**0.597**	**0.633**
Waters of the State													
RWQCB Waters Only		--	0.334	--	0.678	--	0.380	--	0.218	--	0.067	0.896	0.781
Total Waters of the State (RWQCB Only plus Waters of the U.S.) [3]		**1,164**	**0.773**	**896**	**1.202**	**443**	**0.559**	**208**	**0.291**	**285**	**0.079**	**1.493**	**1.414**

[1] Where the proposed re-routed channel overlaps with the existing channel onsite, minor grading may occur to allow the entire proposed channel to function properly. Therefore, are considered temporary impacts.

[2] Permanent impacts within the channel includes the riprap dissipater areas and portions of WOUS that will be re-contoured to channel banks and therefore no longer meet the definition of WOUS.

[3] Totals may vary from sum of reported values due to rounding of decimal places.

[4] Grand total is the full acreage that is regulated by the RWQCB, which includes all waters of the U.S. as well as the additional Waters of the State areas.

Table 5-3. Project Impacts on Jurisdictional CDFW Waters

		Project Boundary (Onsite)						Offsite Areas				Total Impacts for All Areas[3]	
		CarMax Facilities Permanent Impact		Channel[1] Temporary Impact		Channel[2] Permanent Impact		Temporary Impact[1]		Permanent Impact		Temporary Impact	Permanent Impact
c	Habitat Type	Linear Feet	Acres	Linear Feet	Acres	Linear Feet	Acres	Linear Feet	Acres	Linear Feet	Acres	Acres	Acres
Feature 1	Unvegetated Streambed	884	0.101	460	0.206	13	0.001	163	0.090	--	--	0.296	0.102
	Riparian	--	0.657	--	0.957	--	0.006	--	0.001	--	--	0.958	0.664
Feature 1b	Unvegetated Streambed	152	0.008	--	--	--	--	--	--	--	--	--	0.008
	Riparian	114	0.180	--	--	--	--	--	--	--	--	--	0.180
Feature 2	Unvegetated Streambed	127	0.043	410	0.194	13	0.006	40	0.016	22	0.008	0.210	0.057
Feature 2b	Unvegetated Streambed	--	--	17	0.004	11	0.001	--	--	5	0.001	0.004	0.002
Feature 2c	Unvegetated Streambed	--	--	--	--	--	--	--	--	261	0.006	--	0.006
Total[3]		**1,277**	**0.989**	**890**	**1.361**	**37**	**0.015**	**203**	**0.107**	**288**	**0.015**	**1.468**	**1.022**

1 Where the proposed re-routed channel overlaps with the existing channels onsite, minor grading may occur to allow the entire proposed channel to function properly. Therefore, are considered temporary impacts.

2 Permanent impacts within the channel includes the riprap dissipater areas.

3 Totals may vary from sum of reported values due to rounding of decimal places.

Chapter 6
Special-Status Species

6.1 Determination of Significance

A project would have a potentially significant effect on biological resources if the project would have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special special-status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS.

Specifically, any of the following conditions would be considered significant:

6.1. A. The project would impact one or more individuals of a species listed as federally or state endangered or threatened.

6.1. B. The project would impact the regional long-term survival of a County Group A or B plant species, or a County Group I animal species, or a species listed as a state Species of Special Concern.

6.1. C. The project would impact the regional long-term survival of a County Group C or D plant species or a County Group II animal species.

6.1. D. The project may impact arroyo toad (*Anaxyrus californicus*) aestivation or breeding habitat.

6.1. E. The project would impact golden eagle (*Aquila chrysaetos*) habitat.

6.1. F. The project would result in a loss of functional foraging habitat for raptors.

6.1. G. The project would increase noise and/or nighttime lighting to a level above ambient proven to adversely affect sensitive species.

6.1. H. The project would impact the viability of a core wildlife area, defined as a large block of habitat (typically 500 acres or more not limited to project boundaries, though smaller areas with particularly valuable resources may also be considered a core wildlife area) that supports a viable population of a sensitive wildlife species or an area that supports multiple wildlife species.

6.1. I. The project would increase human access or predation or competition from domestic animals, pests, or exotic species to levels that would adversely affect sensitive species.

6.1. J. The project would impact nesting success of sensitive animals (as listed in the Guidelines for Determining Significance) through grading, clearing, fire fuel modification, and/or noise generating activities such as construction.

Each of these significance criteria is discussed in Section 6.2, below, with respect to the proposed project.

6.2 Analysis of Project Effects

Each of the significance criteria listed in Section 6.1 are discussed below with respect to the project's anticipated effects. Those criteria for which impacts are not anticipated are discussed briefly at the end of the section.

6.2. A. The project would impact one or more individuals of a species listed as federally or state endangered or threatened.

Focused protocol level surveys were conducted for SWFL (FESA endangered; CESA endangered); LBV (FESA endangered; CESA endangered); and CAGN (FESA threatened; CDFW SSC) in 2004, 2006, and 2015, and no SWFL, LBV, or CAGN were observed; therefore, no impacts on these state- or federally listed wildlife species are expected. Focused protocol level surveys were conducted for light-footed Ridgway's rail in 2017; the species was documented adjacent to the project site within the cattail marsh patch by the existing bike path adjacent to the Sweetwater River. This population would be directly affected by removal of breeding and foraging habitat, and could be indirectly affected by construction activities. Direct and indirect effects would occur as a result of implementing the Carmax project; these impacts would include noise and lighting impacts to light-footed Ridgway's rail. Impacts would be significant.

6.2. B. The project has the potential to impact the regional long-term survival of a County Group A or B plant species, or a County Group I animal species, or a species listed as a state Species of Special Concern.

Yellow-breasted chat and yellow warbler are strongly associated with riparian woodlands, which were observed in the study area during surveys in 2015. Of the 1.39 acres of suitable riparian habitat located within the project area(cottonwood trees, arroyo willow thickets, mule-fat thickets, red willow thickets, naturalized warm-temperate riparian and wetland semi-natural stands, nonnative riparian communities, and sycamore trees), 0.92 acre would be permanently impacted and 0.47 acre would be temporarily impacted by the proposed project, which would temporarily remove breeding and foraging habitat for these and others species. However, the small acreage of impacts on potential habitat would not significantly affect the regional long-term survival of these species. Furthermore, these species' habitat will be included in the post-project onsite restoration.

6.2. C. The project would impact the regional long-term survival of a County Group C or D plant species or a County Group II animal species.

San Diego sunflower, Southern California black walnut, and southwestern spiny rush are CRPR 4.2 and County Group D species, which were observed in the study area during surveys in 2015. Impacts on San Diego sunflower, Southern California black walnut, and southwestern spiny rush are not considered significant, because, as CRPR 4.2 species, they are widespread in this portion of the County and therefore are not considered significantly rare for the proposed loss to be significant. Furthermore, these species will be included in the post-project onsite restoration.

6.2. D. The project may impact arroyo toad (*Anaxyrus californicus*) aestivation or breeding habitat.

Suitable arroyo toad habitat breeding or aestivation habitat does not exist within the project area. The study area is heavily vegetated and does not contain open sandy areas, or braided channels with sandy banks. The closest known occurrence of arroyo toad is approximately 7 miles upstream. Therefore, there would be no impacts on arroyo toad.

6. 2. E. The project would impact golden eagle (*Aquila chrysaetos*) habitat.

Golden eagles were not observed or expected within 4,000 feet of the study area. The study area is surrounded by development and does not contain suitable nesting sites, and foraging habitat is limited. Generally, golden eagles avoid developed areas and are found primarily in mountains up to 12,000 feet, canyonlands, rimrock terrain, and riverside cliffs and bluffs, with nesting usually occurring in cliffs and steep escarpments in grassland, chaparral, shrubland, forest, and other vegetated areas. Golden eagles will nest in trees, on the ground, and in human-made structures including such as windmills, observation towers, nesting platforms, and electrical transmission towers if those areas are near hunting grounds.

Impacts are considered less than considered significant due to the proximity of the Sweetwater Rive and adjacent habitat that raptors can forage and breed within, and because native habitat will be restored onsite. Therefore, the impacts on potential foraging habitat from the proposed project would not significantly affect the regional long-term survival of these species.

6.2. F. The project would result in a loss of functional foraging habitat for raptors.

Several raptor species were observed during the surveys and likely use the site for foraging and potentially for nesting. The proposed project would have direct, permanent and temporary impacts on 15.12 acres of native and nonnative habitats. These impacts are considered less than significant due to the degraded condition of the project site and the proximity of the Sweetwater River and adjacent habitat within which raptors can forage and breed, and because native habitat will be restored onsite. Therefore, the impacts on potential foraging habitat from the proposed project would not significantly affect the regional long-term survival of these species.

6.2. G. The project would increase noise and/or nighttime lighting to a level above ambient proven to adversely affect sensitive species.

Project design features (e.g., buffers, restrictions on lighting access, noise, and runoff) would reduce potential indirect impacts from edge effects on the Sweetwater River. Buffers in select locations would reduce the potential for indirect edge effects. Night-time lighting adjacent to the Sweetwater River would be shielded and directed away from the river to reduce any indirect effects of light pollution on habitat. Signage and appropriate fencing will restrict access to the Sweetwater River except along designated trails to minimize potential future impacts on the sensitive habitats. No construction activities would occur at night; therefore, impacts would be less than significant.

6. 2. H. The project would impact the viability of a core wildlife area, defined as a large block of habitat (typically 500 acres or more not limited to project boundaries, though smaller areas with particularly valuable resources may also be considered a core wildlife area) that supports a viable population of a sensitive wildlife species or an area that supports multiple wildlife species.

The project area is currently a degraded area of riparian and upland habitat. The jurisdictional feature onsite would be improved as part of the project, and a portion of the property would be restored with native plant species, thereby improving its value for native wildlife. The project area is adjacent to the Sweetwater River, which is considered a core wildlife area. However, the project area is separated from the Sweetwater River by a concrete and riprap levee to the south and is surrounded by development to the north, east, and west. Implementation of the project would not impact the viability of the Sweetwater River as a core wildlife area. Signage and appropriate fencing at the CarMax site would restrict access to the Sweetwater River except along designated trails to minimize potential future impacts on sensitive habitats. Additionally, project design features will minimize edge effects (e.g., lighting, noise, and runoff).

6.1. I. The project would increase human access or predation or competition from domestic animals, pests, or exotic species to levels that would adversely affect sensitive species.

The riparian habitat and adjacent uplands are currently severely degraded by homeless human encampments and domestic pets. While the project would remove much of the onsite habitat, the remaining acreage would be restored to native habitat. Much of the restored habitat will be cattail marsh, which is suitable for human habitation and often the site of homeless encampments. Access to open space areas will be restricted through installation of fencing and signage.

6.2. J. The project would impact nesting success of sensitive animals through grading, clearing, fire fuel modification, and/or noise-generating activities such as construction.

The project would impact the nesting success of tree-nesting raptors if grading, vegetation clearing, and/or noise-generating activities such as construction are conducted during the breeding season for these taxa (February 15–August 31). Such impacts would result in disruption in breeding success due to disturbance of breeding behaviors or removal of active nests of tree-nesting raptors. Such impacts would be considered significant.

6.3 Cumulative Impact Analysis

A cumulative impact analysis is an assessment of how the proposed project, whose impacts may not be individually significant, could contribute significantly to the total impacts on sensitive resources occurring in the project vicinity.

The proposed project is located in an area dominated by urban development with a variety of land uses including regional transportation uses associated with I-805 and SR-54 to the west and north, residential uses to the north, commercial uses associated with the Plaza Bonita Mall to the east, and natural areas with recreational use associated with the Sweetwater River to the south.

As the proposed facilities would have permanent impacts on vegetation and jurisdictional waters, implementation of onsite permittee-responsible mitigation is proposed. The onsite streams are tributaries to the Sweetwater River and provide connectivity of hydrology and habitat that would continue under the proposed mitigation and onsite avoidance areas. Onsite salvage is also proposed for willow trees (*Salix* spp.), mule-fat, and other native wetland plants as possible to facilitate success of the site. In addition, all native trees within the permanent impact footprint proposed for removal, will be retained onsite and used as woody debris, toe slope protection, and/or cuttings within the onsite permittee-responsible mitigation area.

These mitigation measures will help to mitigate any impacts within the project's environmental footprint, ensuring that the proposed project will not contribute to cumulative impacts. The enhancement credits, coupled with the restoration credits, will adequately conserve an equal or greater or equal amount of vegetation communities within the project area. Implementation of these mitigation and avoidance measures would ensure that impacts would not be cumulatively significant.

6.4 Mitigation Measures and Design Consideration

Under CEQA, mitigation is required for project impacts on biological resources that are identified as being significant. An appropriate level of mitigation is determined primarily through two considerations, as follows:

- The nature and relative magnitude of the project's impacts on the resource.
- The resource's degree of sensitivity.

The following project design features intended to avoid and minimize potential biological impacts have been included for the proposed project. Design considerations have been developed to reduce potentially significant direct and indirect impacts on sensitive biological resources. These include implementation of erosion and stormwater control features, which would guard against erosion and sedimentation; and implementation of the Habitat Mitigation and Monitoring Plan, which would compensate for losses to environmentally sensitive habitats.

No federally or state-listed plant species are expected to occur within the study area and none were detected during surveys; however, three CRPR 4.2 species would be impacted by the project. Small patches of San Diego sunflower and several individuals of southwestern spiny rush are within the proposed CarMax development area and access road area, and would be directly and permanently impacted. Two Southern California black walnut trees are within the southeastern portion of the proposed CarMax site and would be directly and permanently impacted.

Direct loss of plant and tree species would be mitigated through the habitat-based mitigation for the loss of native habitats.

Light-footed Ridgway's rail, least Bell's vireo, and coastal California gnatcatcher have been observed adjacent to the project site within the Sweetwater River. The proposed project would directly temporarily impact riparian woodland habitat which may be used by least Bell's vireo and coastal CA gnatcatcher, and that is near the cattail marsh habitat which is used for nesting and inhabited year-round by light-footed Ridgway's rail. Potential impacts would require mitigation measures to avoid and minimize impacts to individuals of these species. Implementation of the mitigation measures described below in coordination with the wildlife agencies will ensure avoidance and minimization of impacts to individuals of these species.

Yellow-breasted chat was detected within the northern and southern portions of the proposed CarMax site and yellow warbler was detected offsite south of the project area in the Sweetwater River. The proposed project would directly permanently and temporarily impact riparian woodland habitats which these species are strongly associated with. Potential impacts on these species' habitat would require habitat-based mitigation for the loss of native habitats. Implementation of the mitigation measures described below will ensure avoidance and minimization of impacts to individuals of these species.

CarMax proposes to mitigate onsite and in place for temporary impacts on habitat by avoiding native vegetation where feasible and by incorporating the native vegetation communities into the onsite channel design. If grading is required, areas will be revegetated with native plant species of similar habitat. Mitigation for permanent impacts associated with implementation of the project will be through improvements to the onsite channel for the purpose of improved flood water conveyance and through restoration of the wetland and upland land vegetation communities which are currently comprised of primarily nonnative and invasive plant species. Vegetation communities to be installed onsite within and surrounding the proposed channel include cattail marsh, arroyo willow thickets, mule-fat thickets, and coastal sage scrub habitat (Figures 13, 14, and 15). The coastal sage scrub plant palette will include San Diego sunflower to mitigate for permanent impacts on a San Diego sunflower patch.

MM-BIO2: Nesting birds. Impacts on nesting birds protected by the federal Migratory Bird Treaty Act and the California Fish and Game Code (Section 3500 et seq.) could include excessive noise and increased human activity during the breeding season, and removal of nesting habitat, including fuel modification areas. To avoid and minimize these impacts, vegetation removal and grading shall occur outside of the nesting bird season (February 1 through August 31). If the breeding season cannot be avoided, the follow measures shall be implemented in coordination with the CDFW and USFWS:

a. During the avian breeding season, a qualified Project Biologist shall conduct a preconstruction avian nesting survey no more than 3 days prior to vegetation disturbance or site clearing. If there is a break of 5 days or more in construction activities during the breeding season, a new nesting bird survey shall be conducted before these activities begin again.

b. The preconstruction survey shall cover all reasonably potential nesting locations on and within 300 feet of the proposed construction activities areas, including offsite areas. If an active nest is found during the preconstruction avian nesting survey, a qualified Project Biologist shall implement a 300-foot minimum avoidance buffer for light-footed Ridgway's rail, coastal California gnatcatcher, least Bell's vireo, and other passerine birds, and a 500-foot minimum avoidance buffer for all raptor species. The nest site area shall not be disturbed until the nest becomes inactive or the young have fledged.

MM-BIO3: Construction activities oversight. A qualified Project Biologist shall be responsible for monitoring the limits of construction activity, mitigation measures, design considerations, and project conditions during all phases of the project. The Project Biologist shall conduct the following:

1. Attend the preconstruction meeting with the contractor and other key construction personnel prior to clearing, grubbing, or grading.
2. Conduct worker training prior to all phases of construction; this shall include meetings with the contractor and other key construction personnel to explain the importance of restricting work to designated areas prior to clearing, grubbing, or grading. Discussions shall include procedures for minimizing harm to or harassment of wildlife encountered during construction activities prior to clearing, grubbing, and/or grading.
3. Conduct pre-construction clearance surveys to detect the presence of nesting birds and sensitive terrestrial wildlife species, such as coast horned lizard, orange-throated whiptail, and two-striped garter snake.
4. Be present onsite to monitor initial vegetation clearing, grubbing, and grading to ensure that mitigation measures are being appropriately followed.
5. Periodically monitor the limits of construction as needed to ensure that the construction boundaries are marked and not breached.
6. Prepare a post-construction monitoring report for submittal to National City. The report shall substantiate the supervision of the clearing, grubbing, and/or grading activities, and shall provide a final assessment of biological impacts.

MM-BIO4: Mitigation and Monitoring Plan and Biologist Oversight. The purpose of the Habitat Mitigation and Monitoring Plan is to ensure successful revegetation/creation of self-sustaining riparian and upland habitats, which would serve as mitigation for impacts on native and nonnative vegetation communities. The focus of the Restoration Plan is to restore the ecological functions and values of the impacted habitats. The following measures shall be implemented to ensure adequate mitigation:

1. The Habitat Mitigation and Monitoring Plan shall include:

- Sufficient restoration or creation of habitat to fulfill the mitigation obligations.
- The planting plan shall be designed to ensure that the appropriate restored/created habitat is suitable for the coastal California gnatcatcher and least Bell's vireo, and allows for wildlife movement (e.g., appropriate width and vegetative cover).
- The planting design shall also include adequate wetland buffers as determined in consultation with the agencies.
- A native planting palette appropriate for each vegetation type being mitigated and appropriate to local conditions. No nonnative plant species shall be planted in the project site.
- Irrigation for upland and wetland habitat types for the first two to three years following installation. Irrigation is to be removed during the final 2 years of restoration to ensure that the habitat is self-sustaining.
- A 120-day plant establishment period plus five year restoration maintenance period (or until success criteria are met).
- Qualitative and quantitative monitoring methods to ensure that success criteria are met.
- Five year maintenance methods.
- Success criteria for establishment period and years 1–5.
- Responsibilities and qualifications of restoration and maintenance contractor(s) and restoration ecologist.

6.5 Conclusions

- The proposed measures detailed above would reduce the projects impacts on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations or by the CDFW or USFWS to a level of less than significant.
- Restoration of temporarily impacted sensitive species habitat would reduce impacts on sensitive species populations to a level of less than significant.
- Restoration of temporarily impacted raptor foraging habitat at a 1:1 ratio would reduce potential impacts on raptors to a level of less than significant.
- Breeding season restrictions and pre-construction surveys would reduce impacts on the nesting success of tree-nesting raptors to a level of less than significant.

Chapter 7
Riparian Habitat or Sensitive Natural Communities

7.1 Determination of Significance

A project would have a potentially significant effect on biological resources if the project would have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the CDFW or USFWS.

Specifically, any of the following conditions would be considered significant.

7.1. A. Project-related construction, grading, clearing, construction, or other activities would temporarily or permanently remove sensitive native or naturalized habitat on or off the project site.

7.1. B. Any of the following will occur to or within jurisdictional wetlands and/or riparian habitats as defined by USACE and CDFW: removal of vegetation; grading; obstruction or diversion of water flow; adverse change in velocity, siltation, volume of flow, or runoff rate; placement of fill; placement of structures; construction of a road crossing; placement of culverts or other underground piping; any disturbance of the substratum; and/or any activity that may cause an adverse change in native species composition, diversity, and abundance.

7.1. C. The project would draw down the groundwater table to the detriment of groundwater-dependent habitat, typically a drop of 3 feet or more from historical low groundwater levels.

7.1. D. The project would cause indirect impacts on levels that would likely harm sensitive habitats over the long term.

7.1. E. The project does not include a wetland buffer adequate to protect the functions and values of existing wetlands.

Each of these significance criteria is discussed in Section 47.2 below with respect to the proposed project.

7.2 Analysis of Project Effects

7.2. A. Project-related construction, grading, clearing, construction, or other activities would temporarily or permanently remove sensitive native or naturalized habitat on or off the project site.

Permanent and temporary impacts on sensitive habitat associated with the proposed project would consist of 0.73 acre of arroyo willow thickets, 0.07 acre of cattail marsh, 0.02 acre of coyote brush scrub, and 0.07 acre of mule-fat thickets, 0.07 acre of San Diego sunflower scrub, and 0.08 acre of sycamore trees (Table 5-1; Appendix A; Figure 10). Impacts on these sensitive habitats would be considered significant.

7.2. B. Grading would occur within jurisdictional wetlands and/or riparian habitats as defined by USACE and CDFW.

The project would result in permanent impacts on 0.63 acre and temporary impacts on 0.60 acre of waters of the U.S. and permanent impacts on 0.78 acre and temporary impacts on 0.90 acre of waters of the State under RWQCB only jurisdiction (Appendix A; Figure 11). Additionally, the project would result in permanent impacts on 1.02 acres and temporary impacts on 1.47 acres of CDFW jurisdictional waters (Appendix A; Figure 12). Impacts on jurisdictional habitat would be considered significant.

7.2. C. The project does not propose to use groundwater; therefore, there are no impacts on groundwater.

7.2. D. The proposed project will could introduce long-term indirect impacts on the site if nonnative plant species are introduced into the native vegetation communities and if noise levels disrupt breeding activities or discourage use of native habitat.

7.2. E. The project does not include a wetland buffer adequate to protect the functions and values of existing wetlands.

The proposed project would impact the majority of jurisdictional waters (including wetlands) onsite. As part of the project, jurisdictional waters will be re-routed around the development and widened to maintain the sites' flood capacity and create additional jurisdictional waters and habitat onsite that would be used to offset permanent impacts on jurisdictional waters (including wetlands). In consultation with the agencies, the proposed project has undergone reductions to reduce impacts on jurisdictional waters and to allow for a small buffer between the proposed habitat and the development. Further reductions of the development area would cause the proposed project to be infeasible. Buffers between wetland and riparian habitat that would be established within the proposed channel and the proposed project would be limited and range from 5 to 50 feet wide. The upland buffer would consist of coastal sage scrub that would be planted within the proposed channel's 25- to 100-year flood event as shown on Figure 15 (Appendix A). Because minimal wetland buffers are proposed, impacts on this jurisdictional habitat would be considered significant.

7.3 Cumulative Impact Analysis

A cumulative impact analysis is an assessment of how the proposed project, whose impacts may not be individually significant, could contribute significantly to the total impacts on sensitive resources occurring in the project vicinity.

The proposed project is located in an area dominated by urban development with a variety of land uses including regional transportation uses associated with I-805 and SR-54 to the west and north, residential uses to the north, commercial uses associated with the Plaza Bonita Mall to the east, and natural areas with recreational use associated with the Sweetwater River to the south.

As the proposed facilities would have permanent impacts on vegetation and jurisdictional waters, implementation of onsite permittee-responsible mitigation is proposed. The onsite streams are tributaries to the Sweetwater River and provide connectivity of hydrology and habitat that would continue under the proposed mitigation and onsite avoidance areas. Onsite salvage is also proposed for willow trees, mule-fat, and other native wetland plants as possible to facilitate success of the site. In addition, all native trees within the permanent impact footprint proposed for removal, would be retained onsite and used as woody debris, toe slope protection, and/or cuttings within the onsite permittee-responsible mitigation area.

These mitigation measures will help to mitigate any impacts within the project's environmental footprint, ensuring that the proposed project will not contribute to cumulative impacts. The enhancement credits, coupled with the restoration credits, will adequately conserve a greater or equal amount of vegetation communities within the project area. Implementation of these mitigation and avoidance measures would ensure that impacts would not be cumulatively significant.

7.4 Mitigation Measures and Design Consideration

The proposed project has been designed to avoid impacts on sensitive native communities and restoration of impacted habitat will occur. All equipment staging and soil stockpile will occur within disturbed habitat. Because National City does not have ordinances containing mitigation ratios, mitigation for the proposed project will be agreed upon in coordination with the agencies.

Significant impacts on sensitive native communities resulting from the proposed project will be mitigated for by restoration and revegetation of native habitat within the study area. Some mitigation will be out-of-kind due to the re-structuring of the channel and the presence of disturbed habitat. Coastal sage scrub habitat will be installed where currently there is primarily disturbed and nonnative vegetation. Permanent and temporary impacts on arroyo willow thickets, coyote brush scrub, cattail marshes, mule-fat thickets, San Diego sunflower, and sycamore trees will be mitigated in accordance with Table 7-1. In addition, coastal sage scrub will be restored on 1.44 acres.

Additionally, nonnative habitat within the project area will be revegetated with native plant species. Because the site currently supports nonnative and disturbed vegetation, there will be a net gain of 2.80 acres[1] of native habitat following habitat restoration. Table 7-1 summarizes the proposed mitigation for temporary and permanent impacts on vegetation communities within the project site.

[1] Prior to construction of the proposed project, there are approximately 2 acres of native vegetation within the onsite and offsite project areas. After construction, there will be approximately 5.85 acres of native habitat within the onsite and offsite proposed mitigation areas.

Table 7-1. Native Vegetation Communities Impacts and Mitigation

Habitat Type	Total Permanent Impact (acres)	Total Temporary Impact (acres)	Mitigation Ratio[3]	Mitigation Required (acres)	Proposed Onsite Restoration (acres)	Proposed Offsite Restoration[6]	Total Proposed Restoration	Mitigation Deficit or Overage (acres)
Arroyo Willow Thickets	0.56	0.17	3:1	2.19	1.31	0.02	1.33	-0.86
Coastal Sage Scrub	--	--	--	--	1.28	0.16	1.44	+1.44
Coyote Brush Scrub	--	0.02	3:1	0.06	--[7]	--	--	-0.06
Cattail Marshes	0.07	--	3:1	0.21	2.57	0.05	2.62	+2.41
Mule-Fat Thickets	0.07	0.01	3:1	0.21	0.42	0.04	0.46	+0.25
San Diego Sunflower Scrub	0.01	0.07	2:1	0.14	--[4]	--	--[4]	-0.14
Sycamore Trees	--	0.08	3:1	0.24	--[5]	--	--[5]	-0.24
Nonnative Habitats[1]	6.45	7.64	--	--	--	--	--	--
Total[2]	**7.16**	**7.99**	**N/A**	**3.05**	**5.58**	**0.27**	**5.85**	**+2.80**

1 Nonnative habitats do not require restoration but will be revegetated with native wetland, riparian, and upland habitats with the exception of the urban/developed areas.

2 Rounded acreages do not exactly sum to the total area.

3 National City does not have codified mitigation ratios. Ratios are determined in consultation with the USFWS and CDFW on a project-by-project basis. County of San Diego mitigation ratios were used as a guide.

4 A minimum of 0.14 acre of San Diego sunflower will be established within the proposed coastal sage scrub areas. In addition, San Diego sunflower will be included in the restoration seed mix for coastal sage scrub.

5 The project will incorporate seed-mix for sycamore trees in the arroyo willow thicket areas as mitigation.

6 Restoration in offsite areas will be maintained and monitored; however, because the areas are within Caltrans ROW there is a potential for impacts in the future. All areas onsite will be protected in perpetuity.

7 Coyote brush (*Baccharis pilularis*) will be incorporated into the coastal sage scrub mitigation area, resulting in a total of at least 0.06 acre of coyote brush comprising the coastal sage scrub mitigation area.

Rehabilitation credits are proposed for existing jurisdictional waters that occur within the proposed channel re-route due to the high coverage of nonnative species. Credit is only proposed for the portion of the rehabilitation activities that occur within the National City/project parcel.[2] Up to 0.49 acre of waters of the U.S. and an additional 0.60 acre of waters of the State is proposed for rehabilitation. Additionally, a total of 1.22 acre of CDFW jurisdictional waters is also proposed for rehabilitation. The anticipated vegetation communities would replace what is onsite currently, ranging from sandy un-vegetated channel to emergent marsh, and riparian scrub and forest at the higher flood elevations. Coastal sage scrub is proposed for upland buffers areas.

Restoration credits, in the form of re-establishment, are proposed for the remainder of the restored channel. Up to 4.04 acres of waters of the U.S. and State and up to 4.72 acres of CDFW jurisdictional waters will be re-established.

An SDG&E easement, sewer easements, a water easement, and Caltrans ROW cross the proposed channel. In addition, a new access road to maintain access to Caltrans ROW as well as access for SDG&E and the County of San Diego is also proposed to cross the proposed channel. The acreage of these easements/ROWs and access road have been removed from the amount of mitigation available onsite. Additionally, any permanent impacts associated with the riprap dissipaters at each of the three outlets have also been removed from mitigation credits as these areas will likely require continuous operations and maintenance.

MM-BIO1: Direct impacts on jurisdictional wetlands and waters shall be mitigated through implementation of the Restoration Plan, resulting in habitat creation and restoration of higher quality than the habitat that is being impacted. Up to 0.49 acre of waters of the U.S. and an additional 0.60 acre of waters of the State is proposed for rehabilitation. Additionally, a total of 1.22 acre of CDFW jurisdictional waters is also proposed for rehabilitation. Restoration credits are proposed for the remainder of the restored channel. Up to 4.04 acres of waters of the U.S. and State and up to 4.72 acres of CDFW jurisdictional waters will be re-established. Mitigation may also be in the form of restoration and enhancement credits at an Approved Mitigation Bank. Final mitigation requirements will be determined through the approval process with the resource agencies.

7.5 Conclusions

Direct impacts on sensitive vegetation communities shall be mitigated through implementation of the Habitat Mitigation and Monitoring Plan, which shall result in habitat creation and restoration of higher quality than the habitat that is being impacted. Overall, the Revegetation Plan shall include sufficient acreage, through in-kind and out-of-kind mitigation, to meet the mitigation ratios summarized in Table 7-1. Onsite restoration of sensitive vegetation communities, including riparian and wetland habitat, will reduce any project-related impacts to a level of less than significant.

[2] All temporary impacts will be restored to conditions better than existing conditions. Additionally, a portion of the proposed channel will occur within rights-of-way and cannot be counted towards mitigation credits; that acreage has been removed from the mitigation credit presented in this document.

Chapter 8
Federal Wetlands and Waterways

8.1 Determination of Significance

A project would have a potentially significant effect on biological resources if the project would have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the CWA (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.

Specifically, any of the following conditions would be considered significant:

8.1. A. Any of the following will occur to or within jurisdictional wetlands and/or riparian habitats as defined by USACE: removal of vegetation; grading; obstruction or diversion of water flow; adverse change in velocity, siltation, volume of flow, or runoff rate; placement of fill; placement of structures; construction of a road crossing; placement of culverts or other underground piping; any disturbance of the substratum; and/or any activity that may cause an adverse change in native species composition, diversity and abundance.

8.1. B. The project would draw down the groundwater table to the detriment of groundwater-dependent habitat, typically a drop of 3 feet or more from historical low groundwater levels.

8.1. C. The project does not include a wetland buffer adequate to protect the functions and values of existing wetlands.

Each of these significance criteria is discussed in Section 58.2 below with respect to the proposed project. Those criteria for which impacts are not anticipated are discussed briefly at the end of the section.

8.2 Analysis of Project Effects

8.2. A. Impacts would occur to or within jurisdictional wetlands and/or waterways as defined by USACE.

The proposed project would result in permanent and temporary impacts on 0.73 acre of USACE non-wetland waters of the U.S. and 0.50 acre of USACE wetland waters of the U.S. Impacts on these jurisdictional waterways would be considered significant.

8.2. B. The project does not propose to use groundwater.

8.2. C The project does not include a wetland buffer adequate to protect the functions and values of existing wetlands.

The proposed project includes work within waters of the U.S./CDFW jurisdictional waters, and by its nature will not have a wetland buffer. Impacts on this jurisdictional habitat would be considered significant.

The proposed project would not result in significant impacts.

8.3 Cumulative Impact Analysis

A cumulative impact analysis is an assessment of how the proposed project, whose impacts may not be individually significant, could contribute significantly to total impacts on sensitive resources occurring in the project vicinity.

The proposed project is located in an area dominated by urban development with a variety of land uses, including regional transportation uses associated with I-805 and SR-54 to the west and north, residential uses to the north, commercial uses associated with the Plaza Bonita Mall to the east, and natural areas with recreational use associated with the Sweetwater River to the south.

As the proposed facilities would have permanent impacts on vegetation and jurisdictional waters, implementation of onsite permittee-responsible mitigation is proposed. The onsite streams are tributaries to the Sweetwater River and provide connectivity of hydrology and habitat that would continue under the proposed mitigation and onsite avoidance areas. Onsite salvage is also proposed for willow trees (*Salix* spp.), mule-fat (*Baccharis salicifolia),* and other native wetland plants as possible to facilitate success of the site. In addition, all native trees within the permanent impact footprint proposed for removal, will be retained onsite and used as woody debris, toe slope protection, and/or cuttings within the onsite permittee-responsible mitigation area.

These mitigation measures will help to mitigate any impacts within the project's environmental footprint, ensuring that the proposed project will not contribute to cumulative impacts. The enhancement credits, coupled with the restoration credits will adequately conserve an equal or greater or equal amount of vegetation communities within the project area. Implementation of these mitigation and avoidance measures would ensure that impacts would not be cumulatively significant.

8.4 Mitigation Measures and Design Consideration

Permanent and temporary impacts on 1.23 acres of USACE wetland and non-wetland waters of the U.S. would be mitigated through rehabilitation of up to 0.49 acre and restoration of up to 4.04 acres of waters of the U.S.

8.5 Conclusions

Onsite restoration of jurisdictional waterways will reduce project-related impacts to a level of less than significant.

Chapter 9
Wildlife Movement and Nursery Sites

9.1 Determination of Significance

A project would have a potentially significant effect on biological resources if the project would interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.

Any of the following conditions would be considered significant:

9.1. A. The project would prevent wildlife access to foraging habitat, breeding habitat, water sources, or other areas necessary for their reproduction.

9.1. B. The project would substantially interfere with connectivity between blocks of habitat, or would potentially block or substantially interfere with a local or regional wildlife corridor or linkage.

9.1. C. The project would create artificial wildlife corridors that do not follow natural movement patterns.

9.1. D. The project would increase noise and/or nighttime lighting in a wildlife corridor or linkage to levels proven to affect the behavior of the animals identified in a site-specific analysis of wildlife movement.

9.1. E. The project does not maintain an adequate width for an existing wildlife corridor or linkage and/or would further constrain an already narrow corridor through activities such as (but not limited to) reduction of corridor width, removal of available vegetative cover, placement of incompatible uses adjacent to it, and placement of barriers in the movement path.

9.1. F. The project does not maintain adequate visual continuity (i.e., long lines-of-site) within wildlife corridors or linkage.

These significance criteria for which impacts are not anticipated are discussed briefly in Section 9.2 below.

9.2 Analysis of Project Effects

The proposed project would not result in significant impacts under the following guidelines for the following reasons:

9.2. A. The project would not prevent wildlife access to foraging habitat, breeding habitat, water sources, or other areas necessary for their reproduction.

The project would permanently remove much of the onsite habitat which is in a degraded condition; however, the remaining habitat would be restored with native vegetation and would be available to wildlife for foraging and breeding. Signage and appropriate fencing will restrict human access to the Sweetwater River except along designated trails to minimize potential future impacts on the sensitive habitats. Additionally, project design features will minimize edge effects (e.g., lighting, noise, and runoff).

9.2. B. The proposed project would not substantially interfere with connectivity between blocks of habitat, or would not potentially block or substantially interfere with a local or regional wildlife corridor or linkage.

The project area is adjacent to the Sweetwater River, which is considered a core wildlife area. A small portion of the project area is outside of National City and within unincorporated lands of San Diego County. This land is within the jurisdiction of the County's MSCP Subarea Plan, and is designated as Unincorporated Land within the Metro-Lakeside-Jamul Segment of the MSCP. A larger portion of the project area has been identified as being important as MSCP Linkage lands. This map layer also extends over lands owned by National City, which is not a participant in the MSCP. Both permanent and temporary, minor impacts would occur along the edges of these features. The permanent impact area is separated from the Sweetwater River by a concrete and riprap levee to the south and is surrounded by development to the north, east, and west. Signage and appropriate fencing will restrict human access to the Sweetwater River except along designated trails to minimize potential future impacts on the sensitive habitats. Additionally, project design features will minimize edge effects (e.g., lighting, noise, and runoff). Implementation of the project would not restrict wildlife access to the Sweetwater River. Therefore, implementation of the project would not affect the viability of the Sweetwater River as a core wildlife area.

9.2. C. The project would not create artificial wildlife corridors that do not follow natural movement patterns.

Implementation of the project would remove nonnative vegetation and improve and restore native habitats within the jurisdictional feature and adjacent onsite upland communities.

9.2. D. The project would not increase noise and/or nighttime lighting in a wildlife corridor or linkage to levels proven to affect the behavior of the animals identified in a site-specific analysis of wildlife movement.

Project design features will minimize edge effects (e.g., lighting, noise, and runoff).

9.2. E. The project maintains an adequate width for an existing wildlife corridor or linkage and/or does not further constrain an already narrow corridor by activities such as (but not limited to) reduction of corridor width, removal of available vegetative cover, placement of incompatible uses adjacent to it, and placement of barriers in the movement path.

The project area is adjacent to the Sweetwater River, and within a portion of unincorporated County of San Diego MSCP Subarea Plan and MSCP Linkage area lands that are considered a core wildlife area. Temporary impacts would occur to these areas, and would occur along the edges of these features; therefore, the project would not substantially constrain the corridor. The permanent impact area is separated from the Sweetwater River by a concrete and riprap levee to the south and is surrounded by development to the north, east, and west. Appropriate fencing would restrict human access to the Sweetwater River except along designated trails to minimize potential future impacts on the sensitive habitats. Project design features will minimize edge effects (e.g., lighting, noise, and runoff).

9.2. F. The project maintains adequate visual continuity (i.e., long lines-of-site) within wildlife corridors or linkages.

The project would use landscaping to reduce the potential for any substantial indirect visual impacts adjacent to any wildlife corridors and maintain the visual continuity of the local corridors onsite. Landscaping would consist of native plant species.

9.3 Cumulative Impact Analysis

The study area is adjacent to the Sweetwater River, and overlaps a portion of MSCP Subarea Plan and MSCP Linkage area, which is considered a core wildlife area. Impacts would occur along the edges of these features rather than traversing them, in addition the permanent impacts are separated from the Sweetwater River by a concrete and riprap levee; thus, the project would not substantially constrain a wildlife corridor during construction activities. Impacts within the wildlife corridor would be temporary; therefore, impacts would not be cumulatively significant.

9.4 Mitigation Measures and Design Consideration

Mitigation Measures MM-BIO2, MM-BIO3, and MM-BIO4 would minimize and avoid impacts to portions of the Sweetwater River, MSCP Subarea Plan, and MSCP Linkage area that the project overlaps. As described in Chapter 7, onsite mitigation will be completed for impacts to vegetation and jurisdictional areas.

9.5 Conclusions

With implementation of mitigation measures and onsite mitigation for temporary impacts, as described in Chapter 7, the proposed project would not result in significant impacts on wildlife corridors and linkages.

Chapter 10
Local Policies, Ordinances, Adopted Plans

10.1 Guidelines for the Determination of Significance

A project would have a potentially significant effect on biological resources if the project would conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; or conflict with the provisions of an adopted HCP, Natural Community Conservation Plan (NCCP), or other approved local, regional or state habitat conservation Plan.

Any of the following conditions would be considered significant:

10.1. A. For lands outside of the Multiple Species Conservation Program (MSCP), the project would impact coastal sage scrub vegetation in excess of the County's 5 percent habitat loss threshold as defined by the Southern California Coastal Sage Scrub NCCP Guidelines.

10.1. B. The project would preclude or prevent the preparation of the subregional NCCP. For example, the project proposes development within areas that have been identified by the county or resource agencies as critical to future habitat preserves.

10.1. C. The project would not minimize and/or mitigate coastal sage scrub habitat loss in accordance with Section 4.3 of the NCCP Guidelines.

10.1. D. The project does not conform to the goals and requirements as outlined in any applicable HCP, Habitat Management Plan (HMP), Special Area Management Plan (SAMP), Watershed Plan, or similar regional planning effort.

10.1. E. For lands within the MSCP, the project would not minimize impacts on Biological Resource Core Areas (BRCAs).

10.1. F. The project would preclude connectivity between areas of high habitat values, as defined by the Southern California Coastal Sage Scrub NCCP Guidelines.

10.1. G. The project does not maintain existing movement corridors and/or habitat linkages.

10.1. H. The project does not avoid impacts on MSCP narrow endemic species and would impact core populations of narrow endemics.

10.1. I. The project would reduce the likelihood of survival and recovery of listed species in the wild.

10.1. J. The project would result in the killing of migratory birds or destruction of active migratory bird nests and/or eggs (Migratory Bird Treaty Act).

10.1. K. The project would result in take of eagles, eagle eggs, or any part of an eagle (Bald and Golden Eagle Protection Act).

Each of these significance criteria is discussed in Section 10.2 below with respect to the proposed project. Those criteria for which impacts are not anticipated are discussed briefly at the end of the section.

10.2 Analysis of Project Effects

10.2. A No coastal sage scrub exists within the project area, therefore, no coastal sage scrub would be impacted by the proposed project.

10.2. B. A portion of the project is within the South County MSCP Unincorporated Land within the Metro-Lakeside-Jamul Segment and within an MSCP Linkage Area (Figure 16) (County of San Diego 1997). Only temporary impacts will occur within the Sweetwater River corridor; while permanent impacts are separated from the Sweetwater River by a concrete and riprap levee. The portion of the project within these areas would not result in development within an area identified as critical to future habitat preserves pursuant to the subregional NCCP.

10.2. C. No coastal sage scrub exists within the project area, therefore, the project would not minimize and/or mitigate coastal sage scrub habitat loss in accordance with Section 4.3 of the NCCP Guidelines.

10.2. D. A portion of the project is within the South County MSCP Unincorporated Land within the Metro-Lakeside-Jamul Segment and designated as MSCP Linkage. Proposed mitigation described in Chapter 11 and minimization described in Mitigation Measures MM-BIO2, MM-BIO3, and MM-BIO4 are consistent with the mitigation requirements set forth in the MSCP and Biological Mitigation Ordinance; therefore, the project would not be in conflict with goals and requirements of the MSCP.

10.2. E. As described above, a portion of the project is within the South County MSCP Unincorporated Land within the Metro-Lakeside-Jamul Segment and designated as MSCP Linkage, which is considered a BRCA (Figure 16) (County of San Diego 1997). The project would minimize impacts on the MSCP Linkage area, as described in Mitigation Measures MM-BIO2, MM-BIO3, and MM-BIO4. Impacts would occur to this area, and mitigation would be completed as outlined in Chapter 11.

10.1. F. The proposed project does not provide connectivity between areas of high habitat values, as defined by the Southern California Coastal Sage Scrub NCCP Guidelines, and therefore would not preclude such connectivity.

10.2. G. The majority of the proposed project area does not serve as a wildlife linkage or corridor because much of the surrounding land is developed. A portion of the project is within a South County MSCP Linkage area. Temporary impacts would occur within the Sweetwater River, while permanent impacts are limited to the area east of the Sweetwater River and separated from the channel by a concrete and riprap levee. Therefore, the proposed project would not preclude connectivity between areas of high habitat value or disrupt habitat linkages.

10.2. H. A portion of the project is within the South County MSCP Unincorporated Land within the Metro-Lakeside-Jamul Segment (Figure 16) (County of San Diego 1997). No populations of narrow endemic species were identified within the project area; therefore, the project would not impact core populations of narrow endemic species.

10.2. I. Implementation of Mitigation Measures MM-BIO2, MM-BIO3, and MM-BIO4 would avoid impacts on listed species. Therefore, the project would not reduce the likelihood of survival and recovery of listed species in the wild.

10.2. J. Implementation of Mitigation Measures MM-BIO2, MM-BIO3, and MM-BIO4 would avoid the killing of migratory birds or destruction of active migratory bird nests and/or eggs. Therefore, the project is consistent with the Migratory Bird Treaty Act.

10.2. K. The project would not result in take of eagles, eagle eggs, or any part of an eagle. Therefore, the project is consistent with the Bald and Golden Eagle Protection Act.

10.3 Cumulative Impact Analysis

A cumulative impact analysis is an assessment of how the proposed project, whose impacts may not be individually significant, could contribute significantly to the total impacts on sensitive resources occurring in the project vicinity.

The proposed project is located in an area dominated by urban development with a variety of land uses, including regional transportation uses associated with I-805 and SR-54 to the west and north, residential uses to the north, commercial uses associated with the Plaza Bonita Mall to the east, and natural areas with recreational use associated with the Sweetwater River to the south. Portions of the project are within MSCP Subarea Plan and MSCP Linkage Area; however, only temporary impacts would occur within the Sweetwater River corridor. Permanent impacts occur outside of the Sweetwater River and are separated from the channel by a concrete and riprap levee. Therefore, impacts on MSCP Subarea Plan and MSCP Linkage Area would not be cumulative in nature.

As the proposed facilities would have permanent impacts on vegetation and jurisdictional waters, implementation of onsite permittee-responsible mitigation is proposed. The onsite streams are tributaries to the Sweetwater River and provide connectivity of hydrology and habitat that would continue under the proposed mitigation and onsite avoidance areas. Onsite salvage is also proposed for willow trees, mule-fat, and other native wetland plants as possible to facilitate success of the site. In addition, all native trees within the permanent impact footprint proposed for removal, will be retained onsite and used as woody debris, toe slope protection, and/or cuttings within the onsite permittee-responsible mitigation area.

These mitigation measures will help to mitigate any impacts within the project's environmental footprint, ensuring that the proposed project will not contribute to cumulative impacts. The enhancement credits, coupled with the restoration credits will adequately conserve an equal or greater or equal amount of vegetation communities within the project area. Implementation of these mitigation and avoidance measures would ensure that impacts would not be cumulatively significant.

10.4 Mitigation Measures and Design Consideration

Mitigation Measures MM-BIO2, MM-BIO3, and MM-BIO4, previously described in Chapter 6, and onsite mitigation described in Chapter 7, would be implemented to minimize and avoid impacts on habitats within the portions of the MSCP Subarea Plan and MSCP Linkage Area.

Potential violation of the MBTA would be avoided through seasonal restrictions and/or pre-construction surveys.

Potentially significant impacts on tree-nesting raptors and other birds protected under the MBTA would be avoided by restricting vegetation clearing or grading during the breeding season for migratory birds (approximately February 15 through August 31 annually) unless, through pre-construction nesting bird surveys by a qualified biologist, it is determined that no nesting birds protected by the MBTA are located within grading/vegetation clearing areas. If active nests are identified within the impact area onsite, all construction activities in close proximity to active nests shall be delayed or otherwise modified as necessary to prevent nest failure caused by construction activities.

10.5 Conclusions

The project design and proposed mitigation measure would reduce potential conflicts with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; or conflict with the provisions of the adopted MSCP or other approved local, regional, or state HCP to a level below significant.

Chapter 11

Summary of Project Impacts and Mitigation

The project's direct permanent and temporary impacts include a total of 15.12 acres. Habitat-based mitigation for temporary impacts on sensitive habitats will be satisfied through restoration. Mitigation shall be done in-kind and onsite (Table 11-1).

Table 11-1. Habitat/Vegetation Communities, Impacts, and Restoration within the Project Site

Habitat/Vegetation Community	Impacts (acres)	Mitigation Ratio	Restoration[4]
Arroyo Willow Thickets	0.73	3:1	1.33
Cattail Marshes	0.07	3:1	2.62
Coastal Sage Scrub[2]	--	2:1	1.44
Coyote Brush Scrub	0.02	3:1	--
Mule-Fat Thickets	0.07	3:1	0.46
Red Willow Thickets	--	3:1	--
San Diego Sunflower Scrub[2]	0.07	2:1	--
Sycamore Trees[3]	0.08	3:1	--
Disturbed Habitat	6.50	--	--
Eucalyptus Groves	2.95	--	--
Giant Reed Breaks	2.57	--	--
Naturalized Warm-Temperate Riparian and Wetland Semi-Natural Stands	0.14	--	--
Nonnative Riparian	0.37	--	--
Nonnative Woodland	1.10	--	--
Urban/Developed	0.45	--	--
Total[1]*	**15.12**		**5.85**

[1] Rounded acreages do not exactly sum to the total areas.

[2] A minimum of 0.14 acre of San Diego sunflower will be established within the proposed coastal sage scrub areas. Coastal sage scrub areas will include coyote brush within the planting mix.

[3] The project will incorporate seed-mix for sycamore trees in the arroyo willow thicket areas as mitigation.

[4] Restoration in all areas onsite will be protected in perpetuity. Restoration in offsite areas will be maintained and monitored; however, because the areas are within Caltrans ROW there is a potential for impacts in the future.

MM-BIO1: Direct impacts on jurisdictional wetlands and waters shall be mitigated through implementation of the Restoration Plan, resulting in habitat creation and restoration of higher quality than the habitat that is being impacted. Up to 0.49 acre of waters of the U.S. and an additional 0.60 acre of waters of the State is proposed for rehabilitation. Additionally, a total of 1.22 acre of CDFW jurisdictional waters is also proposed for rehabilitation. Restoration credits are proposed for the remainder of the restored channel. Up to 4.04 acres of waters of the U.S. and State and up to 4.72 acres of CDFW jurisdictional waters will be re-established. Mitigation may also be in the form of restoration and enhancement credits at an Approved Mitigation Bank. Final mitigation requirements will be determined through the approval process with the resource agencies.

MM-BIO2: Nesting birds. Impacts on nesting birds protected by the Migratory Bird Treaty Act could include removal of nesting habitat or fuel modification areas, excessive noise, and increased human activity during the breeding season. To avoid and minimize these impacts, vegetation removal and grading shall occur outside of the nesting bird season (February 1 through August 31). If the breeding season cannot be avoided, the follow measures shall be implemented:

a. During the avian breeding season, a qualified Project Biologist shall conduct a preconstruction avian nesting survey no more than 3 days prior to vegetation disturbance or site clearing. If there is a break of 5 days or more in construction activities during the breeding season, a new nesting bird survey shall be conducted before these activities begin again.

b. The preconstruction survey shall cover all reasonably potential nesting locations on and within 300 feet of the proposed construction activities areas, including offsite areas. If an active nest is found during the preconstruction avian nesting survey, a qualified Project Biologist shall implement a 300-foot minimum avoidance buffer for light-footed Ridgway's rail, coastal California gnatcatcher, least Bell's vireo, and other passerine birds, and a 500-foot minimum avoidance buffer for all raptor species. The nest site area shall not be disturbed until the nest becomes inactive or the young have fledged.

MM-BIO3: Construction activities oversight. A qualified Project Biologist shall be responsible for monitoring the limits of construction activity, mitigation measures, design considerations, and project conditions during all phases of the project. The Project Biologist shall conduct the following:

1. Attend the preconstruction meeting with the contractor and other key construction personnel prior to clearing, grubbing, or grading.
2. Conduct worker training prior to all phases of construction; this shall include meetings with the contractor and other key construction personnel to explain the importance of restricting work to designated areas prior to clearing, grubbing, or grading. Discussions shall include procedures for minimizing harm to or harassment of wildlife encountered during construction activities prior to clearing, grubbing, and/or grading.
3. Conduct pre-construction clearance surveys to detect the presence of nesting birds and sensitive terrestrial wildlife species, such as coast horned lizard, orange-throated whiptail, and two-striped garter snake.
4. Be present onsite to monitor initial vegetation clearing, grubbing, and grading to ensure that mitigation measures are being appropriately followed.
5. Periodically monitor the limits of construction as needed to ensure that the construction boundaries are marked and not breached.
6. Prepare a post-construction monitoring report for submittal to National City. The report shall substantiate the supervision of the clearing, grubbing, and/or grading activities, and shall provide a final assessment of biological impacts.

MM-BIO4: Habitat Mitigation and Monitoring Plan and Biologist Oversight. The purpose of the Habitat Mitigation and Monitoring Plan is to ensure successful revegetation/creation of self-sustaining riparian and upland habitats, which would serve as mitigation for impacts on native and nonnative vegetation communities. The focus of the Habitat Mitigation and Monitoring Plan is to restore the ecological functions and values of the impacted habitats. The following measures shall be implemented to ensure adequate mitigation:

1. The Habitat Mitigation and Monitoring Plan shall include:
   - Sufficient restoration or creation of habitat to fulfill the mitigation obligations.
   - The planting plan shall be designed to ensure that the appropriate restored/created habitat is suitable for the coastal California gnatcatcher and least Bell's vireo, and allows for wildlife movement (e.g., appropriate width and vegetative cover).
   - The planting design shall also include adequate wetland buffers as determined in consultation with the agencies.
   - A native planting palette appropriate for each vegetation type being mitigated and appropriate to local conditions. No nonnative plant species shall be planted in the project site.
   - Irrigation for upland and wetland habitat types for the first two to three years following installation. Irrigation is to be removed during the final 2 years of restoration to ensure that the habitat is self-sustaining.
   - A 120-day plant establishment period plus five year restoration maintenance period (or until success criteria are met).
   - Qualitative and quantitative monitoring methods to ensure that success criteria are met.
   - Five year maintenance methods.
   - Success criteria for establishment period and years 1–5.
   - Responsibilities and qualifications of restoration and maintenance contractor(s) and restoration ecologist.

Chapter 12
References

Baldwin, B. G., D. H. Goldman, D. J. Keil, R. Patterson, T. J. Rosatti, and D. H. Wilken (eds.). 2012. *The Jepson Manual: Vascular Plants of California.* Second Edition. Berkeley: University of California Press.

California Department of Fish and Wildlife (CDFW). 2015. *California Natural Diversity Database*, RareFind 4. Available: https://www.dfg.ca.gov/biogeodata/cnddb/. Accessed: April 2015.

———. 2017a. *California Natural Diversity Database*, RareFind 4. Available: https://www.dfg.ca.gov/biogeodata/cnddb/. Accessed: April 2017.

———. 2017b. *Natural Diversity Database*. April. Special Animals List. Periodic publication. 51 pp.

California Department of Forestry and Fire Protection. 2015. *Calwater Interagency Watershed Map of 1999*. Edition 2.2.1. Calwater Interagency Watershed Mapping Committee. Available: http://frap.cdf.ca.gov/data/statewide/FGDC_metadata/calw221.xml. Accessed: September, 2015.

California Native Plant Society (CNPS). 2001. *Inventory of Rare and Endangered Plants of California.* 6th ed. Rare Plant Scientific Advisory Committee, David P. Tibor, Convening Editor. California Native Plant Society. Sacramento, CA. 388 pp.

———. 2015. *Inventory of Rare and Endangered Plants of California.* (Eighth Edition). Online Edition. Available: http://www.rareplants.cnps.org/. Accessed: April 04/04,/2015.

California Wetlands Monitoring Workgroup (CWMW). 2013a. *California Rapid Assessment Method (CRAM) for Wetlands, User's Manual*, Version 6.1 pp. 67.

———. 2013b. *California Rapid Assessment Method (CRAM) for Wetlands, Perennial Estuarine Wetlands Field Book*, Version 6.1 pp. 38.

County of San Diego. 1997. *Multiple Species Conservation Program – County of San Diego Subarea Plan*. Prepared by the County of San Diego in conjunction with the U.S. Fish and Wildlife Service, California Department of Fish and Game. Adopted by the Board of Supervisors on October 22, 1997.

———. 2010. County of San Diego Biological Mitigation Ordinance – An Excerpt from the San Diego County Code of Regulatory Ordinances. Amendments effective 4-2-10.

Environmental Laboratory. 1987. *Corps of Engineers Wetlands Delineation Manual.* Technical Report Y-87-1. U.S. Army Engineer Waterways Experiment Station, Vicksburg, Mississippi. 100 pp. with Appendices.

Franzreb, K. E. 1989. *Ecology and Conservation of the Endangered Least Bell's Vireo*. U.S. Fish and Wildlife, Service Biol. Rep. 89(1).

Glen Lukos Associates (GLA). 2006. *Biological Technical Report National City Costco Wholesale Project*. National City, California. 120 pp.

Goldwasser, S. 1981. *Habitat Requirements of the Least Bell's Vireo.* California Department of Fish and Game, Nongame Wildlife Investigations Rep. 81.09, Proj. E-W-4, Job IV-38.1. Nongame Bird and Mammal Sec. Rep. 81.09. 16 pp.

Google Earth. 2015. *Google Earth Imagery for the Project Site*. Imagery date: April 4/14,/2015. Accessed: September 2015.

Holland, R. F. 1986. *Preliminary Descriptions of the Terrestrial Natural Communities of California*. Nongame-Heritage Program, California Department of Fish and Game.

ICF International (ICF). 2019. *National City CarMax Project - Jurisdictional Delineation Addendum*. 8pp.

———. 2017. *Jurisdictional Delineation Report, National City CarMax Project.* National City, California. 67 pp.

———. 2015a. *National City CarMax CRAM Analysis*. National City, California. 54 pp.

———. 2015b. *Focused Survey Results for Least Bell's Vireo* (Vireo bellii pusillus) *and Southwestern Willow Flycatcher* (Empidonax trailii extimus) *for the Proposed National City CarMax Project Area.* 10 pp.

———. 2015c. *Focused Survey Results for Coastal California Gnatcatcher* (Polioptila californica californica) *for the Proposed National City CarMax Project Area.* 8 pp.

Kus, B. E., 1999. Impacts of Brown-Headed Cowbird Parasitism on Productivity of the Endangered Least Bell's Vireo. *Studies in Avian Biology*, No, 18: 160-–166.

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

Reiser, C. H. 2001. *Rare Plants of San Diego County*. Aquafir Press. 2001 edition.

Salata, L. 1983. *Status of the Least Bell's Vireo on Camp Pendleton, California*. U.S. Fish and Wildlife Service, Laguna Niguel, CA. Unpubl. Rep.

San Diego Association of Governments and Regional Environmental Consultants. 1990. *Draft Comprehensive Species Management Plan for the Least Bell's Vireo (Draft).* San Diego Assoc. of Governments, San Diego, CA. 244 pp.

Sogge, M. K., D. Ahlers, and S. J. Sferra. 2010. A *Natural History Summary* and *Survey Protocol* for the *Southwestern Willow Flycatcher*. U.S. Geological Survey Techniques and Methods 2A-10, 38 pp.

Sproul F. et al. 2011. *Vegetation Classification Manual for Western San Diego County*. Prepared for the San Diego Association of Governments. February.

Unitt, Philip. 1987. *Empidonax traillii extimus*: An Endangered Subspecies. *Western Birds* 18(3): 137–162.

———. 2004. *San Diego County Bird Atlas.* San Diego Natural History Museum.

U.S. Army Corps of Engineers (USACE). 2008a. *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* (Version 2.0). Vicksburg, MS: U.S. Army Engineer Research and Development Center. Report dated September 2008.

———. 2008b. *A Field Guide to the Identification of the OHWM in the Arid West Region of the Western United States: A Determination Manual*. Available: http://www.crrel.usace.army.mil/library/technicalreports/ERDC-CRREL-TR-08-12.pdf.

U.S. Army Corps of Engineers (USACE) and U.S. Environmental Protection Agency (EPA). 2011. *Draft Guidance on Identifying Waters Protected by the Clean Water Act.*

U.S. Department of Agriculture/Natural Resources Conservation Service (USDA/NRCS). 2011a. *Soil Survey Geographic (SSURGO) Database for San Diego, California*. Prepared by Soil Survey Staff of the Natural Resources Conservation Service. Available: http://soildatamart.nrcs.usda.gov. Accessed: September, 2015.

———. 2011b. *Official Soil Series Descriptions*. Prepared by Soil Survey Staff of the Natural Resources Conservation Service. Available: http://soils.usda.gov/technical/classification/osd/index.html. Lincoln, NE. Accessed: September, 2015.

U.S. Department of Homeland Security. 2015. *Federal Emergency Management Agency 100 Year-Flood Maps*. Available: http://www.fema.gov/. Accessed: September 2015.

U.S. Fish and Wildlife Service. 1995. *Endangered and Threatened Wildlife and Plants*. Final rule determining endangered status for the southwestern willow flycatcher. *Federal Register* 60:10693–10715. February 27.

———. 1997. *Coastal California Gnatcatcher* (Polioptila californica californica) *Presence/Absence Survey Guidelines*. Report from Carlsbad Field Office. Dated July 28. 5 pp.

———. 2000. *Southwestern Willow Flycatcher Protocol Revision 2000*. Unpublished report with cover letter dated July 11.

———. 2001. *Least Bell's Vireo Survey Guidelines*. Report from Carlsbad, California, Field Office, dated January 19, 2001. 3 pp.

———. 2008. *Birds of Conservation Concern.*

———. 2015. *National Wetlands Inventory Mapper*. Available: http://www.fws.gov/wetlands/data/mapper.HTML. Accessed: September 2015.

———. 2016. *Carlsbad Fish and Wildlife Office Species Occurrence GIS Data*. April 29, 2016.

———. 2017. S*pecies Profile for Light-Footed Clapper rail (Rallus longirostris levipes)*. Available: https://ecos.fws.gov/ecp0/profile/speciesProfile?sId=6035. Accessed: April 05, 2017.

U.S. Geological Survey (USGS). 1996. *7.5-Minute National City, California, Quadrangle*.

———. 2015. *National Hydrography Dataset*. Available: ftp://nhdftp.usgs.gov/DataSets/Staged/States/. Accessed: September 2015.

Appendix A

Figures

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Figure 1
Regional Vicinity Map
National City CarMax Project

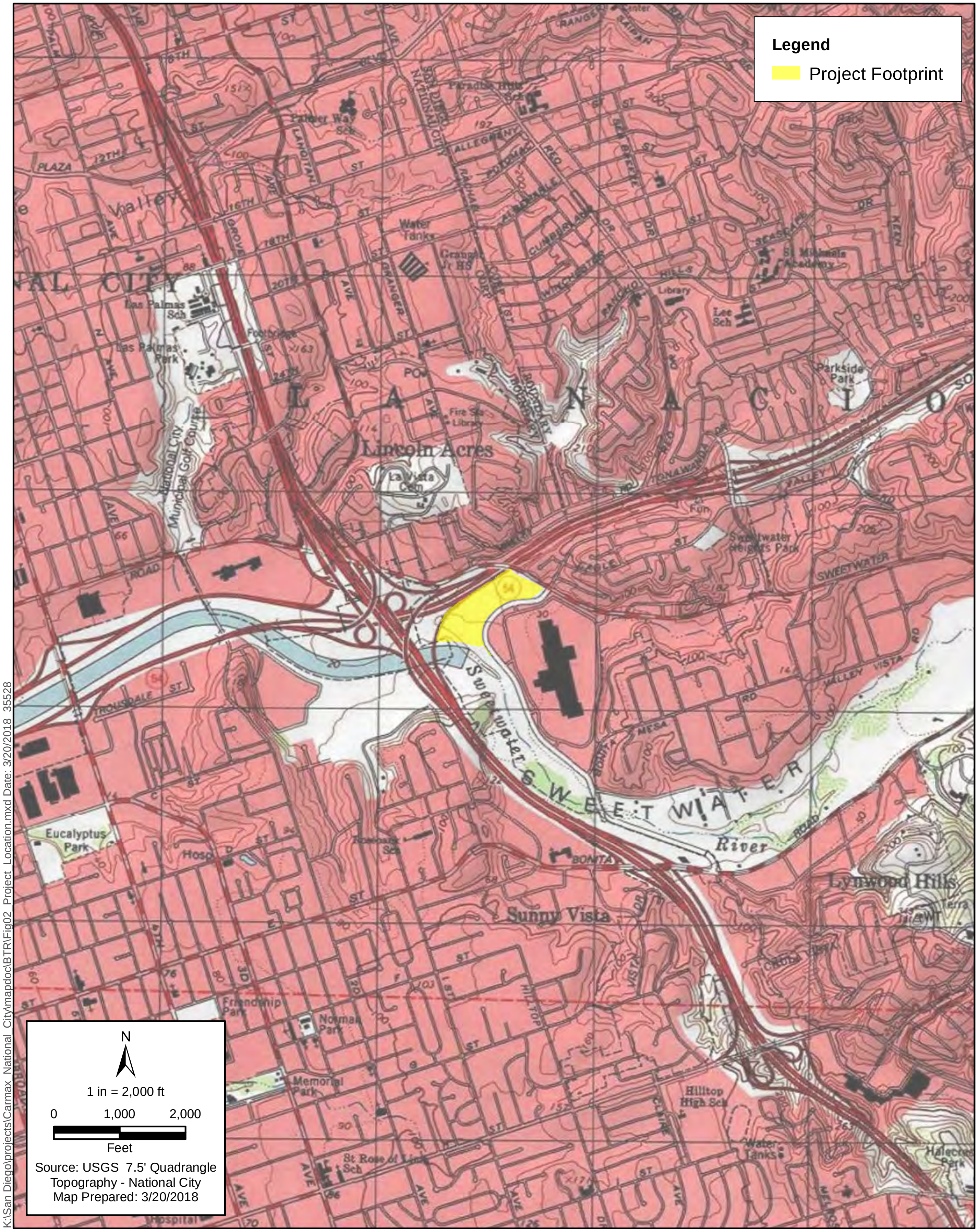

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Figure 2
Project Location
National City CarMax Project

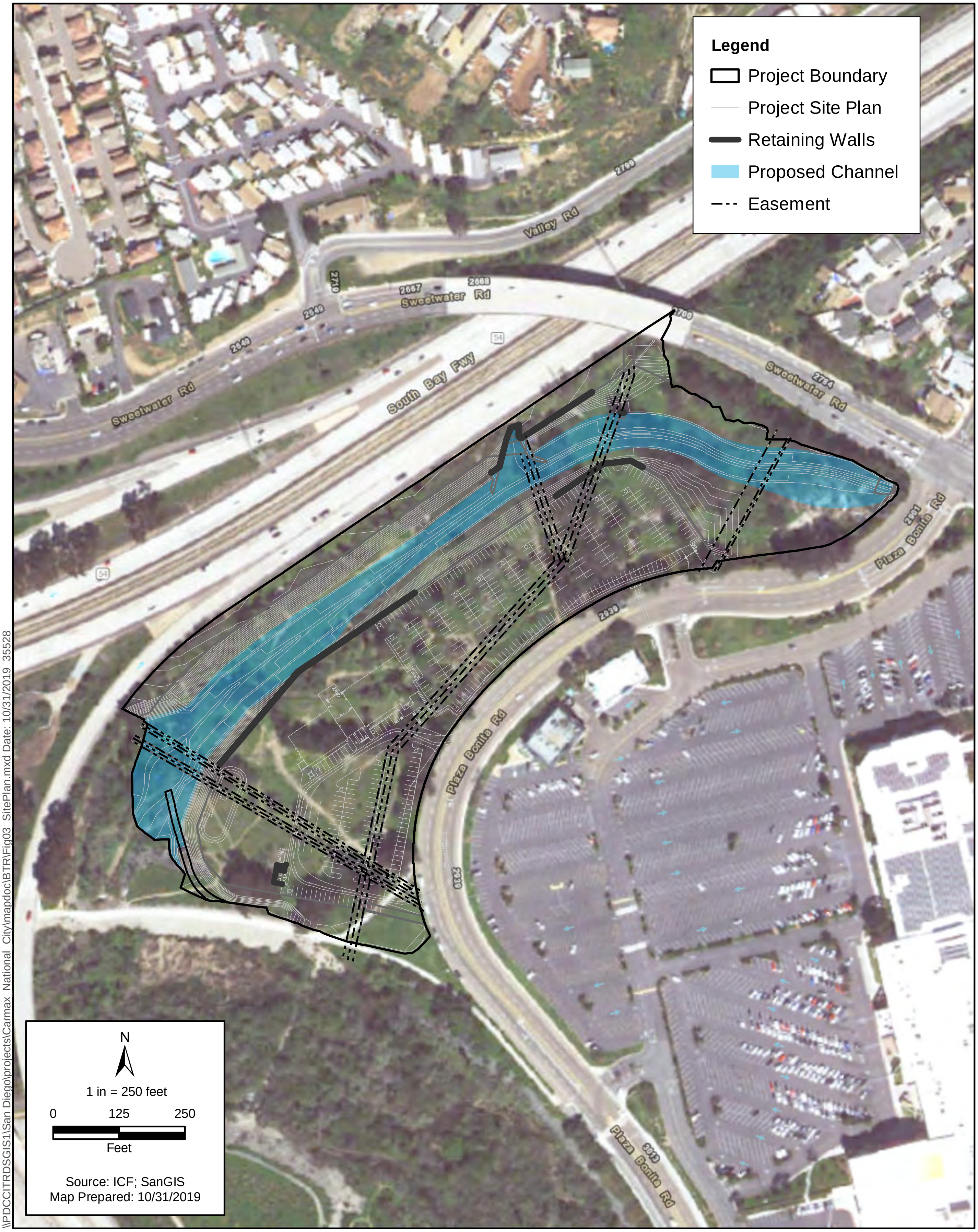

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Figure 3
Project Site Plan
National City CarMax Project

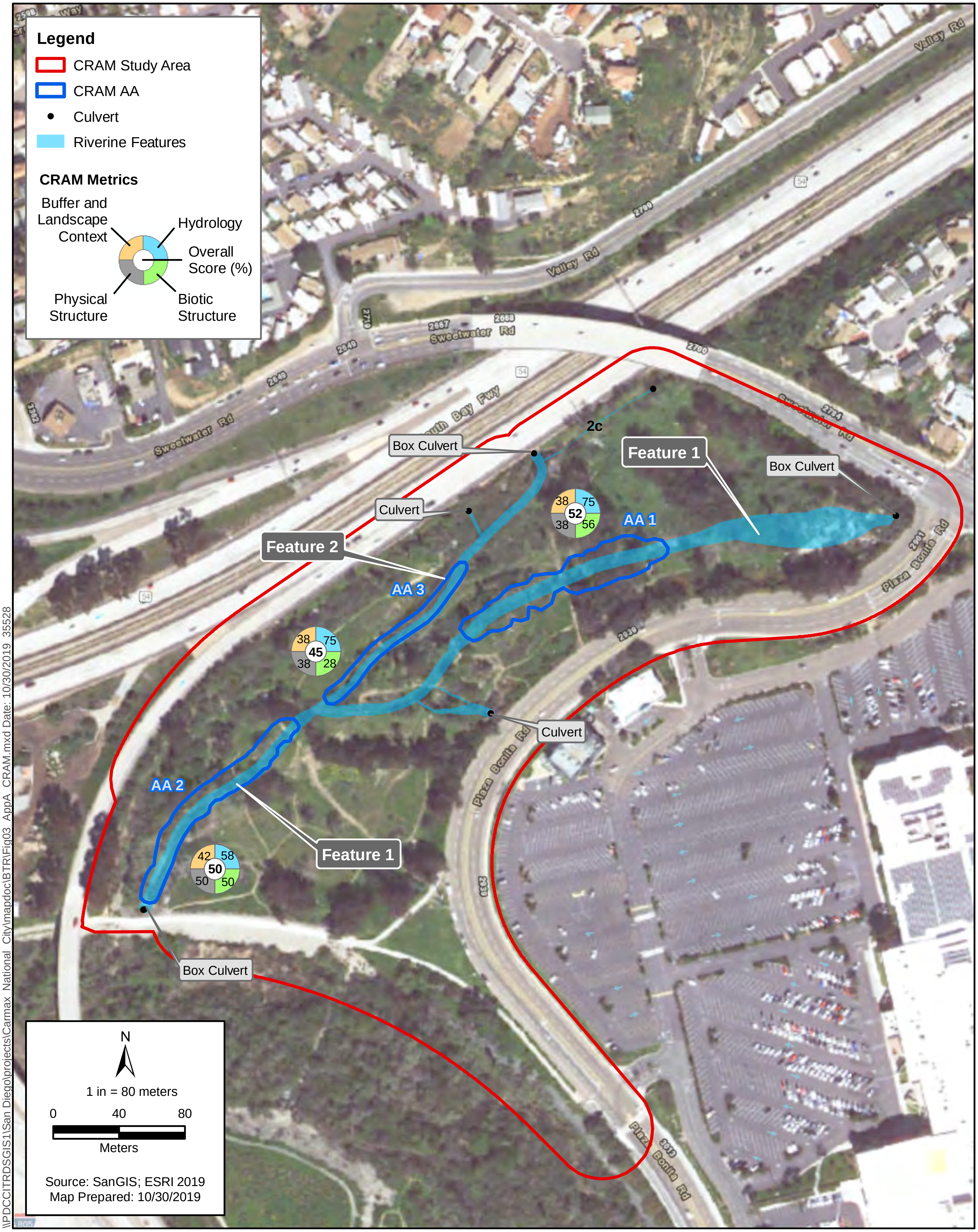

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Figure 3
CRAM Results Map
National City CarMax Project

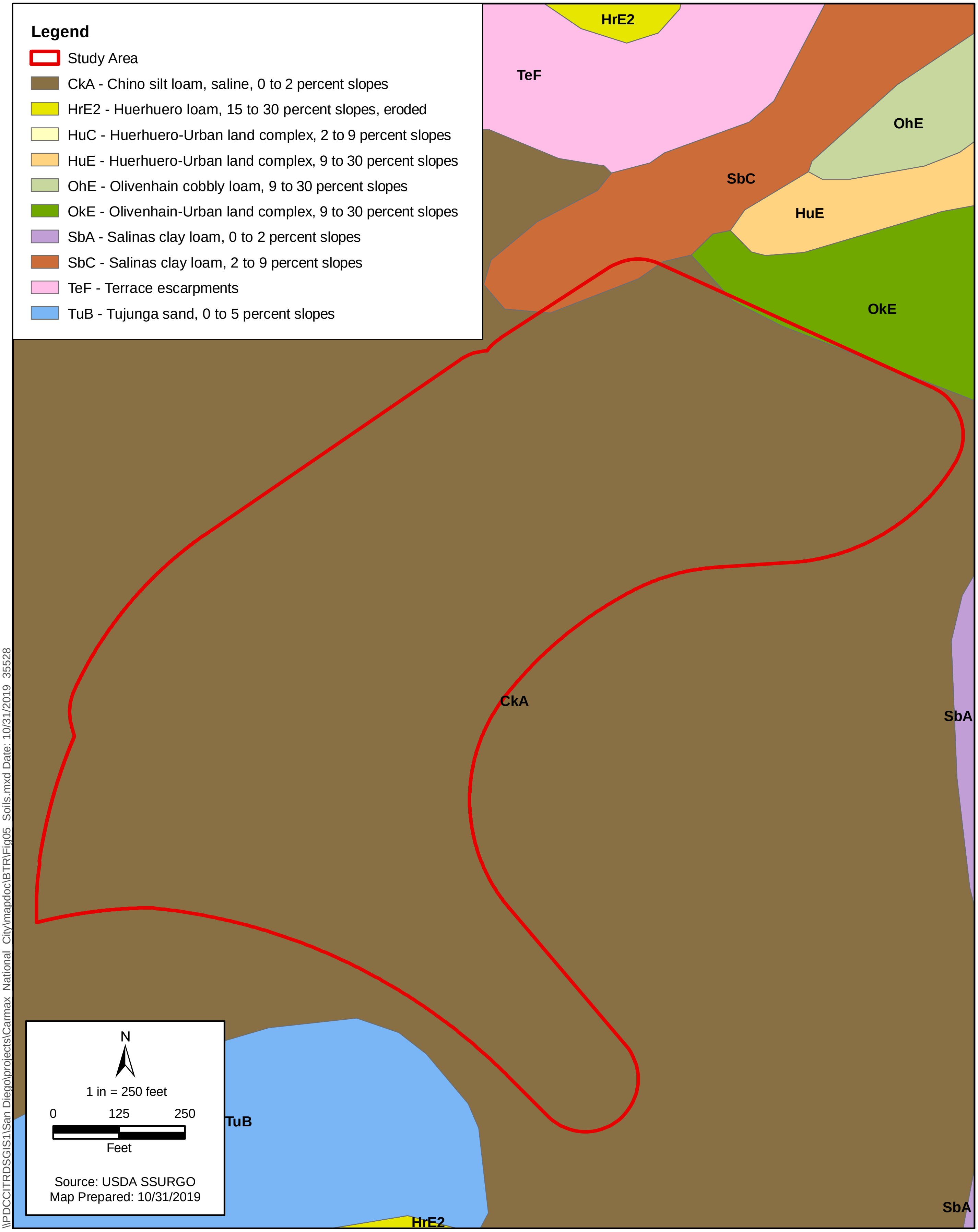

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Figure 5
Soils Map
National City CarMax Project

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Figure 6
Vegetation Communities and Rare Plants Map
National City CarMax Project

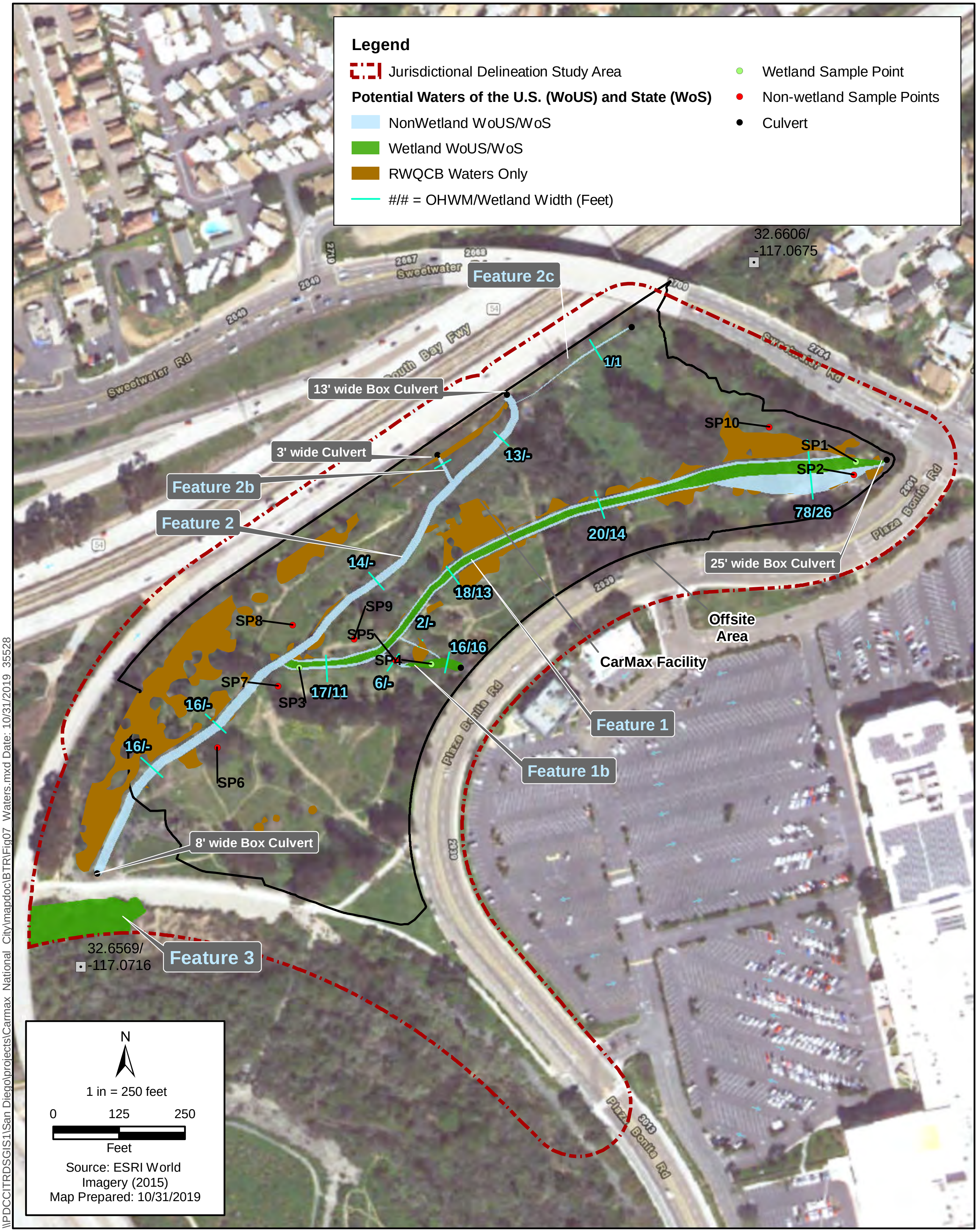

Figure 7
USACE and RWQCB Jurisdictional Delineation Results Map
National City CarMax Project

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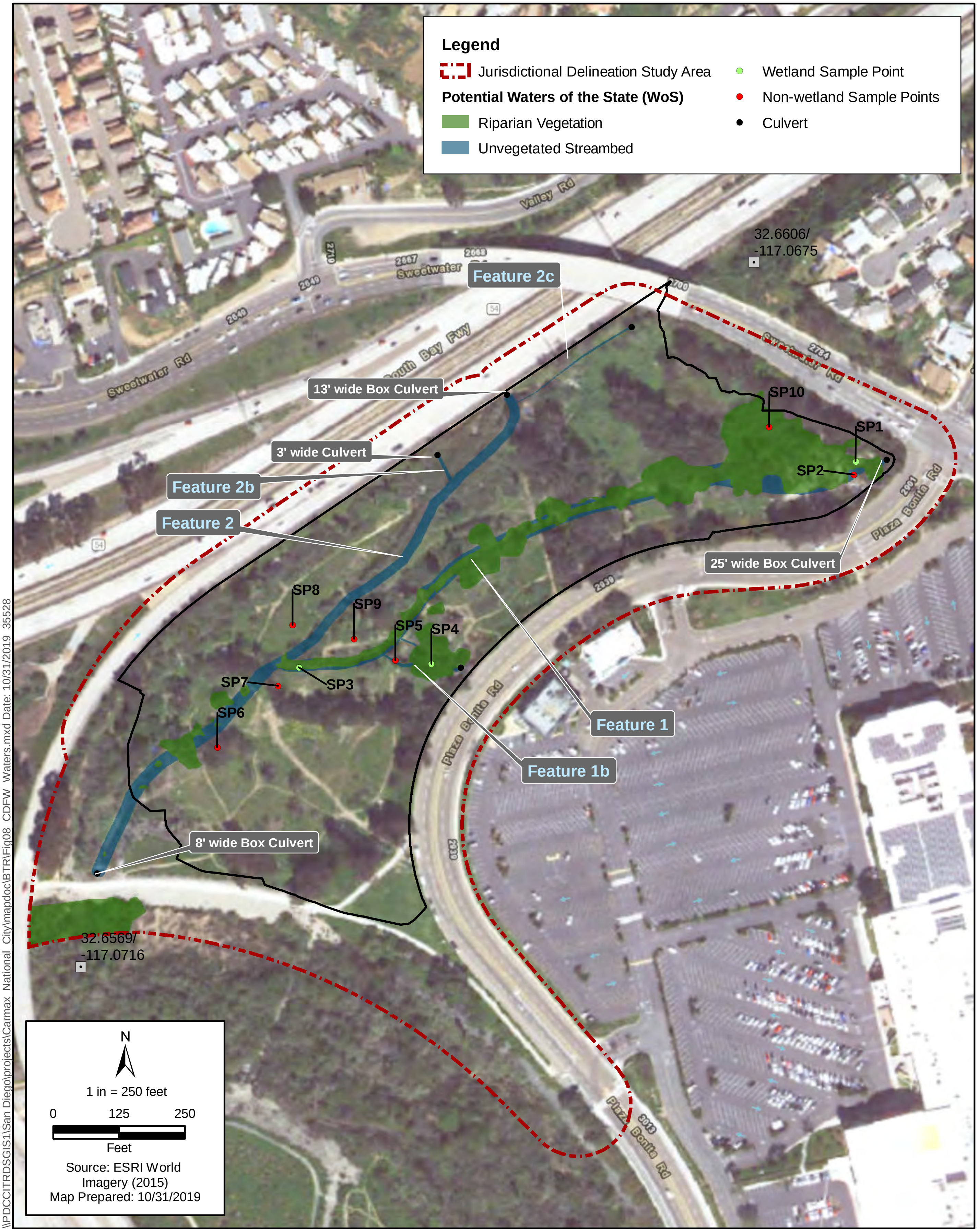

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Figure 8
CDFW Jurisdictional Delineation Results Map
National City CarMax Project

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Figure 9
Wildlife Observations Map
National City CarMax Project

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Figure 10
Project Impacts to Vegetation
National City CarMax Project

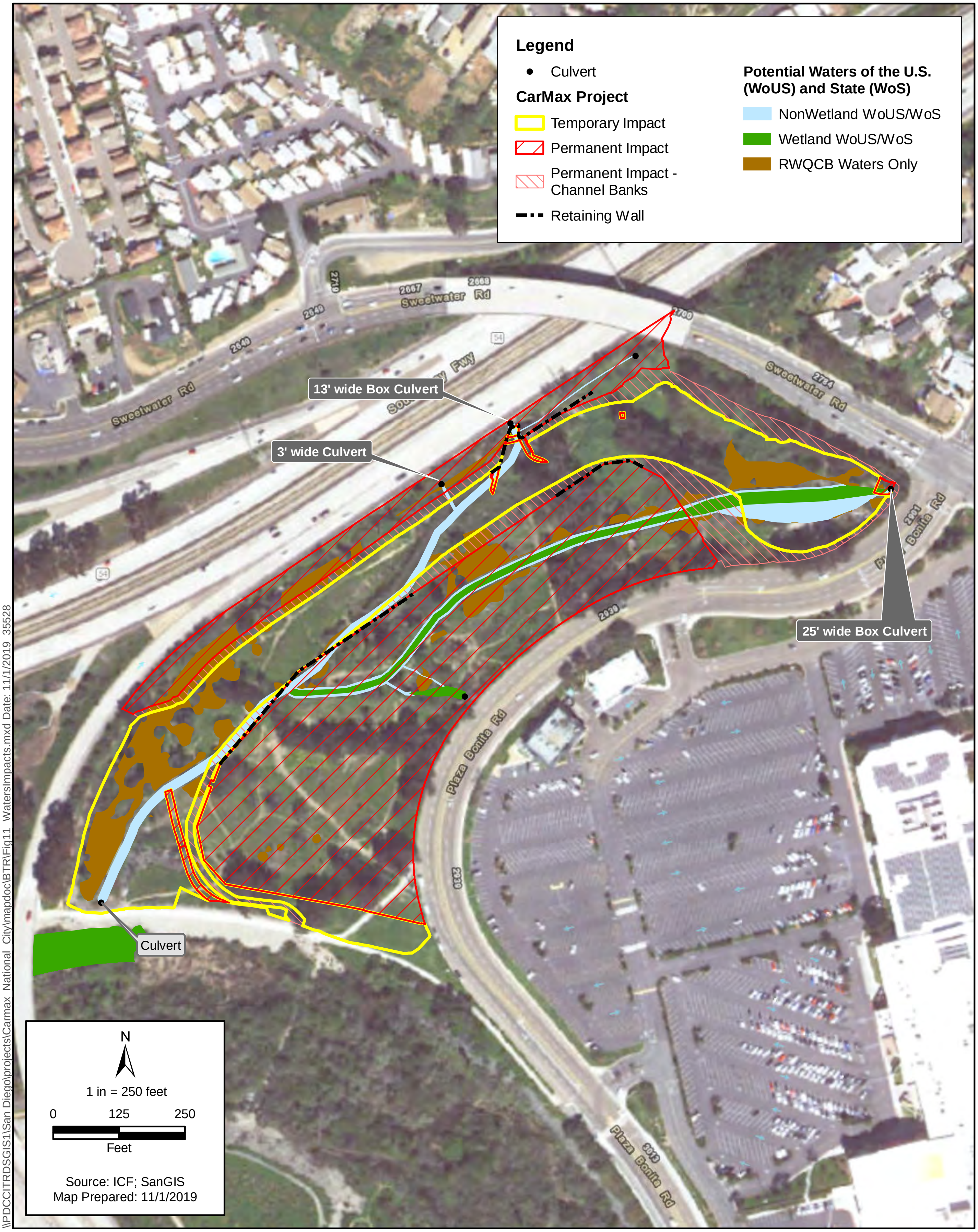

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Figure 11
USACE and RWQCB Jurisdictional Waters Impacts
National City CarMax Project

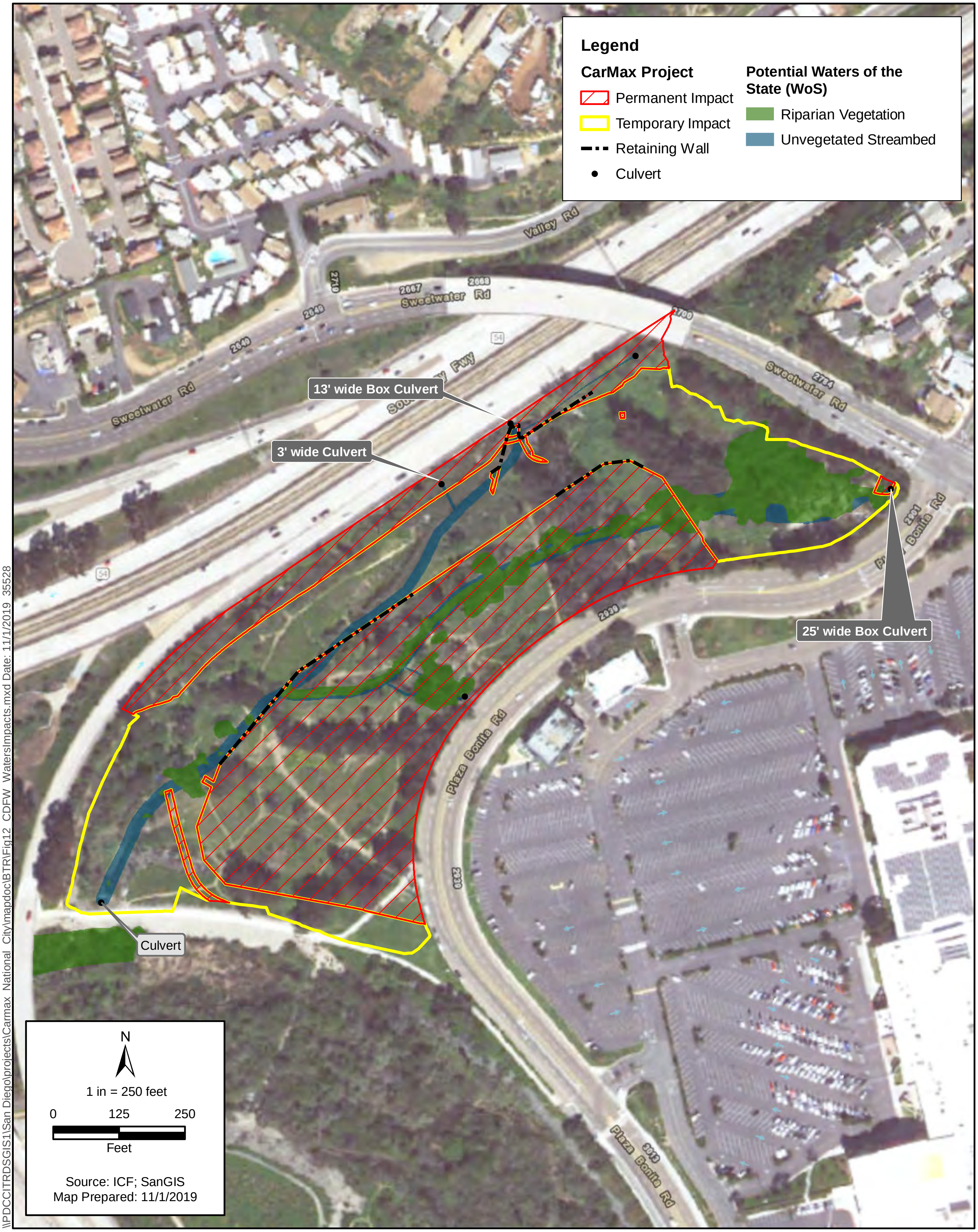

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Figure 12
CDFW Jurisdictional Waters Impacts
National City CarMax Project

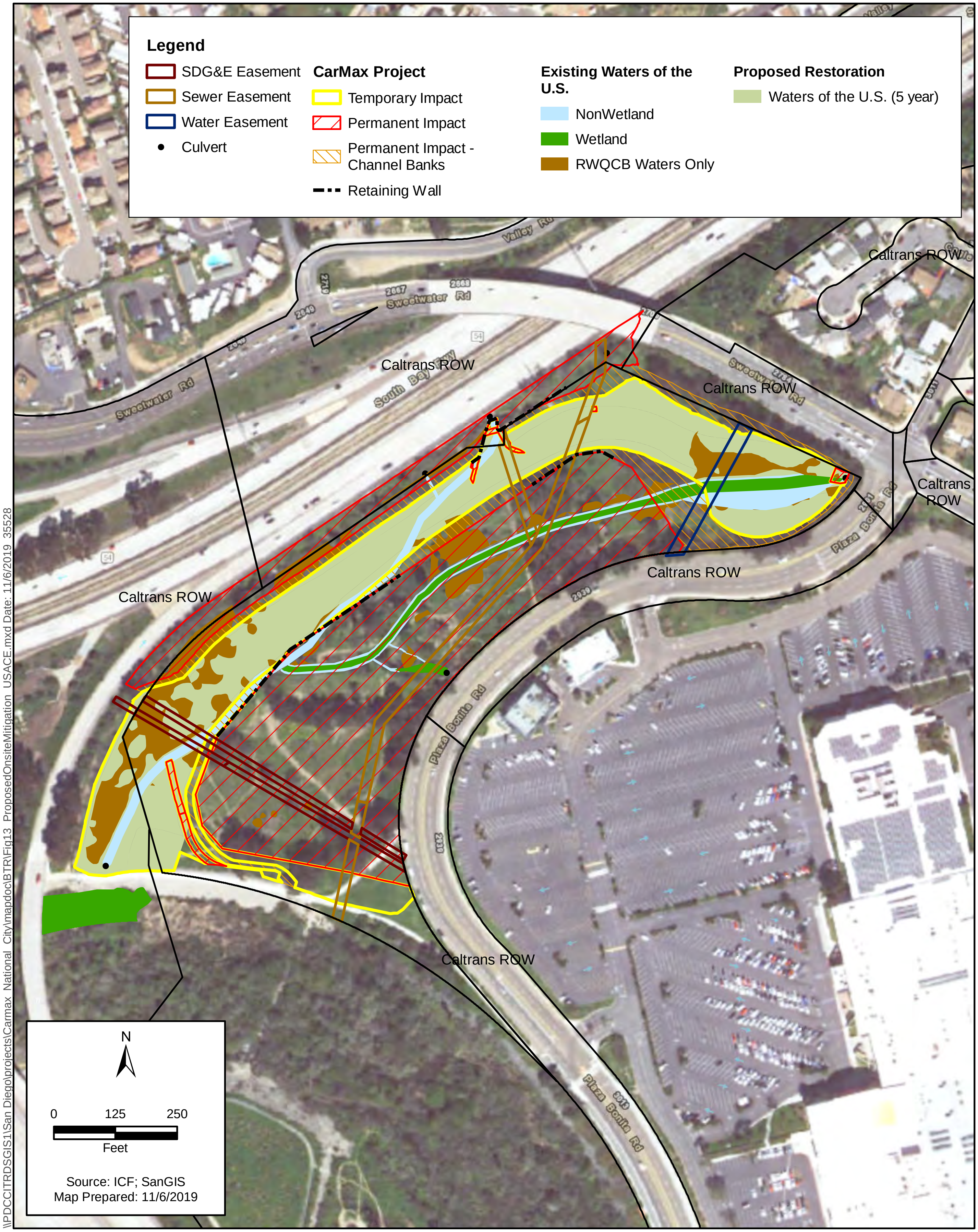

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Figure 13
USACE/RWQCB Proposed Onsite Mitigation
National City CarMax Project

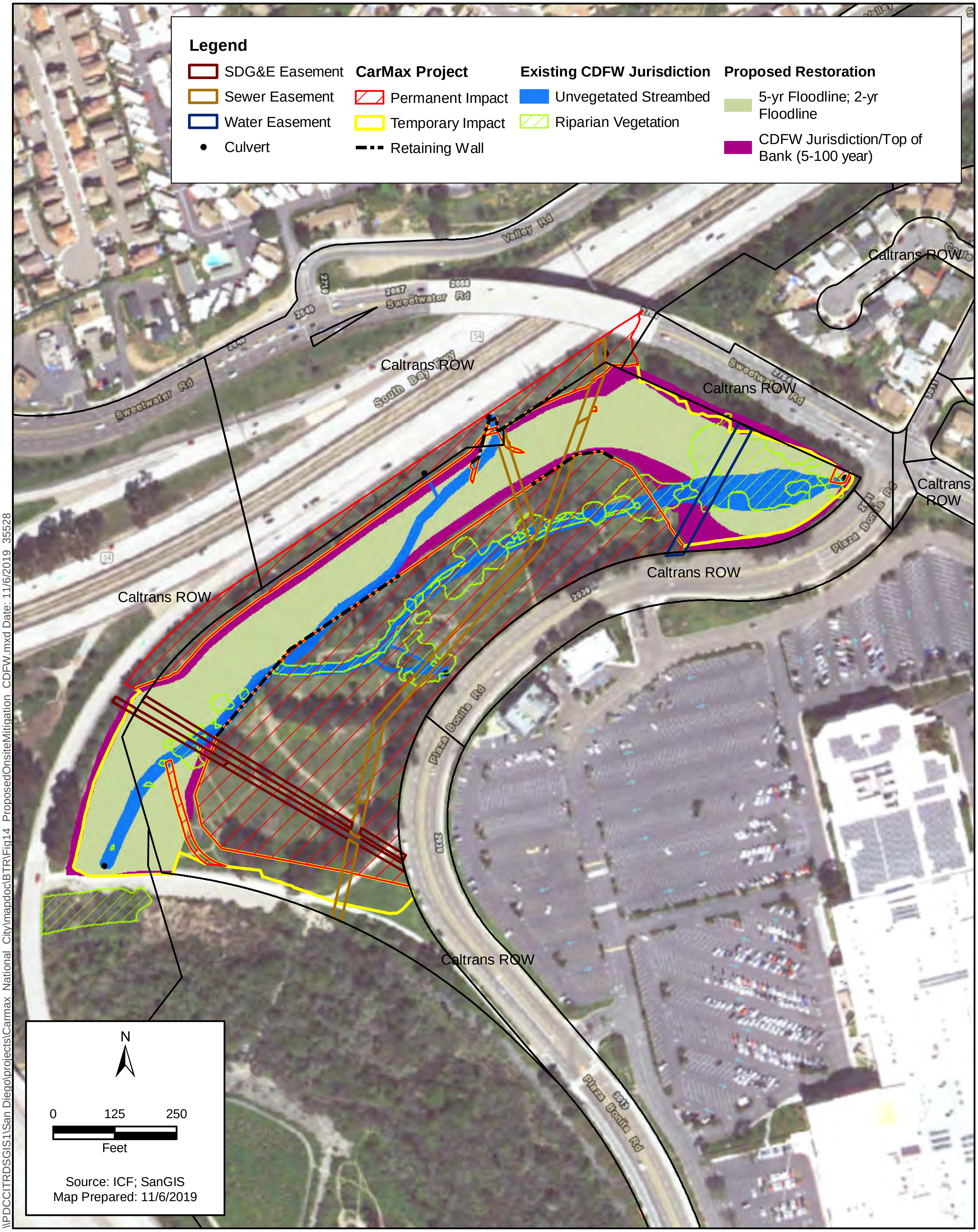

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Figure 14
CDFW Proposed Onsite Mitigation
National City CarMax Project

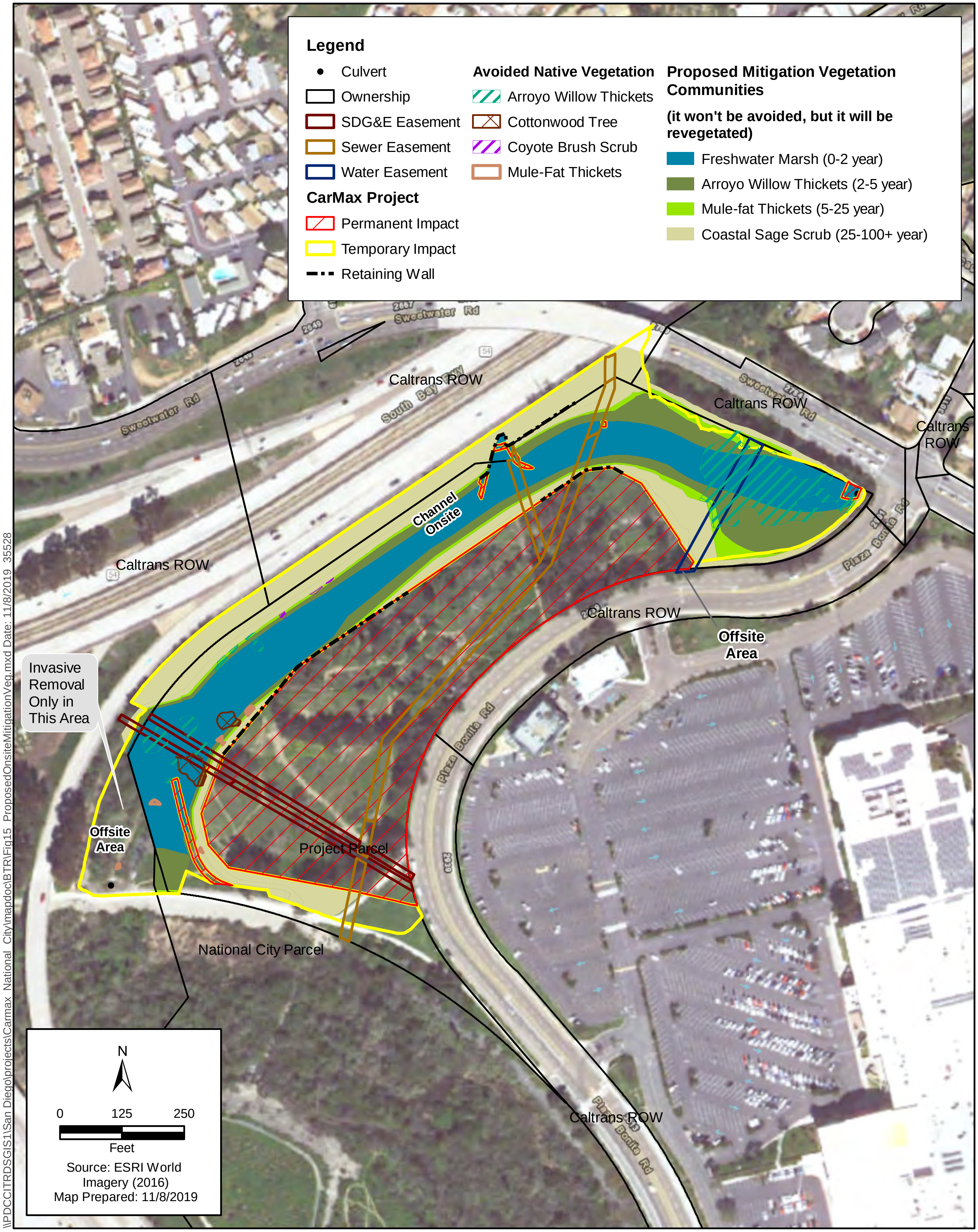

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Figure 15
Proposed Onsite Mitigation Vegetation Communities
National City CarMax Project

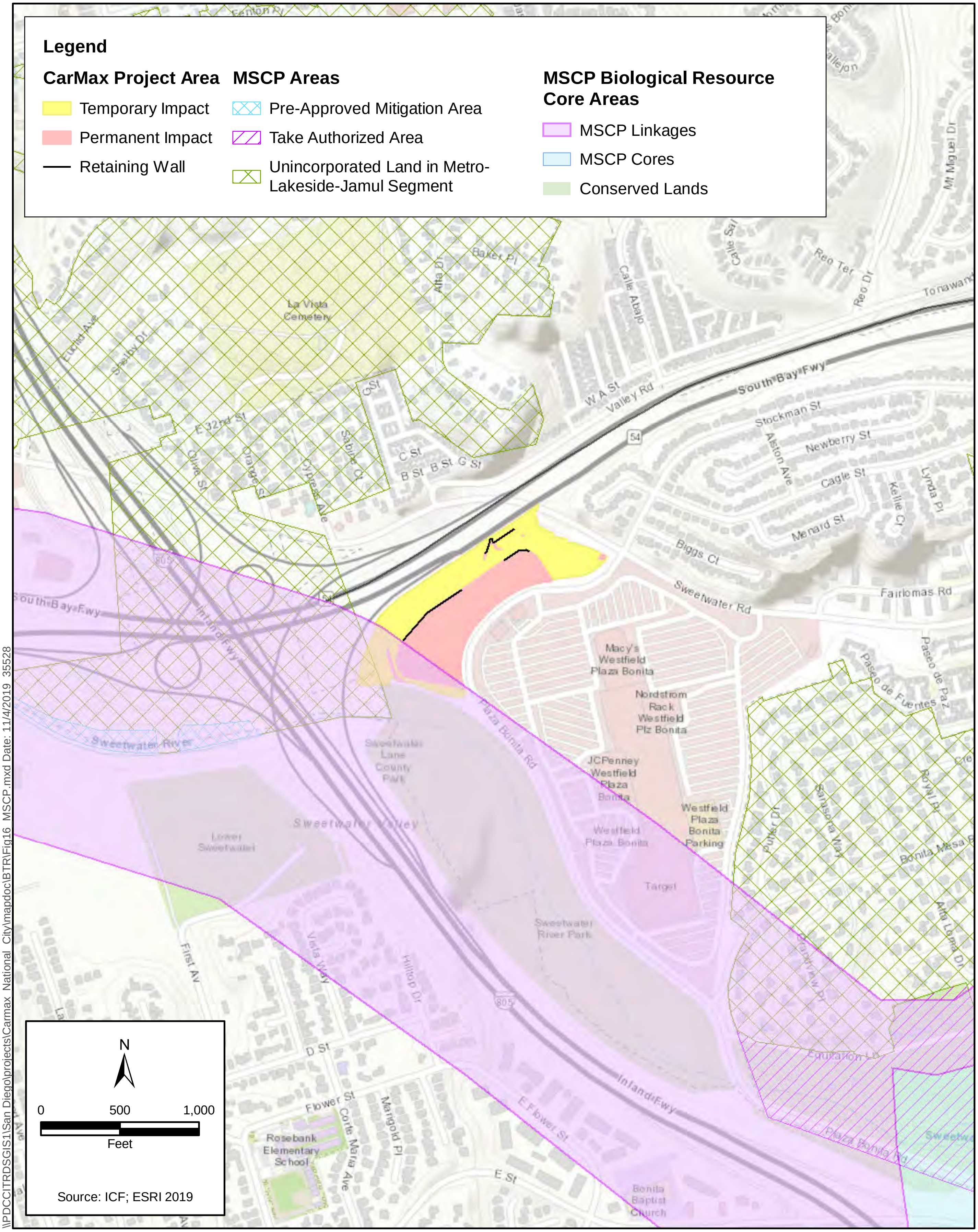

Figure 16
MSCP Area Boundaries
National City CarMax Project

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Appendix B

Survey Personnel and Survey Dates

Appendix B. Survey Personnel and Survey Dates

Survey Activity	Dates	Survey Personnel
Protocol Least Bell's Vireo Surveys	April 27; May 8 and 19; June 2, 16, 30; and July 14 and 24, 2015	Monica Alfaro, James Hickman, Amanda Parra, Dale Ritenour, and Paul Schwartz
Protocol Southwestern Willow Flycatcher Surveys	May 19; June 2, 16, and 30; and July14, 2015	Monica Alfaro
Protocol Coastal California Gnatcatcher Surveys	May 12 and 19; and June 2, 16, 23, and 30, 2015	Monica Alfaro
Vegetation Community Mapping	January 13, 2015	Dale Ritenour and Paul Schwartz
Jurisdictional Delineation	May 19; and July 6, 2015	Dale Ritenour and Paul Schwartz
Rare Plant Surveys	January 13; April 27; May 19 and 20; and July 6, 2015	Dale Ritenour and Paul Schwartz
CRAM Analysis	May 20, 2015	Dale Ritenour and Paul Schwartz
Protocol Light-footed Ridgway's Rail	April 10; April 18; April 26; May 8; May 15; May 22.	Konecny Biological Services; John Konecny

Appendix C

Jurisdictional Delineation Report

Jurisdictional Delineation Report National City CarMax Project, National City, San Diego County, California

Prepared for:

Centerpoint Integrated Solutions, LLC
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April 2017

ICF. 2017. Jurisdictional Delineation Report, National City CarMax Project, National City, San Diego County, California. April. (ICF 00265.15) Irvine, CA. Prepared for Centerpoint Integrated Solutions, LLC, Evergreen, Colorado.

Contents

Appendices

Tables

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Acronyms and Abbreviations

CDFW	California Department of Fish and Wildlife
CFR	Code of Federal Regulations
CWA	Clean Water Act
EPA	U.S. Environmental Protection Agency
FAC	facultative
FACU	facultative upland
FACW	facultative wetland
GPS	global positioning system
HUC	Hydrologic Unit Code
I	Interstate
JD	Jurisdictional Determination
NI	no indicator
NO	no occurrence
NRCS	Natural Resources Conservation Service
OBL	obligate
OHWM	Ordinary High Water Mark
Porter-Cologne Act	Porter-Cologne Water Quality Control Act
project	National City CarMax Project
Project Site	National City CarMax project site
RPW	relatively permanent water
RWQCB	Regional Water Quality Control Board
SR	State Route
SSURGO	Soil Survey Geographic
SWANCC	Solid Waste Agency of North Cook County
SWRCB	State Water Resources Control Board
TNW	traditional navigable water
UPL	upland
USACE	U.S. Army Corps of Engineers
USDA	U.S. Department of Agriculture
USGS	U.S. Geological Survey
WoS	waters of the State
WoUS	waters of the United States

Executive Summary

ICF conducted a routine-level delineation of jurisdictional waters and wetlands for the National City CarMax Project (project). The purpose of this delineation was to identify the extent of jurisdictional waters within and adjacent to the project site as part of the federal and state regulatory permitting process under Sections 401 and 404 of the Clean Water Act (CWA) and Section 1602 of the California Fish and Game Code. Relevant jurisdictions include federal jurisdiction regulated by the U.S. Army Corps of Engineers (USACE) as waters of the United States (WoUS) or USACE wetlands, state waters regulated by the State Water Resources Control Board (SWRCB) and Regional Water Quality Control Board (RWQCB), and aquatic features and associated riparian habitat regulated by the California Department of Fish and Wildlife (CDFW).

A total of five features were determined to be potentially subject to the jurisdiction of the USACE, RWQCB, and CDFW, three of which were determined to support areas that meet the criteria for USACE jurisdictional wetlands. In total, 1.29 acres of potential USACE jurisdiction was mapped within the study area, of which, 0.56 acre is comprised of USACE wetlands, and 2.56 acre of potential CDFW jurisdiction was mapped with the study area, of which 1.87 acre is comprised of vegetated riparian habitat.

Jurisdictional Delineation figures are attached as Appendix A. Ordinary High Water Mark data sheets and Wetland Determination Forms are included as Appendices B and C, respectively. Site Photographs are attached as Appendix D.

Chapter 1
Introduction

ICF has conducted a routine-level delineation of potentially jurisdictional waters and wetlands within the National City CarMax project study area (Study Area) (Appendix A, Figures 1 and 2) as part of the federal and state regulatory permitting process for Centerpoint Integrated Solutions, LLC.

The purpose of this delineation was to identify the extent of potential federal and state jurisdiction within the study area to support the resource-agency permitting process under Sections 401 and 404 of the Clean Water Act (CWA) as well as Section 13260 of the Porter-Cologne Water Quality Control Act (Porter-Cologne Act) and Section 1602 of the California Fish and Game Code.

Section 404 of the CWA covers waters of the United States (WoUS) as well as federal wetlands and is regulated by the U.S. Army Corps of Engineers (USACE). Under Section 401 of the CWA, the Regional Water Quality Control Board (RWQCB) authorized tribes or the U.S. Environmental Protection Agency (EPA) to regulate at the state level all activities that are regulated at the federal level by USACE. RWQCB/State Water Resources Control Board (SWRCB) may also regulate activities affecting non-federal waters and wetlands (e.g., isolated features) under the Porter-Cologne Act. Section 1600 of the California Fish and Game Code is regulated by the California Department of Fish and Wildlife (CDFW) and covers aquatic features, which may include lakes or streambeds with a defined bed and bank plus any adjacent riparian vegetation. If a proposed project may affect waters or wetlands, the Project Site must be evaluated to determine the presence of jurisdictional waters. Permits for the proposed activity must be sought from each applicable resource agency. Details regarding each of these resource agencies, their regulatory authority, jurisdiction, permits, and regulatory process are provided in Chapter 2, *Regulatory Background*.

The information and results presented herein document the investigation, best professional judgment, and conclusions of ICF. It is correct and complete to the best of our knowledge. However, all jurisdictional determinations should be considered preliminary until reviewed and approved by the regulatory agencies.

1.1 Project Description

The proposed development consists of the construction of a CarMax pre-owned automobile dealership, service building and non-public carwash with associated access drives, parking lots and landscaped areas. The proposed project will include a sales building with an attached presentation area, a service area and a detached non-public carwash.

1.2 Study Area Location

The study area is located within National City, San Diego County, California, just east of the Interstate (I) 805 and State Route (SR) 54 intersection (Appendix A, Figure 1). The study area is mapped within an un-sectioned portion (Township 17 South, Range 2 West) of the *National City, California*, U.S. Geological Survey (USGS) 7.5-minute topographic map quadrangle (USGS 1996) (Appendix A, Figure 2). The center of the study area is located at the following Universal Transverse Mercator coordinates: 493491 East, 3613481 North (WGS 84).

Chapter 2
Regulatory Background

The following sections summarize the regulations imposed on each type of jurisdictional feature potentially present within the study area.

2.1 U.S. Army Corps of Engineers Regulated Activities

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

2.1.1 Waters of the United States

WoUS, as defined in Code of Federal Regulations (CFR) title 33, section 328.3, includes the following.

(1) All waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;

(2) All interstate waters including interstate wetlands;

(3) All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use, degradation or destruction of which could affect interstate or foreign commerce including any such waters:

  (i) Which are or could be used by interstate or foreign travelers for recreational or other purposes; or

  (ii) From which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or

  (iii) Which are used or could be used for industrial purpose by industries in interstate commerce;

(4) All impoundments of waters otherwise defined as waters of the United States under the definition;

(5) Tributaries of waters identified in paragraphs (1) through (4) of this section;

(6) The territorial seas;

(7) Wetlands adjacent to waters (other than waters that are themselves wetlands) identified in paragraphs (1) through (6) of this section.

(8) Waters of the United States do not include prior converted cropland. Notwithstanding the determination of an area's status as prior converted cropland by any other Federal agency, for the purposes of the Clean Water Act, the final authority regarding Clean Water Act jurisdiction remains with EPA.

> Waste treatment systems, including treatment ponds or lagoons designed to meet the requirements of CWA (other than cooling ponds as defined in 40 CFR 423.11(m) which also meet the criteria of this definition) are not waters of the United States.

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

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

2.1.2 Wetlands

Normally, three criteria must be satisfied to classify an area as a jurisdictional wetland: (1) a predominance of plant life that is adapted to life in wet conditions (hydrophytic vegetation); (2) soils that saturate, flood, or pond long enough during the growing season to develop anaerobic conditions in the upper part (hydric soils); and (3) permanent or periodic inundation or soils saturation, at least seasonally (wetland hydrology) (Environmental Laboratory 1987).

2.1.3 Solid Waste Agency of Northern Cook County v. United States Army Corps of Engineers

In 1986, in an attempt to clarify the reach of its jurisdiction, USACE stated that Section 404(a) extends to intrastate waters that

> …(a) are or would be used as habitat by birds protected by migratory bird treaties, or (b) are or would be used as habitat by other migratory birds which cross state lines, or (c) are or would be used as habitat for endangered species, or (d) used to irrigate crops sold in interstate commerce."
> (51 *Federal Register* 41217).

As a result of the 2001 *Solid Waste Agency of Northern Cook County (SWANCC)* case, the U.S. Supreme Court held that USACE may not rely on the Migratory Bird Rule to establish a significant nexus to interstate or foreign commerce. Although no formal guidance was issued by USACE interpreting the extent to which the *SWANCC* decision would limit jurisdictional determinations, in practice USACE considers intrastate waters as WoUS where there is an appropriate connection to a navigable water or other clear interstate commerce connection. Therefore, WoUS, including jurisdictional wetlands, must show connectivity with (be tributary to) a navigable WoUS to be subject to USACE under Section 404 of the CWA.

2.1.4 Rapanos v. United States and Carabell v. United States Army Corps of Engineers

In 2006, the U.S. Supreme Court issued an opinion regarding the extent of USACE jurisdiction over certain waters under Section 404 of the CWA. The *Rapanos-Carabell* consolidated decisions addressed the question of jurisdiction over attenuated tributaries to WoUS, as well as wetlands adjacent to those tributaries.

On June 5, 2007, USACE and EPA issued guidance related to the *Rapanos* decision. The guidance identifies those waters over which the agencies (USACE and EPA) will assert jurisdiction categorically and on a case-by-case basis. To summarize, USACE will continue to assert jurisdiction over the following features.

- Traditional navigable waters (TNWs) and their adjacent wetlands
- Non-navigable tributaries of TNWs that are relatively permanent waters (RPWs) (e.g., tributaries that typically flow year-round or have a continuous flow at least seasonally [i.e., typically 3 months]) and wetlands that directly abut such tributaries (i.e., not separated by uplands, berm, dike, or similar feature)

For non-RPWs, the agencies will determine whether a "significant nexus" exists with a TNW using the data found in an Approved Jurisdictional Determination (JD) Form. The purpose of the significant nexus evaluation is to determine whether the existing functions of a tributary affect the chemical, physical, and/or biological integrity of a downstream TNW. Tributary characteristics that are considered when evaluating whether a significant nexus exists include volume, duration, and frequency of flow; proximity to a TNW; and hydrologic and ecologic functions performed by the tributary and all of its adjacent wetlands. Based on that information, the agencies may assert jurisdiction over the following features.

- Nonnavigable tributaries that do not typically flow year-round or have continuous flow at least seasonally
- Wetlands adjacent to such tributaries
- Wetlands adjacent to but not directly abutting a relatively permanent nonnavigable tributary

The agencies will typically not assert jurisdiction over the following features.

- Swales or erosional features (e.g., gullies and small washes characterized by low volume and infrequent or short-duration flow)
- Ditches (including roadside ditches) excavated wholly in uplands and draining only uplands that do not carry a relatively permanent flow of water

Approved Jurisdictional Determinations

An Approved JD is an official USACE jurisdictional determination, is valid for 5 years, can be used and relied upon in a CWA citizen's lawsuit if its legitimacy is challenged (except under extraordinary circumstances), and can be immediately appealed (33 CFR 331). Approved JDs are documented in accordance with Regulatory Guidance Letter No. 07-01 and require the use of the Approved JD Form. Approved JDs are evaluated by USACE and EPA.

Under the *Rapanos* guidance, an Approved JD is required for determinations for all "isolated" waters or wetlands, and is subject to review by USACE and EPA.

Preliminary Jurisdictional Determinations

USACE issued Regulatory Guidance Letter No. 08-02 on June 26, 2008, allowing USACE to issue Preliminary JDs for a project. A Preliminary JD is a non-binding written indication that there may be WoUS, including wetlands, on a project site and identifies the approximate location of these features. Preliminary JDs are used when a landowner, permit applicant, or other affected party elects to voluntarily waive or set aside questions regarding CWA jurisdiction over a particular site, usually in the interest of allowing the landowner to move ahead expeditiously to obtain Section 404 authorization where the party determines that it is in his or her best interest to do so. A Preliminary JD is not an official determination regarding the jurisdictional status of potentially jurisdictional features and has no bearing on Approved JDs. A Preliminary JD cannot be used to confirm the absence of jurisdictional waters or wetlands, is advisory in nature, and cannot be appealed. It is considered "preliminary" because a recipient can later request an Approved JD if one is necessary or appropriate.

A Preliminary JD is documented using the Preliminary JD Form. For purposes of impact calculations, compensatory mitigation requirements, and other resource protection measures, a permit decision made on the basis of a Preliminary JD treats all waters and wetlands that would be affected in any way, except by the permitted activity, as if they are jurisdictional. Although a Preliminary JD may be chosen by the applicant, the district engineer reserves the right to use an Approved JD where warranted.

2011 Draft Clean Water Act Guidance

On April 27, 2011, USACE and EPA issued draft guidance for determining jurisdiction under the CWA. The guidance supersedes the previous guidance from 2003 regarding *SWANCC* (68 *Federal Register* 1991–1995) and 2007 *Rapanos* guidance. This document reiterated the guidance issued under the *Rapanos* decision, asserting that the following waters are protected by the CWA.

- Traditional navigable waters
- Interstate waters
- Wetlands adjacent to either traditional navigable waters or interstate waters
- Nonnavigable tributaries to traditional navigable waters that are relatively permanent (meaning they contain water at least seasonally)
- Wetlands that directly abut relatively permanent waters

The guidance further clarifies the criteria for defining TNWs, primarily consistent with previous guidance. In addition, a significant nexus evaluation is required for the "other waters" category of the regulations (see item 3 in Section 2.1.1 above). The guidance divides these waters into two categories—those that are physically proximate to other jurisdictional waters and those that are not, and discusses how each category should be evaluated.

Finally, the guidance reiterated that certain aquatic areas are generally not considered WoUS.

- Wet areas that are not tributaries or open waters and do not meet the agencies' regulatory definition of "wetlands"
- Waters excluded from coverage under the CWA by existing regulations
- Waters that lack a "significant nexus" where one is required for a water to be protected by the CWA
- Artificially irrigated areas that would revert to upland should irrigation cease
- Artificial lakes or ponds created by excavating and/or diking dry land and used exclusively for such purposes as stock watering, irrigation, settling basins, or rice growing

- Artificial reflecting pools or swimming pools created by excavating and/or diking dry land
- Small ornamental waters created by excavating and/or diking dry land for primarily aesthetic reasons
- Water-filled depressions created incidental to construction activity
- Groundwater drained through subsurface drainage systems
- Erosional features (gullies and rills), and swales and ditches that are not tributaries or wetlands

2.2 Activities Regulated by the State

2.2.1 Section 401 of the Clean Water Act

A federal permit or license cannot be issued that may result in a discharge to WoUS unless certification under Section 401 of the CWA is granted or waived by EPA, state, or tribe where the discharge would originate (EPA 2010). Within the proposed project area, the ability to grant, grant with conditions, deny, or waive certification falls to three separate parties: RWQCB (or SWRCB), EPA and the Twenty-Nine Palms Band of Mission Indians.

Pursuant to Section 401 of the CWA,

> …any applicant for a federal permit for activities that involve a discharge to waters of the United States shall provide the federal permitting agency a certification from the state in which the discharge is proposed that states that the discharge will comply with the applicable provisions under the federal Clean Water Act.

Therefore, before USACE will issue a Section 404 permit, applicants must apply for and receive a Section 401 water quality certification or waiver, as applicable. Under Section 401 of the CWA, all activities that are regulated at the federal level by USACE are also regulated at the state level. Therefore, state jurisdiction usually includes all waters or tributaries to waters that are determined to be WoUS and, similar to WoUS, are typically delineated at the OHWM.

However, if waters are determined not to be WoUS, they may still be subject to state jurisdiction based on the Porter-Cologne Act.

2.2.2 Porter-Cologne Water Quality Control Act

The state also regulates activities that would involve "discharging waste, or proposing to discharge waste, within any region that could affect waters of the state" (California Water Code 13260(a)), pursuant to provisions of the state Porter-Cologne Act. Waters of the State (WoS) are defined as "any surface water or groundwater, including saline waters, within the boundaries of the state" (California Water Code 13050(e)). Such waters may include waters not subject to regulation under Section 404 (i.e., isolated features). These waters may include isolated vernal pools, isolated wetlands, or other aquatic habitats not normally subject to federal regulation under Section 404 of the CWA.

2.2.3 Regulating Agencies

State Water Resources Control Board/Regional Water Quality Control Board Regulated Activities

In California, SWRCB and the nine RWQCBs regulate activities within state and federal waters under Section 401 of the CWA and the state Porter-Cologne Act. SWRCB is responsible for setting statewide policy, coordinating and supporting RWQCB efforts, and reviewing petitions that contest RWQCB actions. Each semi-autonomous RWQCB sets water quality standards, issues Section 401 certifications and waste discharge requirements, and takes enforcement action for projects occurring within its boundary. However, when a project crosses multiple RWQCB jurisdictional boundaries, SWRCB becomes the regulating agency for both of these acts and issues project permits.

2.3 California Department of Fish and Wildlife Regulated Activities

Pursuant to Sections 1600–1616 of the California Fish and Game Code, CDFW regulates any activity that will substantially divert or obstruct the natural flow—or substantially change or use any material from the bed, channel, or bank—of any river, stream, or lake. CDFW also regulates any activity that will deposit or dispose of debris, wastewater, or other material containing crumbled, flaked, or ground pavement that may pass into any river, stream, or lake. The applicant must notify CDFW prior to such activities and obtain a Lake or Streambed Alteration Agreement.

2.3.1 California Department of Fish and Wildlife Jurisdiction

CDFW jurisdiction includes ephemeral, intermittent, and perennial watercourses (including dry washes) and lakes characterized by the presence of (1) definable bed and banks, and (2) existing fish or wildlife resources. Furthermore, CDFW jurisdiction is often extended to habitats adjacent to watercourses, such as oak woodlands in canyon bottoms or willow woodlands that support hydrologic functions within the riparian system. CDFW jurisdiction typically does not include features without a discernible bed and bank, such as swales, vernal pools, or wet meadows.

2.3.2 Section 1602 of the California Fish and Game Code

The California Fish and Game Code mandates that

> it is unlawful for any person to substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake designated by the department, or use any material from the streambeds, without first notifying the department of such activity.

Historical court cases have further extended CDFW jurisdiction to include watercourses that seemingly disappear but re-emerge elsewhere. Under the CDFW definition, a watercourse need not exhibit evidence of an OHWM to be claimed as jurisdictional.

Water features such as vernal pools and other seasonal swales where the defined bed and bank are absent and the feature is not contiguous or closely adjacent to other jurisdictional features are generally not asserted to fall within state jurisdiction under Section 1602. CDFW generally does not assert jurisdiction over human-made water bodies unless they are where such natural features were previously located or (importantly) contiguous with existing or prior natural jurisdictional areas.

Chapter 3
Methodology

3.1 Research

Prior to the field visit, a 200-foot-scale (1 inch = 200 feet) aerial photograph of the JD study area was obtained and compared with the National City, California, USGS 7.5-minute topographic quadrangle and Google Earth (Google Earth 2015) imagery (dated April 14, 2015) to identify drainage features within the study area as indicated by vegetation types, topographic changes, or visible drainage patterns.

In addition, the following sources were reviewed during the preparation of this report.

- National Hydrography Dataset (USGS 2015) (Appendix A, Figure 3)
- Federal Emergency Management Agency 100-year floodplain maps (U.S. Department of Homeland Security 2015) (Appendix A, Figure 4)
- Hydrologic Unit Code (HUC) 10 Watershed Map - Calwater 2.2.1 (California Department of Forestry and Fire Protection 2015) (Appendix A, Figure 5a)
- HUC 8 Watershed Map—Calwater 2.2.1 (California Department of Forestry and Fire Protection 2015) (Appendix A, Figure 5b)
- U.S. Department of Agriculture (USDA), Natural Resources Conservation Service (NRCS) Soil Survey Geographic (SSURGO) database (USDA/NRCS 2011a) (Appendix A, Figure 6)
- National Wetlands Inventory Map (U.S. Fish and Wildlife Service 2015) (Appendix A, Figure 7)

3.2 Field Investigation

ICF biologists Paul Schwartz and Dale Ritenour conducted the jurisdictional waters and wetland delineation within the original 18.37-acre JD study area on May 19, 2015. The JD study area consisted of the project parcel. A follow up visit was conducted on July 6, 2015. The survey was conducted on foot, and jurisdictional limits were recorded using high-resolution aerial photographs (1 inch=200 feet) and a sub-meter accuracy Trimble global positioning system (GPS) unit. Existing conditions were documented as field notes and site photographs.

Common plant species observed were identified by visual characteristics and morphology in the field. Taxonomic nomenclature for plants follows the *Jepson Manual: Vascular Plants of California* (Baldwin et al. 2012).

Following design revisions in 2017, the project area was expanded to include portions of the surrounding Caltrans right of way and to include a section of the levee separating the project site and the Sweetwater River. Because of these revisions, the JD study area was expanded to 27.93 acres, and a desktop delineation was conducted to evaluate the additional study area for potentially jurisdictional features.

3.2.1 U.S. Army Corps of Engineers Jurisdiction

Potential WoUS and wetlands were delineated using methods established in the *Wetland Delineation Manual* (Environmental Laboratory 1987), the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* (USACE 2008a), *A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States* (USACE 2008b), and *Draft Guidance on Identifying Waters Protected by the Clean Water Act* (USACE/EPA 2011). Non-wetland waters were delineated based on the presence of OHWM indicators, and OHWM data sheets were recorded where appropriate (i.e., named blue-line features (lakes, streams, irrigation ditches, and other hydrographic features as depicted on USGS topographic maps) and are attached as Appendix B. Several parameters were considered to determine whether the sample point is within a wetland. Three criteria normally must be fulfilled in order to classify an area as a jurisdictional USACE wetland: (1) a predominance of hydrophytic vegetation, (2) the presence of hydric soils, and (3) the presence of wetland hydrology. Details of the application of these techniques are described below.

- **Hydrophytic Vegetation:** The hydrophytic vegetation criterion is satisfied at a location if greater than 50% of all the dominant species present within the vegetation unit have a wetland indicator status of obligate (OBL), facultative wetland (FACW), or facultative (FAC) (Environmental Laboratory 1987). An OBL indicator status refers to plants that have a 99% probability of occurring in wetlands under natural conditions. A FACW indicator status refers to plants that usually occur in wetlands (67–99% probability) but are occasionally found elsewhere. A FAC indicator status refers to plants that are equally likely to occur in wetlands or elsewhere (estimated probability 34–66% for each). An NI (no indicator) status designates that insufficient information was available to determine an indicator status. An NO (no occurrence) status indicates that the species does not occur in the region; when a plant with an NO status is found within a region, it usually indicates that the plant is ornamental. The wetland indicator status used for this report follows the *Arid West 2014 Regional Wetland Plant List* (USACE 2014).
- **Hydric Soils:** The definition of a hydric soil is a soil that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part (USDA/NRCS 1994). This determination is made based on various field indicators detailed in the *Arid West Supplement* and the *Field Indicators of Hydric Soils in the United States (Version 7.0)* (USDA/NRCS 2010).
- **Wetland Hydrology:** Wetland hydrology is determined using indicators of inundation or saturation (flooding, ponding, or tidally influenced) detailed in the *Wetland Delineation Manual* and the *Arid West Supplement*.

Soil pits were dug to examine soil color and texture at areas that exhibited the highest potential to meet the aforementioned wetland criteria. Wetland determination forms are attached as Appendix C.

3.2.2 State Jurisdiction

Evaluation of state jurisdiction followed guidance from Section 401 of the CWA and typically follows the same jurisdictional areas as USACE.

3.2.3 California Department of Fish and Wildlife Jurisdiction

CDFW jurisdiction typically includes water features with a defined bed and bank. Evaluation of potentially jurisdictional areas followed the guidance of standard practices by CDFW personnel. Briefly, CDFW jurisdiction was delineated by measuring outer width and length boundaries of potentially jurisdictional areas (lakes or streambeds), consisting of the greater of either the top of bank measurement or the extent of associated riparian or wetland vegetation.

Chapter 4
Environmental Setting

The following section describes the topography, land use, hydrology, vegetation characteristics, and soils associated with the study area.

4.1 Topography

The majority of the flows within the study area originate from un-named features located northwest and northeast of the Project Site. The majority of the upstream and contributing watershed is developed with both residential and commercial uses and most of the stream features now exist as underground features. Immediately downstream of the study area is the Sweetwater River, a major river in San Diego County (Appendix A, Figure 2). Both the un-named blue line features located above the study area as well as the Sweetwater River are depicted as having intermittent flows on the National City, California, USGS topographic map (USGS 1996).

The study area resembles a basin as it is lower than the surrounding lands and has a relatively level bottom and slopes on the west, north and east side. Within the study area the elevation ranges from approximately 20 to 30 feet above mean sea level. The study area contains five features (Features 1, 1b, 2, 2b, and 3), all of which originate from culverts. Features 1b, 2, and 2b on the site convey flows into the main feature (Feature 1), which in turn conveys flows through a box culvert to Feature 3, where flows enter the Sweetwater River drainage. A large rip-rap slope is located at the south end of the study area that would direct flows to the culvert at the downstream end of Feature 1.

4.2 Land Use

A variety of land uses occur within the vicinity of the study area including regional transportation uses associated with I-805 and SR 54 to the west and north, residential uses to the north, commercial uses associated with the Plaza Bonita Mall to the east and natural areas with recreational use associated with the Sweetwater River to the south. The study area has been subject to long term inhabitation by the local homeless population and contains several “home” sites that have been inhabited for several years. In addition it appears that the study area is used as a recreation site for paintball enthusiasts. The study area contains many trails and paths and contains a variety of trash and debris including shopping carts, tarps, old clothing and wood scraps. Much of the trash and debris is located in the stream features.

4.3 Hydrology

4.3.1 Precipitation

Average precipitation for the National City, California, area (Chula Vista) is approximately 9.73 inches per year (Western Regional Climate Center 2015). Table 4-1 summarizes the average precipitation per month and annually for the general vicinity of the study area.

Table 4-1. Regional Rainfall Data Summary for the Study Area (in inches)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Average	1.76	1.92	1.61	0.82	0.21	0.05	0.02	0.06	0.16	0.51	0.98	1.63	9.73

Data Source: Western Regional Climate Center: http://www.wrcc.dri.edu. Accessed January 2015.

4.4 Hydrologic Units/Watersheds

The Project Site is within the Lower Sweetwater River Hydrologic Unit (HUC 10) of the Sweetwater River Watershed, which in turn is within the San Diego Hydrologic Unit (HUC 8) (Appendix A, Figures 5a and 5b, respectively). General information on the Sweetwater River Watershed is provided below.

4.4.1 Description of Sweetwater River Watershed

The study area is within the Lower Sweetwater River Hydrologic Unit (Appendix A, Figure 5a), which, along with the Middle Sweetwater River and Upper Sweetwater River Hydrologic Units, composes the larger Sweetwater River watershed (San Diego County Project Clean Water 2015).

The Sweetwater River watershed comprises approximately 230 square miles and is the largest of the three watersheds that border San Diego Bay (San Diego County Project Clean Water 2015). The watershed contains the cities of San Diego, La Mesa, Lemon Grove, National City, Chula Vista, Pine Valley, Descanso, Alpine, and includes Viejas tribal lands. Approximately 300,000 people currently reside within the Sweetwater River watershed. Major bodies of water within the watershed include the Sweetwater River, Sweetwater Reservoir, Loveland Reservoir, and San Diego Bay (San Diego County Project Clean Water 2015). Land use within the watershed consists of 29% urban, 22% open space/agricultural, and 49% undeveloped. The watershed contains a variety of natural habitats including oak and pine woodlands, riparian forest, chaparral, coastal sage scrub, and coastal salt marsh (San Diego County Project Clean Water 2015). Important watershed issues include protection of municipal water supplies, and the protection and restoration of sensitive wetland and wildlife habitats. Major issues within the watershed include surface and groundwater quality degradation, habitat loss and degradation, and invasive species (San Diego County Project Clean Water 2015).

4.5 Vegetation Summary

Fourteen vegetation communities/land uses were mapped within the 27.93-acre study area, which consisted of the project parcel, areas of impacts, and a 100-foot buffer. Vegetation communities were classified based on the dominant and characteristic plant species, in accordance with the *Vegetation Classification Manual for Western San Diego County* (AECOM, California Department of Fish and Game Classification and Mapping Program and Conservation Biology Institute 2011). All *Vegetation Classification Manual for Western San Diego County* vegetation alliances were cross-walked to the modified Holland classification system (Oberbauer et al. 2008; Holland 1986). Additionally, vegetation community types and land cover types that are not covered by the *Vegetation Classification Manual for Western San Diego County* (e.g., nonnative riparian, nonnative woodland, disturbed habitat, and urban/developed) are described using the modified Holland classification system (Oberbauer et al. 2008; Holland 1986).

4.5.1 Arroyo Willow Thickets

Approximately 1.69 acres of the study area are composed of Arroyo Willow Thickets. Areas supporting this vegetation community are dominated by arroyo willow (*Salix lasiolepis*, FACW) and other willows such as Gooding's willow (*Salix gooddingii*, FACW) and red willow (*Salix lasiandra*, FACW). In addition, this vegetation community supports native species such as mulefat (*Baccharis salicifolia*, FAC), Southern California black walnut (*Juglans californica*, FAC), western ragweed (*Ambrosia psilostachya*, facultative upland [FACU]), and mugwort (*Artemisia douglasiana,* FAC). Nonnative species within this vegetation community include Canary Island date palm (*Phoenix canariensis*, upland [UPL]), Mexican fan palm (*Washingtonia robusta*, FACW), tree of heaven (*Ailanthus altissima*, UPL), and Brazilian pepper tree (*Schinus terebinthifolia*, FAC). The majority of this vegetation community is associated with the upper portion of Feature 1.

4.5.2 Cattail Marshes

Approximately 0.43 acre of the study area is composed of Cattail Marshes. Areas supporting this vegetation community are dominated by cat-tail (*Typha latifolia*, OBL). Other species present within this community include bulrush (*Schoenoplectus americanus,* OBL), California bulrush (*Schoenoplectus californicus*, OBL), mugwort (*Artemisia douglasiana*, FAC), and bristly ox-tongue (*Helminthotheca echioides**,[1] FACU). This vegetation community is located within the upper portion of Feature 1.

4.5.3 Cottonwood Tree

Approximately 0.08 acre of the study area is composed of Cottonwood Trees. Areas supporting this vegetation community are dominated by black cottonwood (*Populus balsamifera**, FAC). The understory of this community consisted of nonnative grasses and herbs such as rip-gut brome (*Bromus diandrus**, UPL), garland chrysanthemum (*Chrysanthemum coronarium**, UPL), and Bermuda grass (*Cynodon dactylon**, FACU).

4.5.4 Coyote Brush Scrub

Approximately 0.02 acre of the study area is composed of Coyote Brush Scrub. Areas supporting this vegetation community are dominated by coyote brush (*Baccharis pilularis*, UPL). Additional species present include garland chrysanthemum (*Chrysanthemum coronarium**, UPL), iceplant (*Carpobrotus edulis**, UPL) and rip-gut brome (*Bromus diandrus**, UPL).

4.5.5 Mule-Fat Thickets

Approximately 0.09 acre of the study area is composed of Mule-Fat Thickets. Areas supporting this vegetation community are dominated by mulefat (*Baccharis salicifolia*, FAC) but may also include species from adjacent vegetation communities. This community is chiefly associated with the drainage features in the study area but several patches of mulefat (*Baccharis salicifolia*, FAC) are located in the upland portions of the study area and are not associated with a drainage feature.

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[1] * denotes a species that is considered nonnative to California. Nonnative determinations are based on *The Jepson Manual: Vascular Plants of California*. Second Edition (Baldwin et al. 2012).

4.5.6 Red Willow Thickets

Approximately 1.26 acres of the buffer area is composed of Red Willow Thickets. Areas supporting this vegetation community are dominated by red willow (*Salix lasiandra*, FACW) and other willows such as Goodding's willow (*Salix gooddingii*, FACW). In addition, this vegetation community supports native species such as mulefat (*Baccharis salicifolia*, FAC), western ragweed (*Ambrosia psilostachya*, FACU), and mugwort (*Artemisia douglasiana*, FAC). Nonnative species within this vegetation community include Canary Island date palm (*Phoenix canariensis*, upland [UPL]), Mexican fan palm (*Washingtonia robusta*, FACW), tree of heaven (*Ailanthus altissima*, UPL), and Brazilian pepper tree (*Schinus terebinthifolia*, FAC). The majority of this vegetation community is community is distributed along the Sweetwater River.

4.5.7 San Diego Sunflower Scrub

Approximately 0.10 acre of the study area is composed of San Diego Sunflower Scrub. This vegetation community is dominated by San Diego sunflower (*Bahiopsis laciniata*, UPL). Additional plants within this vegetation community include brittlebush (*Encelia farinosa*, UPL), garland chrysanthemum (*Chrysanthemum coronarium**, UPL), and rip-gut brome (*Bromus diandrus**, UPL). This vegetation community is present in the southern portion of the study area and has a overstory of eucalyptus (*Eucalyptus polyanthemos/globulus**, UPL).

4.5.8 Sycamore Trees

Approximately 0.11 acre of the study area is composed of Sycamore Trees. This vegetation community is dominated by western sycamore (*Platanus racemosa*, FAC). Additional plants within this vegetation community include garland chrysanthemum (*Chrysanthemum coronarium**, UPL), wild radish (*Raphanus sativa**, UPL) and rip-gut brome (*Bromus diandrus**, UPL).

4.5.9 Disturbed Habitat

Approximately 6.87 acres of the study area are composed of Disturbed Habitat. These areas consists of bare ground in the form of footpaths and other previously disturbed areas that are dominated by ruderal nonnative species such as garland chrysanthemum (*Chrysanthemum coronarium**, UPL), Russian thistle (*Salsola tragus**, FACU), and rip-gut brome (*Bromus diandrus**, UPL). This vegetation community occurs throughout the upland portions of the study area.

4.5.10 Eucalyptus Groves

Approximately 3.65 acres of the study area are dominated by Eucalyptus Groves. This vegetation community is dominated by Tasmanian blue gum (*Eucalyptus globulus**, UPL) and silver dollar gum (*Eucalyptus polyanthemos**, UPL). This vegetation community is present throughout the upland portions of the study area.

4.5.11 Giant Reed Breaks

Approximately 2.59 acres of the study area are composed of Giant Reed Breaks. Areas supporting this vegetation community are dominated by giant reed (*Arundo donax*, FACW). Additional plants within this vegetation type consist of rip-gut brome (*Bromus diandrus*, UPL), iceplant (*Carpobrotus* *edulis**, UPL), castor bean (*Ricinus communis**, FACU), tamarisk (*Tamarisk ramosissima*, FAC), and Bermuda grass (*Cynodon dactylon**, FACU). The majority of this vegetation type is associated with Features 2 and 2b and the downstream portion of Feature 1.

4.5.12 Naturalized Warm-Temperate Riparian and Wetland Semi-Natural Stands

Approximately 0.14 acre of the study area is composed of Naturalized Warm-Temperate Riparian and Wetland Semi-Natural Stands. Areas supporting this vegetation community contain a variety of herbaceous grasses and forbs including rabbit's-foot grass (*Polypogon monspeliensis**, FACW), tall flat sedge (*Cyperus eragrostis*, FACW), perennial rye grass (*Festuca perennis**, FAC), curly dock (*Rumex crispus**, FAC), bristly ox-tongue (*Helminthotheca echioides**, FACU), and Bermuda grass (*Cynodon dactylon**, FACU). Small intermittent patches of cat-tail (*Typha latifolia*, OBL) and bulrush (*Schoenoplectus americanus*, OBL, and *Schoenoplectus californicus*, OBL) occur throughout the vegetation type. This vegetation type comprises the channel bottom within portions of Feature 1.

4.5.13 Nonnative Riparian

Approximately 0.37 acre of the study area is composed of Nonnative Riparian vegetation community. This community comprises several woody and herbaceous nonnative species including tamarisk (*Tamarisk ramosissima**, FAC), Mexican fan palm (*Washingtonia robusta**, FACW), Canary Island date palm (*Phoenix canariensis**, UPL), Shamel ash (*Fraxinus uhdei**, UPL), Brazilian pepper tree (*Schinus terebinthifolia**, FAC), and castor bean (*Ricinus communis**, FACU). Herbaceous species can include wild radish (*Raphanus sativa**, UPL), white sweet clover (*Melilotus albus**, UPL), curly dock (*Rumex crispus**, FAC), bristly ox-tongue (*Helminthotheca echioides**, FACU), and smilo grass (*Stipa miliaceum**, UPL). This vegetation community occurs in several small patches throughout the riparian portions of the study area.

4.5.14 Nonnative Woodland

Approximately 2.39 acre of the study area is composed of Nonnative Woodland. The nonnative woodland vegetation community comprises several nonnative species including Brazilian pepper tree (*Schinus terebinthifolia*, FAC), bottlebrush tree (*Melaleuca* sp.*, UPL), tree of heaven (*Ailanthus altissima**, UPL), acacia (*Acacia* sp.*, UPL), and Mexican fan palm (*Washingtonia robusta*, FACW). Herbaceous species include garland chrysanthemum (*Chrysanthemum coronarium**, UPL), western ragweed (*Ambrosia psilostachya*, FACU), wild radish (*Raphanus sativa**, UPL), smilo grass (*Stipa miliaceum**, UPL), rip-gut brome (*Bromus diandrus**, UPL), perennial rye grass (*Festuca perennis**, FAC), and Bermuda grass (*Cynodon dactylon**, FACU). This vegetation community occurs throughout the upland portions of the study area.

4.5.15 Urban/Developed

Approximately 8.14 acre of the study area is composed of Urban/Developed lands. This land use consists of paved pedestrian paths, rip-rap, and box culverts. The majority of the Urban/Developed lands are located in the southern portion of the study area.

4.6 Soils

4.6.1 Soil Series

NRCS has mapped the following soil series as occurring within the study area based on the SSURGO database (USDA/NRCS 2011a): Chino Silt Loam, Saline 0-2 Percent Slopes. Appendix A, Figure 6 depicts the project study area and the SSURGO data.

A description of all of the series is provided below based on the official soil descriptions provided by USDA (USDA/NRCS 2011b).

Chino Silt Loam, Saline 0-2 Percent Slopes

The Chino Series consists of poorly drained soils that formed in alluvial material from granite rock sources. Chino soils are located in basins and floodplains from near sea level to 3,100 feet elevation. Many areas mapped as consisting of Chino series soils have been drained by stream channel entrenchment or reduction of groundwater via pumping. Runoff for this soil series is considered slow to very slow and permeability is moderately slow. Soils are usually moist between 4 to12 inches from November to May and are dry the remaining portions of the year. Chino soils are commonly used for grazing, with drained areas for growing irrigated crops. Typical vegetation consists of annual grasses, weeds, and shrubs.

4.6.2 Project Area Hydric Soil Types and Map Units

The Chino Silt Loam, Saline 0-2 Percent Slopes soil type or map unit mapped within the study area is identified on the March 2014 National Hydric Soils List (NRCS/USDA 2014) and the San Diego Hydric Soils List (Department of Planning and Land Use, County of San Diego 2007).

Chapter 5
Jurisdictional Delineation Results

This chapter describes the delineated features and expected jurisdictional status within the study area. This report documents existing conditions within the study area. An impact analysis is not included as a part of this report.

The information and results included herein document the investigation, best professional judgment, and conclusions of ICF. It is correct and complete to the best of our knowledge. However, all jurisdictional determinations should be considered preliminary until reviewed and approved by the regulatory agencies.

Detailed information, including maps of jurisdictional features within the study area, Ordinary High Water Mark Data Sheets, Wetland Determination Forms, and site photographs are attached as Appendices A through D.

- Appendix A, Figures 8a and 8b provide aerial maps depicting the delineated features and project study area.
- Appendix B contains Ordinary High Water Mark Data Sheets.
- Appendix C contains Wetland Determination Forms.
- Appendix D contains photographs of the jurisdictional features, referenced by the reach and feature name.

5.1 Delineated Feature Descriptions

The study area contains five features that meet the definition of a potential WoUS and contains areas that meet the definition of a USACE wetland as regulated by USACE under Section 404 of the CWA. As such, these four features would be regulated by RWQCB under Section 401 of the CWA and considered a water of the state under the Porter-Cologne Act. In addition, these features within the study area meet the definition of an aquatic feature with a definable bed and banks that would be regulated by CDFW under Sections 1600–1616 of the California Fish and Game Code. These features and the respective jurisdictional limits are depicted on Figures 8a and 8b. Four of the features (Features 1, 1b, 2, and 2b) in the study area originate from separate culverts and confluence into one main feature (Feature 1), which then conveys flows to Feature 3 through a box culvert located at the southern end of the study area. Feature 3 is within the Sweetwater River floodplain and conveys flows to the low-flow channel of the Sweetwater River, which then flows 3 miles before terminating at San Diego Bay; thus, is a direct tributary to the Pacific Ocean.

5.1.1 Feature 1

Feature 1 conveys flows that originate from a large 25-foot-wide box culvert located in the northeast corner of the study area to the 8-foot-wide box culvert located at the southern end of the study area. Feature 1 consists of an earthen bed and, at the time of the delineation, the upper 1,100 feet of Feature 1 contained standing water while the remainder was dry. Feature 1 transports a large amount of sandy sediment and debris from the upstream watershed as evidenced by large sediment splays located just below the box culvert at the north end of the study area and sediment-choked channels just below the extent of the standing water. The upper portion of Feature 1 receives high-velocity flows and is in a more dynamic state relative to the downstream portions, where the channel is closer to equilibrium. This is evidenced by the large amount of sediment, debris wracking, the lack of readily definable terraces, and a relatively wide OHWM in the upper end of the feature. In contrast, the lower portion of the feature has well-defined channels with multiple terraces.

Feature 1 supports a mixture of vegetation including native species typically present in riparian areas as well as nonnative ornamental species. The upper portion of the feature supports a dense canopy of arroyo willow (*Salix lasiolepis*, FACW) with scattered individuals of Southern California walnut (*Juglans californica*, FAC) and mulefat (*Baccharis salicifolia*, FAC) on the edges. Nonnative species present in the upper portion of Feature 1 consist of Mexican fan palm (*Washingtonia robusta**, FACW), blue gum eucalyptus (*Eucalyptus globulus**, UPL), tree of heaven (*Ailanthus altissima**, UPL), and Brazilian pepper tree (*Schinus terebinthifolia**, FAC). The understory of the upper portion of Feature 1 is sparse where the willow canopy is dense. In more open areas, the understory contains stands of southern cat-tail *(Typha domingensis*, OBL) and California club-rush (*Schoenoplectus californica*, OBL), as well as other herbaceous species such as wild celery (*Apium graveolens**, UPL), castor bean (*Ricinus communis**, FACU), perennial ragweed (*Ambrosia psilostachya*, FAC), tall flat sedge (*Cyperus eragrostis*, FACW), bristly ox-tongue (*Helminthotheca echioides**, FACU), rabbit's-foot grass (*Polypogon monspeliensis**, FACW), curly dock (*Rumex crispus**, FAC), perennial rye grass (*Lolium perenne**, FAC), and wild radish (*Raphanus sativa**, UPL). The lower portion of Feature 1 is drier and supports some scattered individuals of mulefat (*Baccharis salicifolia*, FAC) mixed with giant reed (*Arundo donax**, FACW) and Brazilian pepper tree (*Schinus terebinthifolia**, FAC) as well as areas of herbaceous plants such as bristly ox-tongue (*Helminthotheca echioides**, FACU), rabbit's-foot grass (*Polypogon monspeliensis**, FACW), curly dock (*Rumex crispus**, FAC), wild radish (*Raphanus sativa**, UPL), and perennial rye grass (*Lolium perenne**, FAC) that are establishing on sediment bars and along the edges of the channel. The channel bottom in the downstream portion of Feature 1 is composed of sand and cobble and is almost devoid of herbaceous vegetation below the OHWM.

Within the study area, Feature 1 is approximately 1,809 linear feet in length and contains 0.505 acre of potential non-wetland WoUS/WoS and 0.470 acre of USACE wetlands (Table 5-1). OHWM widths ranged from 78 feet in the upper portion of Feature 1 to 16 feet in the lower portion. OHWM indicators observed included change in average sediment texture, change in vegetation species, change in vegetation cover, and break in bank slope. An OHWM data sheet prepared for Feature 1 is attached as Appendix B. A detailed map depicting USACE jurisdiction is attached as Appendix A, Figure 8a.

Within the study area, Feature 1 contains approximately 1,809 linear feet of CDFW jurisdiction. Feature 1 contains 0.401 acre of un-vegetated streambed and 1.632 acre of riparian vegetation subject to CDFW jurisdiction (Table 5-1). Top of bank widths documented for Feature 1 ranged from 80 feet in the upper portion of the feature to 20 feet in the lower portion of the feature. A detailed map depicting CDFW jurisdiction is attached as Appendix A, Figure 8b.

5.1.2 Feature 1b

Feature 1b is an ephemeral feature that conveys flows that originate from a 3-foot-wide culvert located in the eastern edge of the study area. Flows within Feature 1b are conveyed to Feature 1. During the delineation, Feature 1b contained an area of standing water just below the culvert and the aboveground flows associated with Feature 1b quickly dissipate below the standing water. Below the standing water, Feature 1b splits into two separate shallow channels before its confluence with Feature 1. The channel associated with Feature 1b is not well-defined and the banks are composed of a single slope with no terracing.

Feature 1b supports a mixture of vegetation including native species typically present in riparian areas as well as nonnative ornamental species. The upper portion of the feature where the standing water is located supports a stand of southern cat-tail (*Typha domingensis*, OBL). Directly downstream of the southern cat-tail area the feature supports a stand of arroyo willow (*Salix lasiolepis*, FACW) with mulefat (*Baccharis salicifolia*, FAC) on the edges. Additional vegetation associated with Feature 1b includes Brazilian pepper tree (*Schinus terebinthifolia**, FAC), bottlebrush (*Melaleuca* sp.*, UPL), rip-gut brome (*Bromus diandrus**, UPL), perennial rye grass (*Lolium perenne**, FAC), curly dock (*Rumex crispus**, FAC), perennial ragweed (*Ambrosia psilostachya*, FAC), and wild radish (*Raphanus sativa** UPL).

Within the study area, Feature 1b contains approximately 266 linear feet of USACE jurisdiction. Feature 1b contains 0.004 acre of potential non-wetland WoUS/WoS and 0.034 acre of USACE wetlands (Table 5-1). OHWM widths documented for Feature 1b ranged from 16 feet just below the culvert to 2 feet near the confluence with Feature 1. OHWM indicators observed included change in vegetation species, change in vegetation cover, and break in bank slope. Due to the relatively simple channel morphology of Feature 1b, no OHWM data sheet was prepared. A detailed map depicting USACE jurisdiction is attached as Appendix A, Figure 8a.

Within the study area, Feature 1b contains approximately 266 linear feet of CDFW jurisdiction. Feature 1b contains 0.008 acre of un-vegetated streambed and 0.180 acre of riparian vegetation subject to CDFW jurisdiction (Table 5-1). Top of bank widths documented for Feature 1b ranged from 19 feet just below the culvert to 3 feet at the confluence with Feature 1. A detailed map depicting CDFW jurisdiction is attached as Appendix A, Figure 8b.

5.1.3 Feature 2

Feature 2 is an ephemeral feature that conveys flows from a 13-foot-wide culvert on the western edge of the study area to its confluence with Feature 1. Feature 2 consists of an earthen bed and banks and, at the time of the delineation, the entire feature was dry. Feature 2 contains areas of sediment deposition throughout the length of the feature. Feature 2 supports a well-defined channel and banks, which contain one terrace and in some areas two small terraces.

Vegetation within Feature 2 is almost entirely composed of giant reed (*Arundo donax**, FACW), which occurs more or less above the OHWM along both sides of the feature for almost its entire length. A few individuals of mulefat (*Baccharis salicifolia*, FAC) and castor bean (*Ricinus communis**, FACU) occur sporadically on the banks. The terraces and some sediment deposition areas within Feature 2 are vegetated with upland herbaceous vegetation such as rip-gut brome (*Bromus diandrus*, UPL), iceplant (*Carpobrotus edulis**, UPL), castor bean (*Ricinus communis**, FACU), tamarisk (*Tamarisk ramosissima*, FAC), and Bermuda grass (*Cynodon dactylon**, FACU).

Within the study area, Feature 2 contains approximately 709 linear feet of USACE jurisdiction. Feature 2 contains 0.204 acre of potential non-wetland WoUS/WoS. No USACE jurisdictional wetland was mapped within the feature (Table 5-1). OHWM widths documented for Feature 2 ranged from 13 feet just below the culvert to 14 feet near the confluence with Feature 1. OHWM indicators observed included change in average sediment texture, change in vegetation species, change in vegetation cover, and break in bank slope. An OHWM data sheet prepared for Feature 2 is attached as Appendix B. A detailed map depicting USACE jurisdiction is attached as Appendix A, Figure 8a.

Within the study area, Feature 2 contains approximately 709 linear feet of CDFW jurisdiction. Feature 2 contains 0.265 acre of un-vegetated streambed. No riparian vegetation was mapped in association with Feature 2 (Table 5-1). Top of bank widths documented for Feature 2 averaged 17 feet. A detailed map depicting CDFW jurisdiction is attached as Appendix A, Figure 8b.

5.1.4 Feature 2b

Feature 2b originates from a 3-foot-wide culvert located on the west side of the study area and conveys flows for approximately 62 feet before its confluence with Feature 2. Feature 2b contains no vegetation below its OHWM but is dominated by a dense stand of giant reed (*Arundo donax**, FACW) above the OHWM.

Within the study area, Feature 2b contains approximately 55 linear feet of USACE jurisdiction. Feature 2b contains 0.006 acre of potential non-wetland WoUS/WoS. No USACE jurisdictional wetland was mapped associated with the feature (Table 5-1). OHWM widths documented for Feature 2b were consistently 5 feet wide throughout the length of the feature. OHWM indicators observed included change in vegetation cover and break in bank slope. Due to the relatively simple channel morphology of Feature 2b, no OHWM data sheet was prepared. A detailed map depicting USACE jurisdiction is attached as Appendix A, Figure 8a.

Within the study area, Feature 2b contains approximately 55 linear feet of CDFW jurisdiction. Feature 2b contains 0.006 acre of un-vegetated streambed. No riparian vegetation was mapped in association with the feature (Table 5-1). Top of bank widths documented for Feature 2b were consistently 5 feet wide throughout the length of the feature. A detailed map depicting CDFW jurisdiction is attached as Appendix A, Figure 8b.

5.1.5 Feature 3

Feature 3 conveys flows that originate from an 8-foot-wide box culvert located at the southern end of the study area to the Sweetwater River's low-flow channel. Feature 3 is within the Sweetwater River floodplain, and is adjacent to the levee that runs along the northern edge of the floodplain. The feature likely consists of an earthen bed. The adjacent levee consists of earthen material covered in concrete and riprap, with a concrete pedestrian path along its crest.

Feature 3 supports a dense mixture of vegetation, primarily consisting of red willow thickets which include native species typically present in riparian areas as well as nonnative ornamental species. The red willow thickets vegetation community is dominated by red willow (*Salix lasiandra*, FACW) and other willows such as Goodding's willow (*Salix gooddingii*, FACW). In addition, this vegetation community supports native species such as mulefat (*Baccharis salicifolia*, FAC), western ragweed (*Ambrosia psilostachya*, FACU), and mugwort (*Artemisia douglasiana*, FAC).

Within the study area, Feature 3 is contains 0.33 acre of USACE wetlands (Table 5-1). A detailed map depicting USACE jurisdiction is attached as Appendix A, Figure 8a. Within the study area, Feature 3 contains approximately 0.33 acres of riparian vegetation subject to CDFW jurisdiction (Table 5-1). A detailed map depicting CDFW jurisdiction is attached as Appendix A, Figure 8b.

5.2 Delineation Results Summary

Four features were mapped within the study area that are potentially subject to USACE, RWQCB, and CDFW jurisdiction. Table 5-1 contains a jurisdictional summary of acreages for each of the potential features.

Table 5-1. Jurisdictional Delineation Summary

Drainage	Non-wetland WoUS/WoS (acres)	Wetland WoUS/WoS (acres)	CDFW Unvegetated Streambed (acres)	CDFW Riparian (acres)	U.S./State/CDFW (linear feet)
Feature 1	0.505	0.470	0.401	1.632	1,809
Feature 1b	0.004	0.034	0.008	0.180	266
Feature 2	0.204	---	0.265	---	709
Feature 2b	0.006	---	0.006	---	55
Feature 3	---	0.328	---	0.328	---
Total	**0.721**	**0.832**	**0.680**	**2.140**	**2,840**

5.3 List of Delineators and Report Preparers

Paul Schwartz, Senior Biologist—Delineator and Report Preparer

Dale Ritenour, Senior Biologist—Delineator

Brad Stein, GIS Specialist—GIS/Graphics Support

Megan Jameson, Senior Regulatory Specialist—Report Reviewer

Chapter 6
References

AECOM, California Department of Fish and Game Classification and Mapping Program and Conservation Biology Institute. 2011. *Vegetation Classification Manual for Western San Diego County*. Prepared for the San Diego Association of Governments.

Baldwin, B. G., D. H. Goldman, D. J. Keil, R. Patterson, T. J. Rosatti, and D. H. Wilken (eds.). 2012. *The Jepson Manual: Vascular Plants of California.* Second Edition. Berkeley: University of California Press.

California Department of Forestry and Fire Protection. 2015. *Calwater Interagency Watershed Map of 1999*. Edition 2.2.1. Calwater Interagency Watershed Mapping Committee. Available: http://frap.cdf.ca.gov/data/statewide/FGDC_metadata/calw221.xml. Accessed: September, 2015.

Department of Planning and Land Use, County of San Diego. 2007. County of San Diego Guidelines for Determining Significance, Geologic Hazards. July 30.

Environmental Laboratory. 1987. *Corps of Engineers Wetland Delineation Manual*. Technical Report Y-87-1. Vicksburg, MS: U.S. Army Waterways Experiment Station.

Google Earth. 2015. Google Earth imagery for the project site. Imagery date: 4/14/2015. Accessed: September 2015.

Holland, R. F. 1986. Preliminary Descriptions of the Terrestrial Natural Communities of California. Nongame-Heritage Program, California Department of Fish and Game.

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

San Diego County Project Clean Water. 2015. Sweetwater Watershed Description. Available: http://www.sdbay.sdsu.edu/education/sweetwater.php.

U.S. Army Corps of Engineers (USACE). 2008a. *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* (Version 2.0). Vicksburg, MS: U.S. Army Engineer Research and Development Center. Report dated September 2008.

———. 2008b. *A Field Guide to the Identification of the OHWM in the Arid West Region of the Western United States: A Determination Manual*. Available: http://www.crrel.usace.army.mil/library/technicalreports/ERDC-CRREL-TR-08-12.pdf.

———. 2014. *Arid West 2014 Regional Wetland Plant List.* Available: http://rsgisias.crrel.usace.army.mil/NWPL/.

U.S. Army Corps of Engineers and Environmental Protection Agency (USACE/EPA). 2007. *Jurisdictional Determination Form Instructional Guidebook*.

———. 2008. Clean Water Act Jurisdiction Following the U.S. Supreme Court’s Decision in *Rapanos v. United States & Carabell v. United States*. Memorandum.

———. 2011. *Draft Guidance on Identifying Waters Protected by the Clean Water Act.* Memorandum dated April 27, 2011.

U.S. Department of Agriculture/Natural Resources Conservation Service (USDA/NRCS). 1994. *Changes in Hydric Soils of the United States*. Federal Register 59(133): 35680–35681, July 13, 1994.

———. 2010. *Field Indicators of Hydric Soils in the United States, Version 7.0*. L. M. Vasilas, G. W. Hurt, and C. V. Noble (eds.). USDA, NRCS, in cooperation with the National Technical Committee for Hydric Soils.

———. 2011a. *Soil Survey Geographic (SSURGO) Database for San Diego, California*. Prepared by Soil Survey Staff of the Natural Resources Conservation Service. Available: http://soildatamart.nrcs.usda.gov. Accessed: September, 2015.

———. 2011b. *Official Soil Series Descriptions*. Prepared by Soil Survey Staff of the Natural Resources Conservation Service. Available: http://soils.usda.gov/technical/classification/osd/index.html. Lincoln, NE. Accessed: September, 2015.

U.S. Department of Homeland Security. 2015. *Federal Emergency Management Agency 100 Year-Flood Maps*. Available: http://www.fema.gov/. Accessed: September 2015.

U.S. Environmental Protection Agency (EPA). 2010. *Clean Water Act Section 401 Water Quality Certification: A Water Quality Protection Tool for States and Tribes*. Available: http://water.epa.gov/lawsregs/guidance/cwa/upload/CWA_401_Handbook_2010_Interim.pdf.

U.S. Fish and Wildlife Service. 2015. *National Wetlands Inventory Mapper*. Available: http://www.fws.gov/wetlands/data/mapper.HTML. Accessed: September 2015.

U.S. Geological Survey (USGS). 1996. 7.5-Minute *National City*, *California* Quadrangle.

———. 2015. *National Hydrography Dataset*. Available: ftp://nhdftp.usgs.gov/DataSets/Staged/States/. Accessed: September 2015.

Western Regional Climate Center. *2015. Annual Precipitation Data for the Chula Vista, California Area.* Available: www.wrcc.dri.edu. Accessed: September 2015.

Appendix A
Jurisdictional Delineation Figures

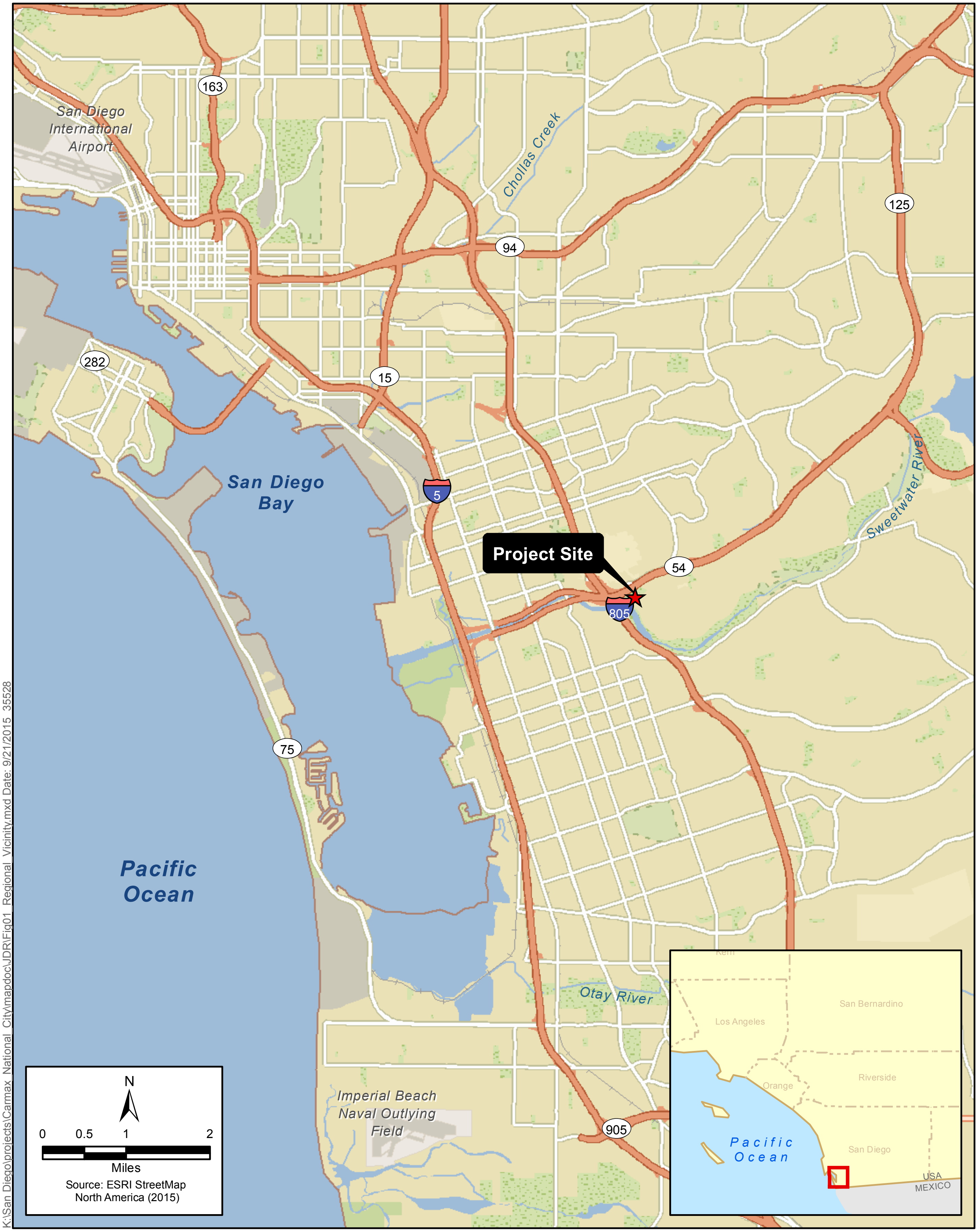

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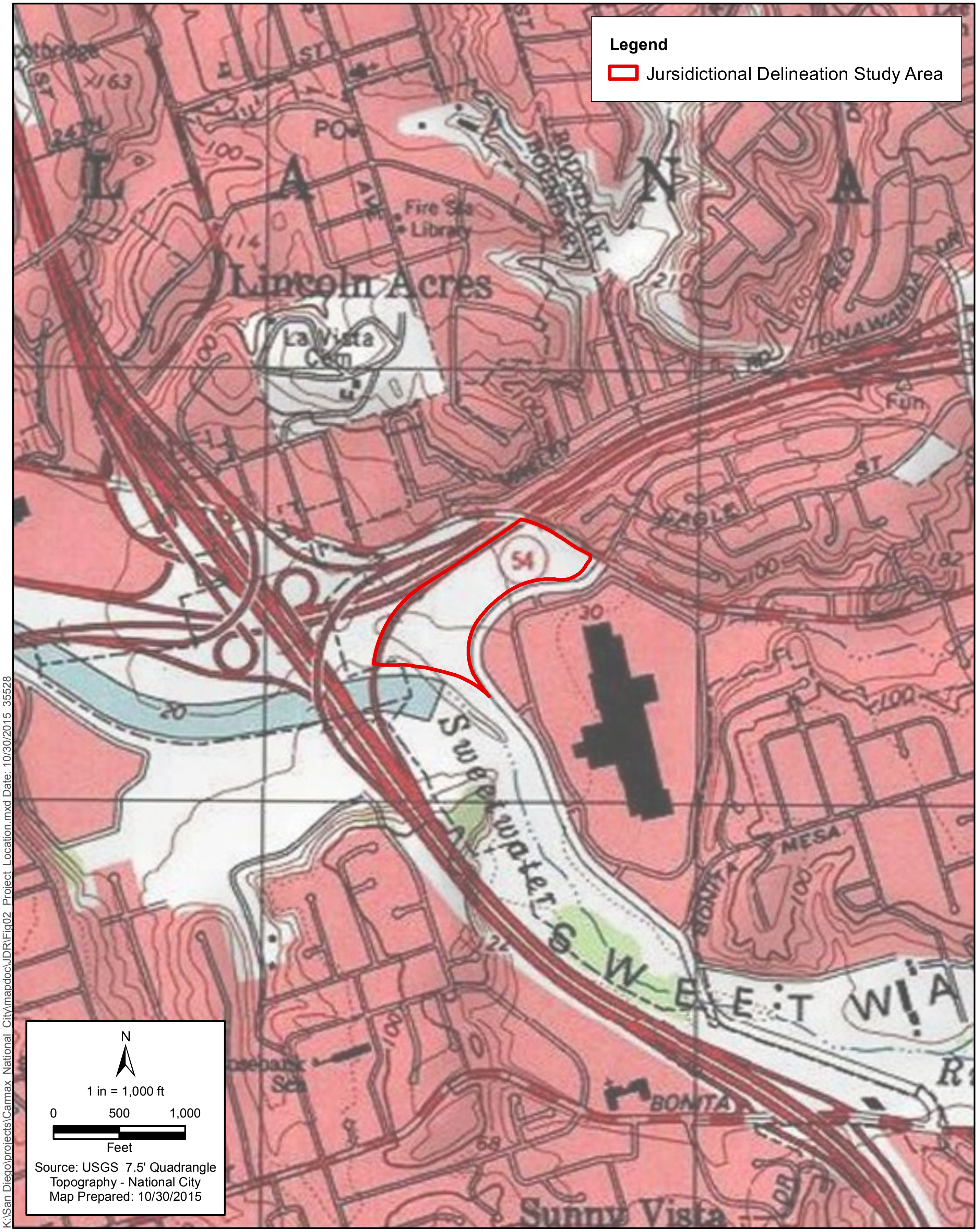
Figure 1
Regional Vicinity Map
Carmax National City Project



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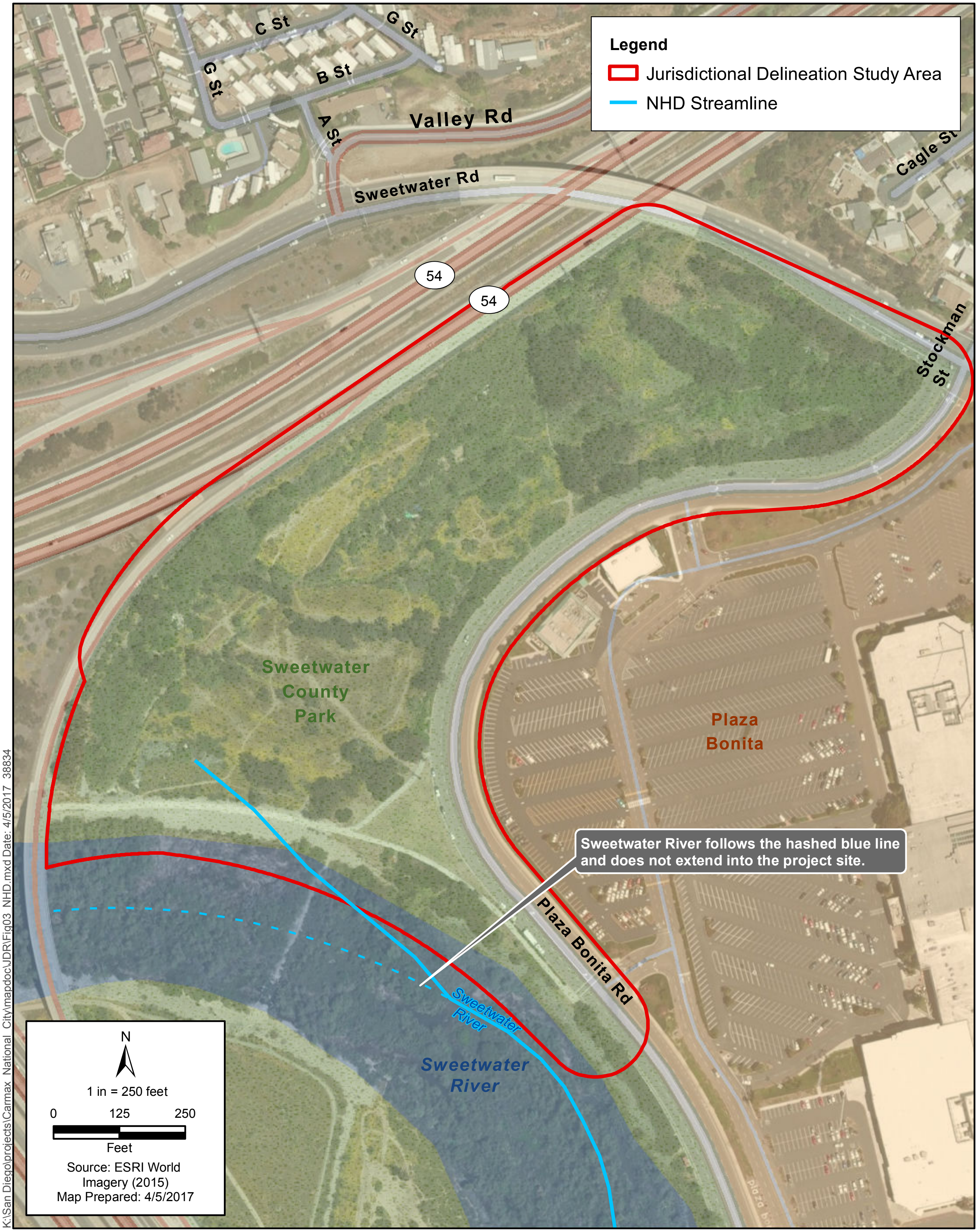
ICF INTERNATIONAL

Figure 2
Project Location
Carmax National City Project



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ICF INTERNATIONAL

Figure 3
National Hydrography Dataset Map
Carmax National City Project

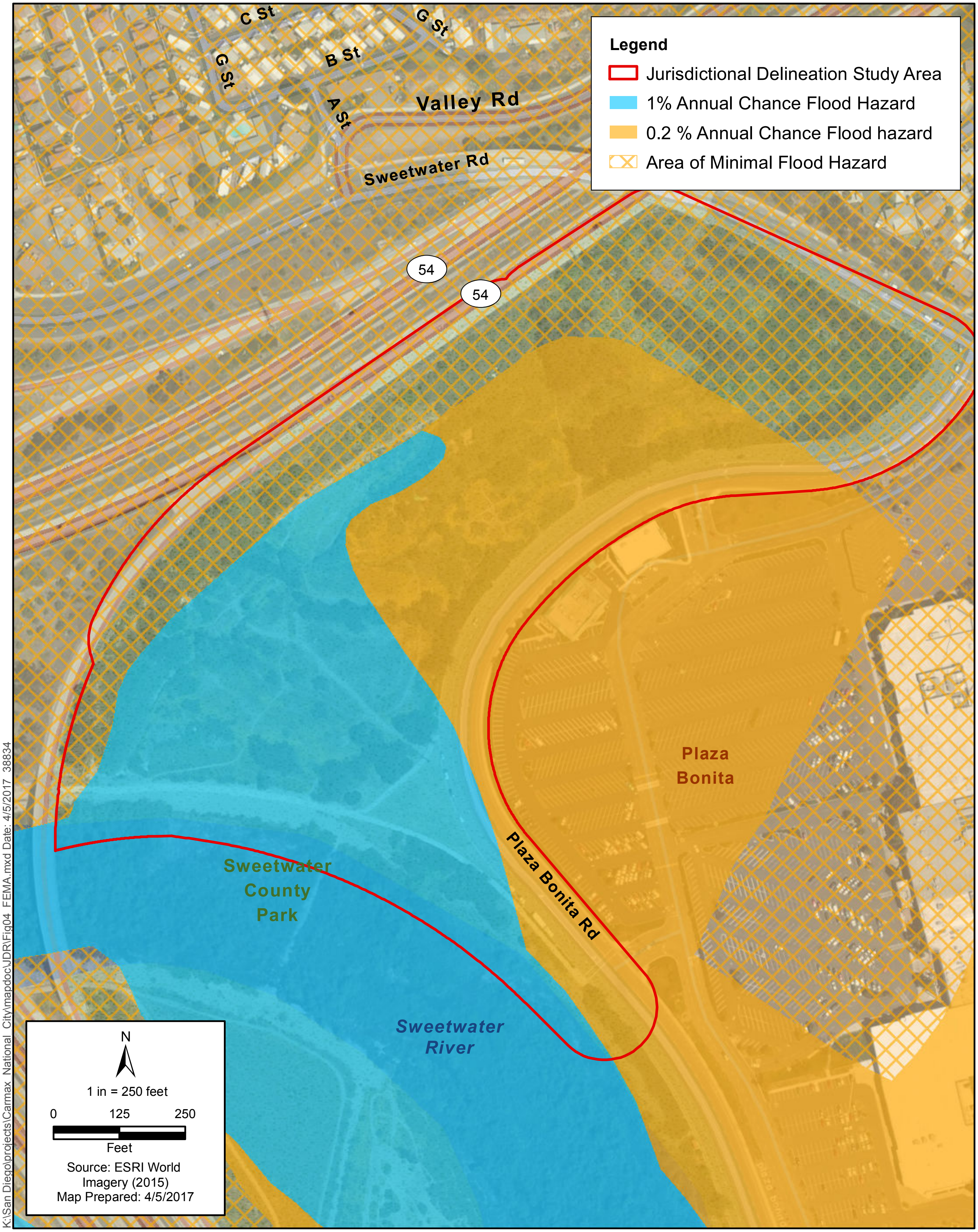

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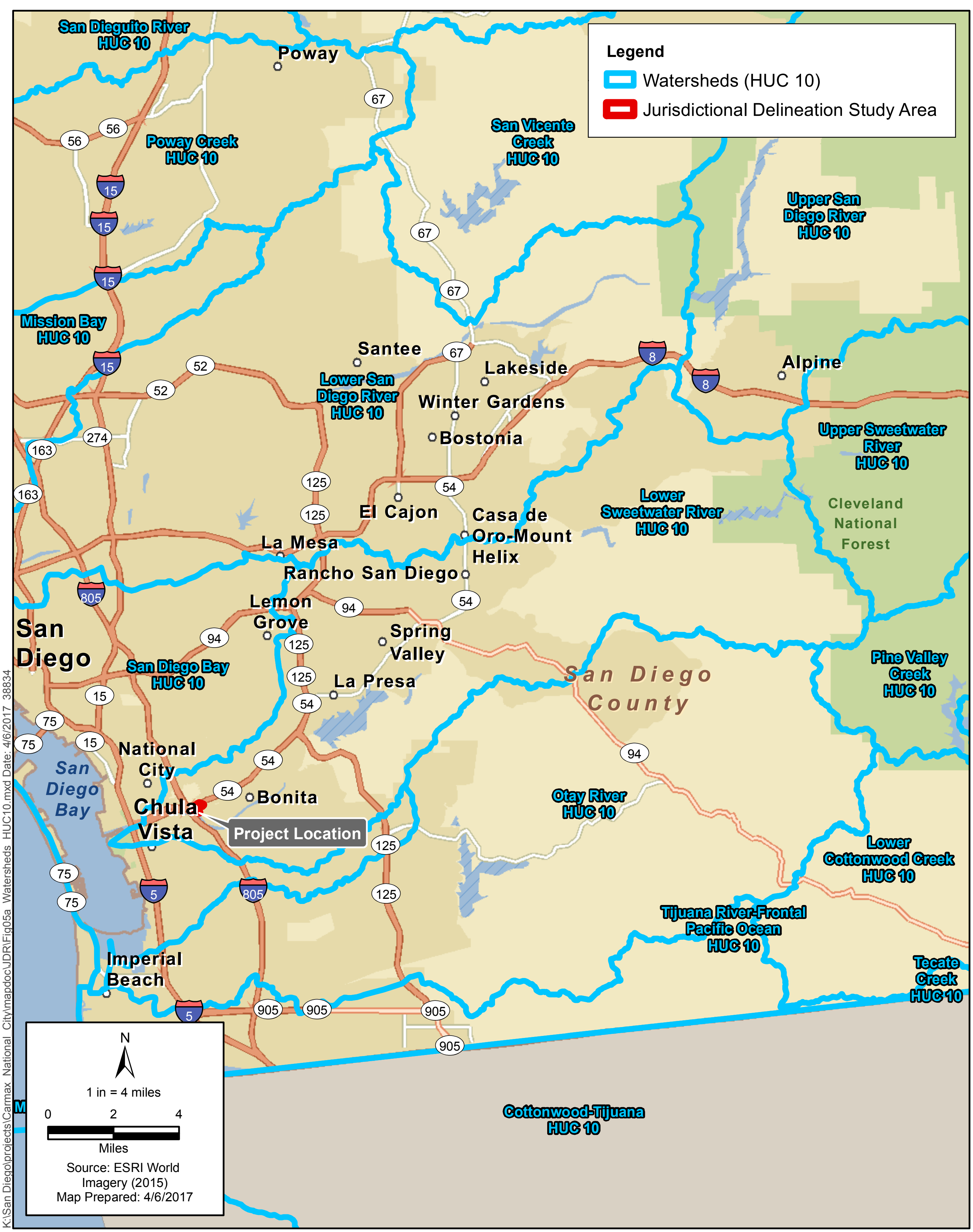
Figure 4
FEMA 100-Year Flood Map
Carmax National City Project



ICF INTERNATIONAL

Figure 5a
HUC 10 Watersheds Map
Carmax National City Project

Figure 5b
HUC 8 Watersheds Map
Carmax National City Project

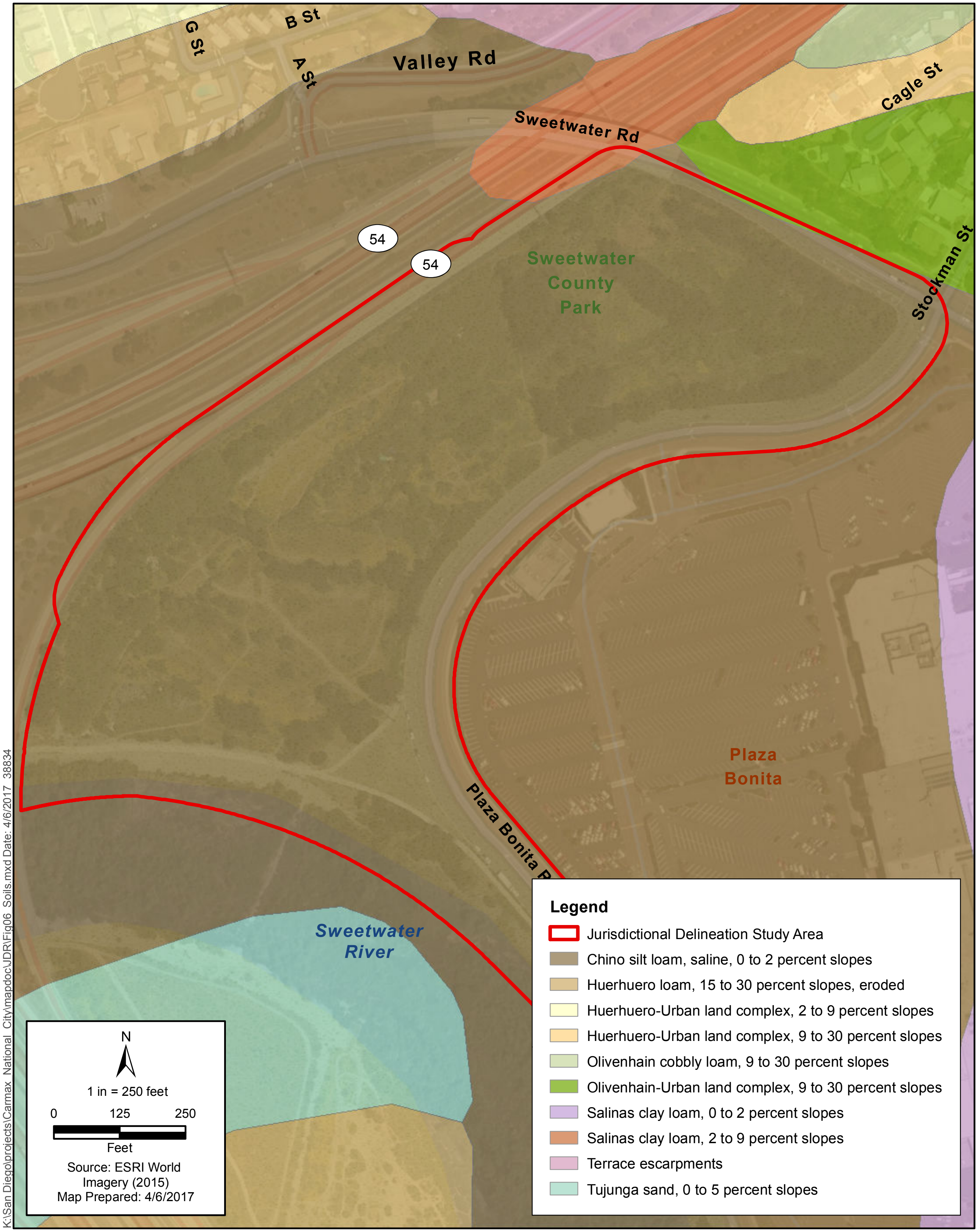
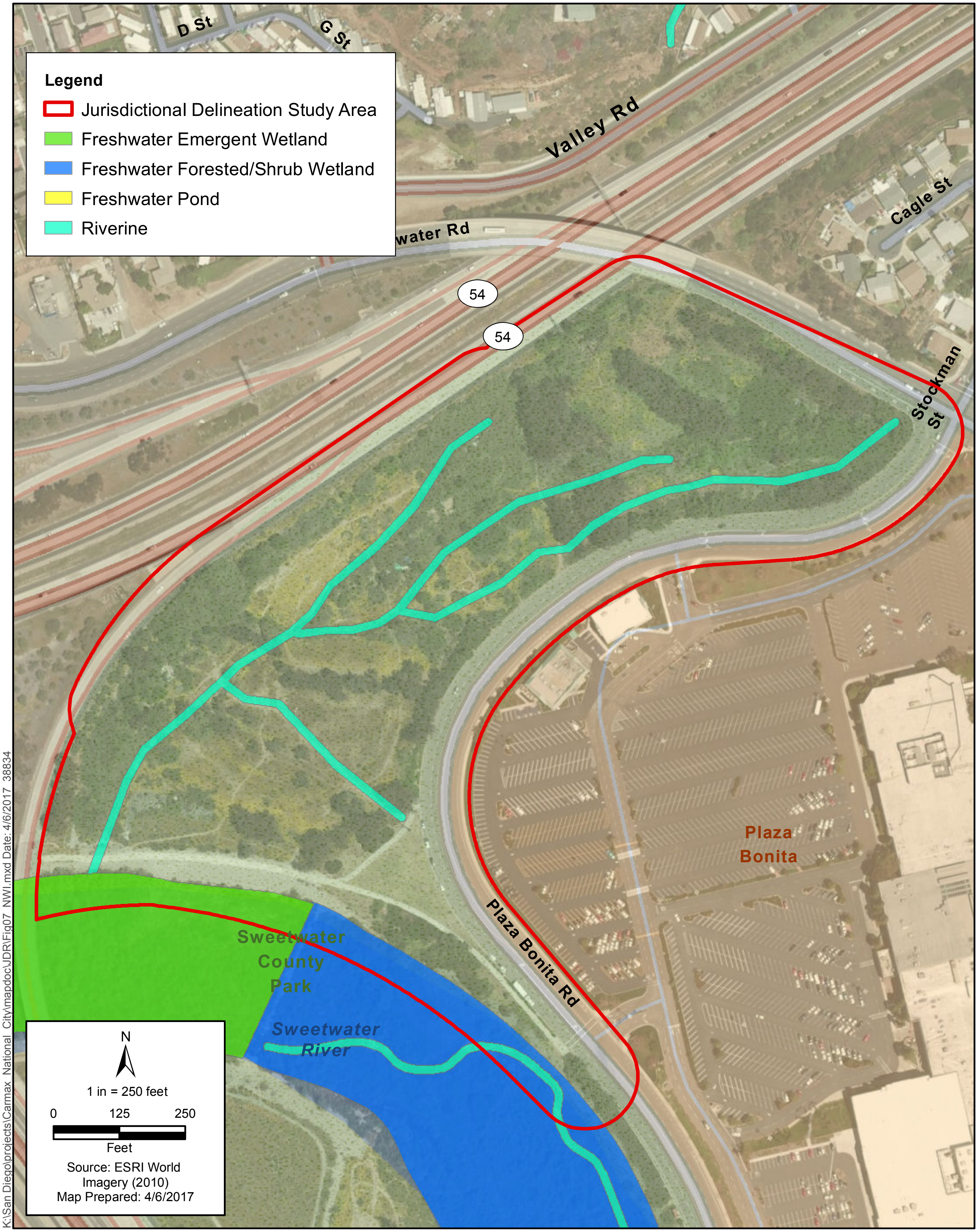


Figure 6
SSURGO Soils Map
Carmax National City Project



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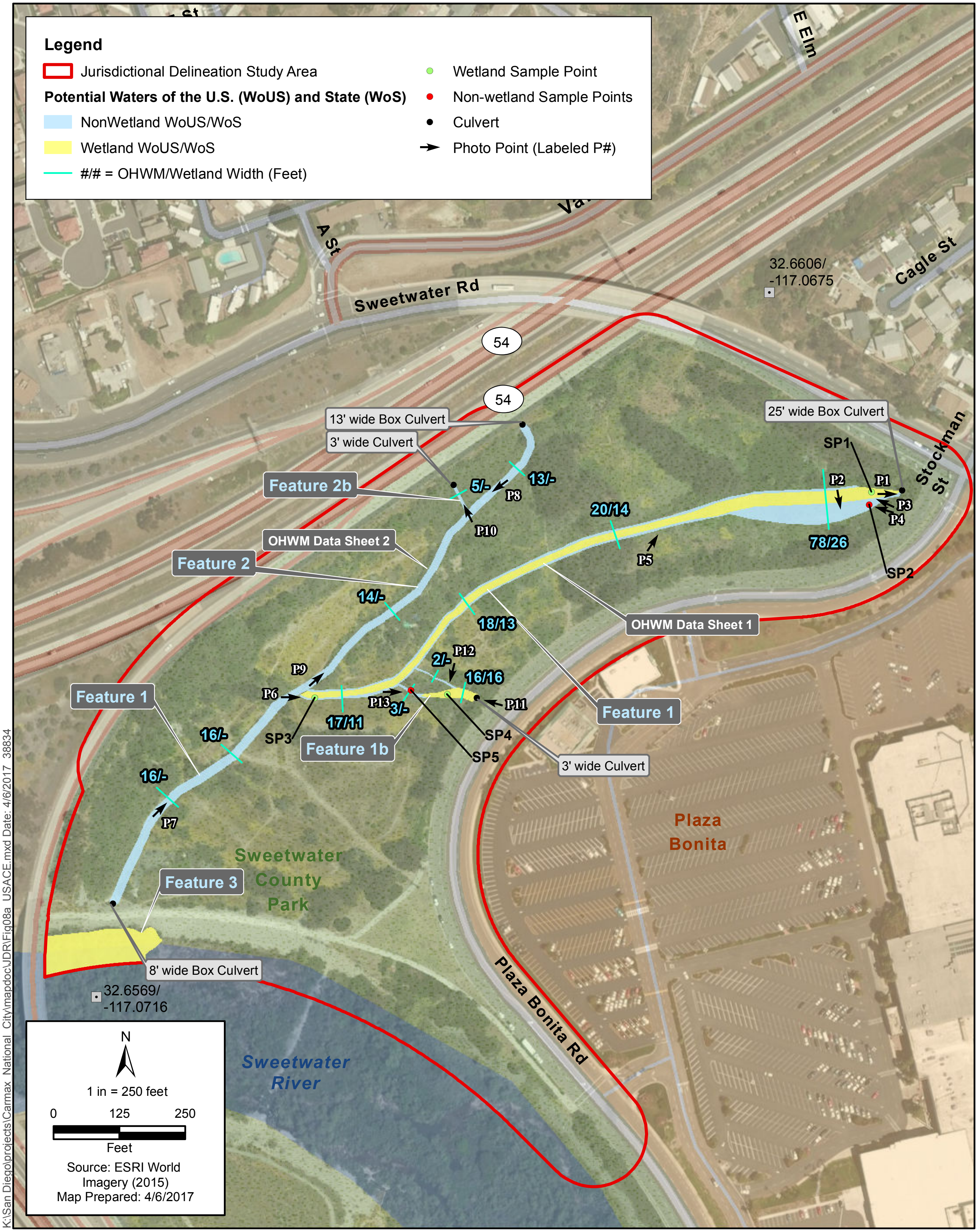
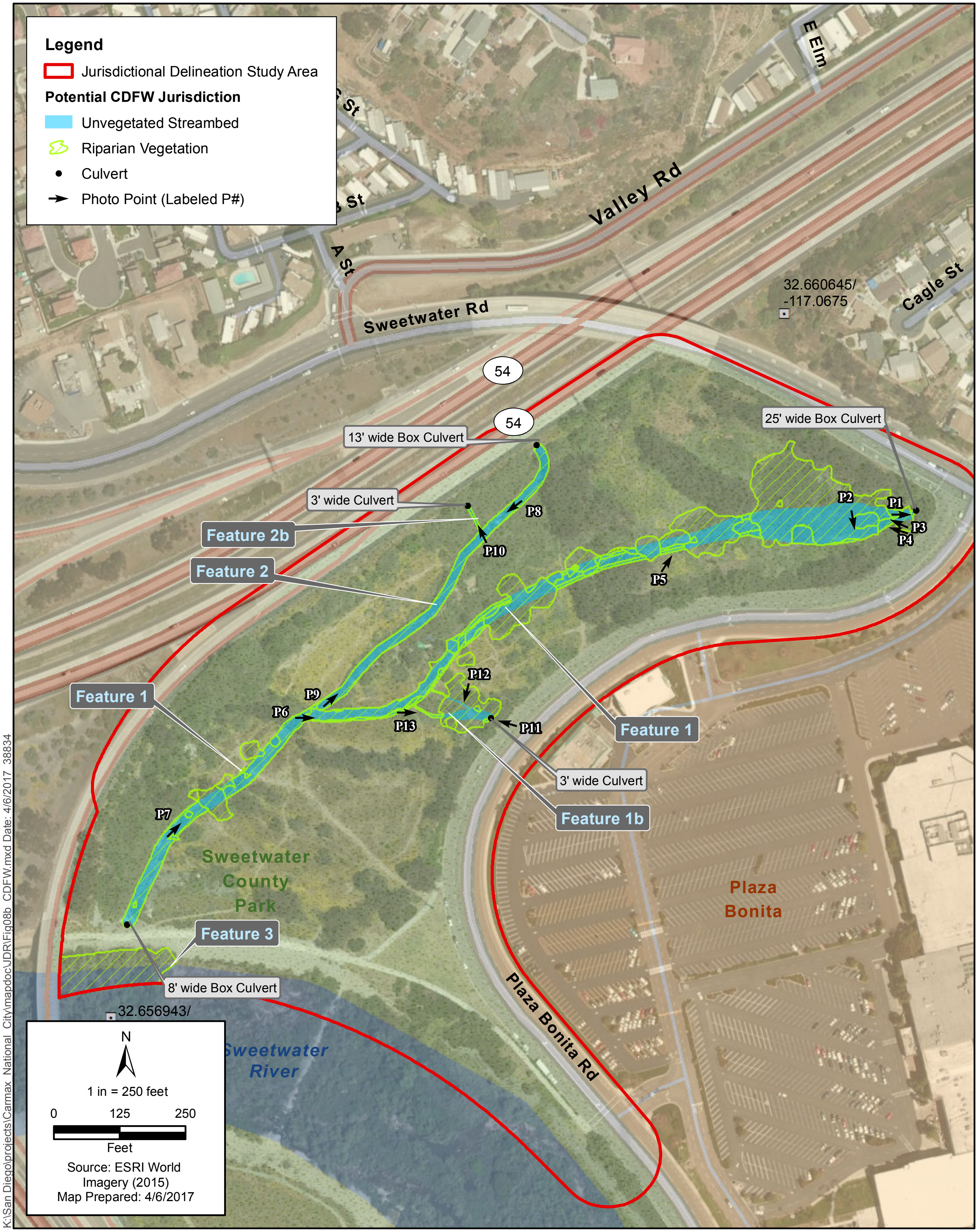
ICF INTERNATIONAL

Figure 7
National Wetlands Inventory Map
Carmax National City Project



ICF INTERNATIONAL

Figure 8a
USACE/RWQCB Jurisdictional Delineation Results Map
Carmax National City Project



ICF INTERNATIONAL

Figure 8b
CDFW Jurisdictional Delineation Results Map
Carmax National City Project

Appendix B
Ordinary High Water Mark Data Sheets

Arid West Ephemeral and Intermittent Streams OHWM Datasheet #1

Project: National City Carmax **Project Number:** **Stream:** Feature 1 **Investigator(s):** Paul Schwartz / Dale Ritenour	**Date:** 5/19/2015 **Time:** **Town:** National City **State:** CA **Photo begin file#:** **Photo end file#:**
Y ☑ / N ☐ Do normal circumstances exist on the site?	**Location Details:** Empty lot/basin located SE of the Intersection of SR 54 and I-805
Y ☑ / N ☐ Is the site significantly disturbed?	**Projection:** 11 S 493508 E **Datum:** WGS 84 **Coordinates:** 3613497 N - See Fig 6a

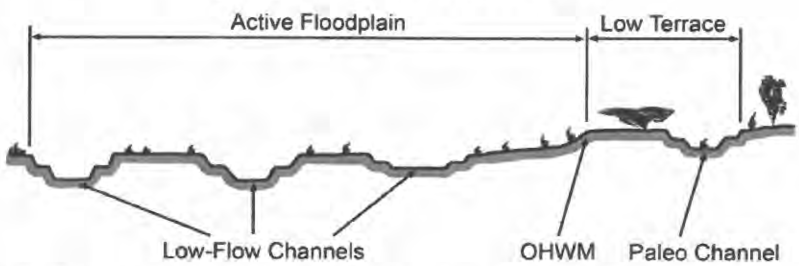
Potential anthropogenic influences on the channel system:
The channel conveys stormflows from a highly urbanized watershed. In addition, the area contains a large homeless population which has impacted the channel significantly.

Brief site description: Empty lot/basin adj. to Sweetwater R. The site is highly disturbed and contains a large homeless population which have impacted the site significantly.

Checklist of resources (if available):

- ☑ Aerial photography
  Dates: 4/14/2015
- ☑ Topographic maps
- ☐ Geologic maps
- ☑ Vegetation maps
- ☑ Soils maps
- ☐ Rainfall/precipitation maps
- ☑ Existing delineation(s) for site
- ☑ Global positioning system (GPS)
- ☑ Other studies (Existing Bio Report)
- ☐ Stream gage data
  Gage number:
  Period of record:
  - ☐ History of recent effective discharges
  - ☐ Results of flood frequency analysis
  - ☐ Most recent shift-adjusted rating
  - ☐ Gage heights for 2-, 5-, 10-, and 25-year events and the most recent event exceeding a 5-year event

Hydrogeomorphic Floodplain Units

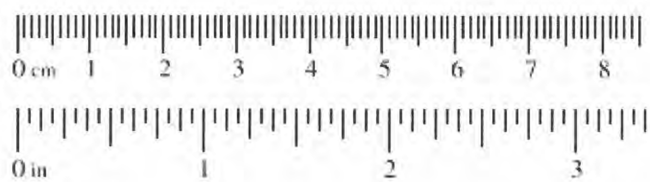


Procedure for identifying and characterizing the floodplain units to assist in identifying the OHWM:

1. Walk the channel and floodplain within the study area to get an impression of the geomorphology and vegetation present at the site.
2. Select a representative cross section across the channel. Draw the cross section and label the floodplain units.
3. Determine a point on the cross section that is characteristic of one of the hydrogeomorphic floodplain units.
   a) Record the floodplain unit and GPS position.
   b) Describe the sediment texture (using the Wentworth class size) and the vegetation characteristics of the floodplain unit.
   c) Identify any indicators present at the location.
4. Repeat for other points in different hydrogeomorphic floodplain units across the cross section.
5. Identify the OHWM and record the indicators. Record the OHWM position via:
   - ☑ Mapping on aerial photograph
   - ☐ Digitized on computer
   - ☑ GPS
   - ☐ Other:

Wentworth Size Classes

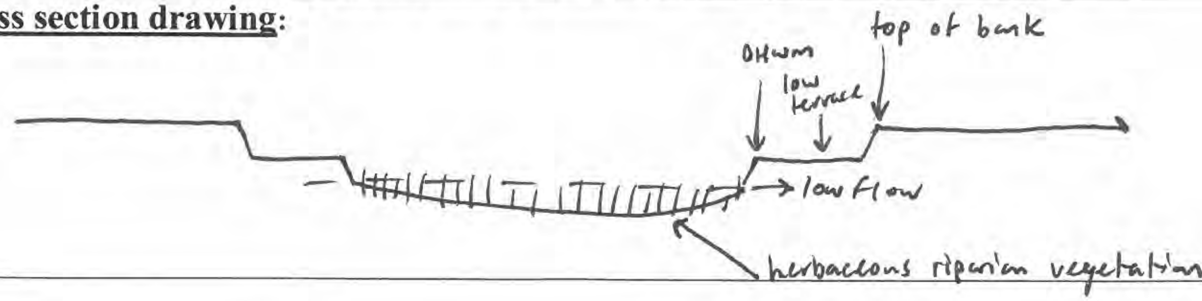
Millimeters (mm)		Inches (in)	Wentworth size class	
			Boulder	Gravel
	10.08	256		Gravel
			Cobble	Gravel
	2.56	64		Gravel
			Pebble	Gravel
	0.157	4		Gravel
			Granule	Gravel
	0.079	2.00		
			Very coarse sand	Sand
	0.039	1.00		Sand
			Coarse sand	Sand
	0.020	0.50		Sand
			Medium sand	Sand
1/2	0.0098	0.25		Sand
			Fine sand	Sand
1/4	0.005	0.125		Sand
			Very fine sand	Sand
1/8	0.0025	0.0625		
			Coarse silt	Silt
1/16	0.0012	0.031		Silt
			Medium silt	Silt
1/32	0.00061	0.0156		Silt
			Fine silt	Silt
1/64	0.00031	0.0078		Silt
			Very fine silt	Silt
1/128	0.00015	0.0039		
			Clay	Mud



OHWM Data Sheet # 1

Project ID: National City Cwmax **Cross section ID:** Feature 1 **Date:** 5/19/2015 **Time:**

Cross section drawing:



OHWM

GPS point: 11S 493508E 3613497 N - see Figure 8a

Indicators:

- ☑ Change in average sediment texture
- ☑ Change in vegetation species
- ☑ Change in vegetation cover
- ☑ Break in bank slope
- ☐ Other: ______
- ☐ Other: ______

Comments:

OHWM discernable by abrupt break in slope, sediment texture, veg composition and veg cover secondary indicators.

Floodplain unit: ☑ Low-Flow Channel ☑ Active Floodplain ☑ Low Terrace

GPS point: 11 S 493508E, 3613497 N - see Figure 8a

Characteristics of the floodplain unit:

Average sediment texture: Sand

Total veg cover: 100 % Tree: ___ % Shrub: 20 % Herb: 80 %

Community successional stage:

- ☐ NA
- ☐ Early (herbaceous & seedlings)
- ☑ Mid (herbaceous, shrubs, saplings)
- ☐ Late (herbaceous, shrubs, mature trees)

Indicators:

- ☐ Mudcracks
- ☐ Ripples
- ☑ Drift and/or debris
- ☑ Presence of bed and bank
- ☑ Benches
- ☐ Soil development
- ☐ Surface relief
- ☐ Other: ______
- ☐ Other: ______
- ☐ Other: ______

Comments:

The low flow channel, active floodplain are w/n the confines of the OHWM.

OHWM Data Sheet #1

Project ID: National City Carmax **Cross section ID:** Feature 1 **Date:** 5/19/2015 **Time:**

Floodplain unit: ☐ Low-Flow Channel ☐ Active Floodplain ☑ Low Terrace

GPS point: 11 S 493506 E 3613497 N - See Fig 8a

Characteristics of the floodplain unit:
Average sediment texture: ____
Total veg cover: 100 % Tree: ____ % Shrub: 20 % Herb: 80 %
Community successional stage:
- ☐ NA
- ☐ Early (herbaceous & seedlings)
- ☐ Mid (herbaceous, shrubs, saplings)
- ☐ Late (herbaceous, shrubs, mature trees)

Indicators:
- ☐ Mudcracks
- ☐ Ripples
- ☐ Drift and/or debris
- ☐ Presence of bed and bank
- ☑ Benches
- ☐ Soil development
- ☐ Surface relief
- ☐ Other: ____
- ☐ Other: ____
- ☐ Other: ____

Comments:
low terrace is a small bench

Floodplain unit: ☐ Low-Flow Channel ☐ Active Floodplain ☐ Low Terrace

GPS point: N/A

Characteristics of the floodplain unit:
Average sediment texture: ____
Total veg cover: ____ % Tree: ____ % Shrub: ____ % Herb: ____ %
Community successional stage:
- ☐ NA
- ☐ Early (herbaceous & seedlings)
- ☐ Mid (herbaceous, shrubs, saplings)
- ☐ Late (herbaceous, shrubs, mature trees)

Indicators:
- ☐ Mudcracks
- ☐ Ripples
- ☐ Drift and/or debris
- ☐ Presence of bed and bank
- ☐ Benches
- ☐ Soil development
- ☐ Surface relief
- ☐ Other: ____
- ☐ Other: ____
- ☐ Other: ____

Comments:

Arid West Ephemeral and Intermittent Streams OHWM Datasheet #2

Project: National City Carmax **Project Number:** **Stream:** Feature 2 **Investigator(s):** Paul Schwartz / Dale Ritenow	**Date:** 5/19/2015 **Time:** **Town:** National City **State:** CA **Photo begin file#:** **Photo end file#:**
Y ☑ / N ☐ Do normal circumstances exist on the site?	**Location Details:** Empty lot / basin located SE of the intersection of SR54 and I-805
Y ☑ / N ☐ Is the site significantly disturbed?	**Projection:** 11S 493458 E **Datum:** WGS 84 **Coordinates:** 3613488 N - See Fig 8a

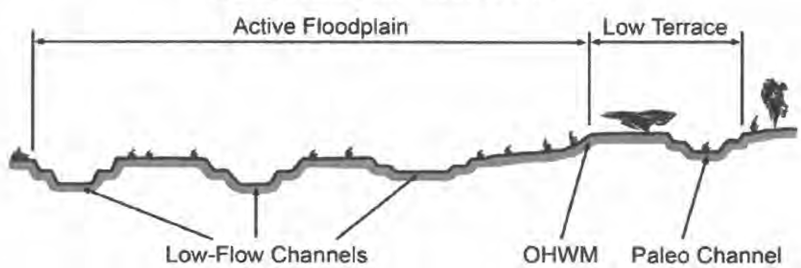
Potential anthropogenic influences on the channel system: The channel conveys storm flows from a highly urbanized watershed. In addition, the area contains a large homeless population which has impacted the channel significantly.

Brief site description: Empty lot / basin adj. to Sweetwater R. The site is highly disturbed and contains a large homeless pop which have impacted the site significantly.

Checklist of resources (if available):

- ☑ Aerial photography
  Dates: 4/14/2015
- ☑ Topographic maps
- ☐ Geologic maps
- ☑ Vegetation maps
- ☑ Soils maps
- ☐ Rainfall/precipitation maps
- ☑ Existing delineation(s) for site
- ☐ Global positioning system (GPS)
- ☑ Other studies (Existing Bio Report)
- ☐ Stream gage data
  Gage number:
  Period of record:
  - ☐ History of recent effective discharges
  - ☐ Results of flood frequency analysis
  - ☐ Most recent shift-adjusted rating
  - ☐ Gage heights for 2-, 5-, 10-, and 25-year events and the most recent event exceeding a 5-year event

Hydrogeomorphic Floodplain Units

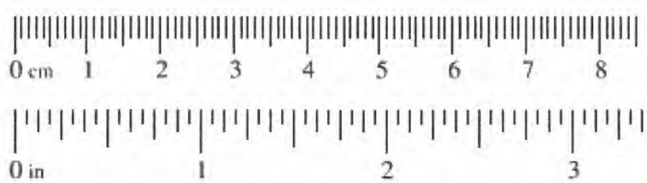


Procedure for identifying and characterizing the floodplain units to assist in identifying the OHWM:

1. Walk the channel and floodplain within the study area to get an impression of the geomorphology and vegetation present at the site.
2. Select a representative cross section across the channel. Draw the cross section and label the floodplain units.
3. Determine a point on the cross section that is characteristic of one of the hydrogeomorphic floodplain units.
   a) Record the floodplain unit and GPS position.
   b) Describe the sediment texture (using the Wentworth class size) and the vegetation characteristics of the floodplain unit.
   c) Identify any indicators present at the location.
4. Repeat for other points in different hydrogeomorphic floodplain units across the cross section.
5. Identify the OHWM and record the indicators. Record the OHWM position via:
   - ☑ Mapping on aerial photograph
   - ☐ Digitized on computer
   - ☑ GPS
   - ☐ Other:

Wentworth Size Classes

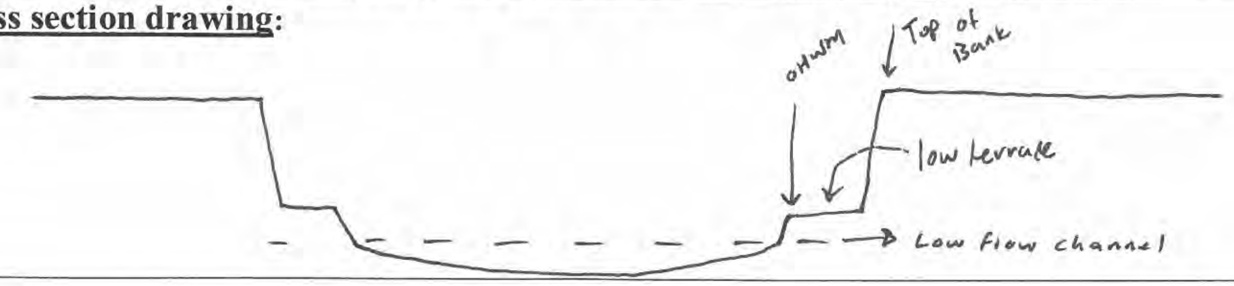
Millimeters (mm)	Inches (in)	Wentworth size class	
		Boulder	Gravel
10.08	256		
		Cobble	
2.56	64		
		Pebble	
0.157	4		
		Granule	
0.079	2.00		
		Very coarse sand	Sand
0.039	1.00		
		Coarse sand	
0.020	0.50		
		Medium sand	
1/2 0.0098	0.25		
		Fine sand	
1/4 0.005	0.125		
		Very fine sand	
1/8 — 0.0025	0.0625		
		Coarse silt	Silt
1/16 0.0012	0.031		
		Medium silt	
1/32 0.00061	0.0156		
		Fine silt	
1/64 0.00031	0.0078		
		Very fine silt	
1/128 — 0.00015	0.0039		
		Clay	Mud



OHWM Datasheet #2

Project ID: National City Carmax **Cross section ID:** Feature 2 **Date:** 5/19/2015 **Time:**

Cross section drawing:



OHWM

GPS point: 11 S 493458E 3613488 N

Indicators:

- [x] Change in average sediment texture
- [x] Change in vegetation species
- [x] Change in vegetation cover
- [x] Break in bank slope
- [ ] Other: ______
- [ ] Other: ______

Comments:

OHWM discernable chiefly by break in slope. Sediment texture, veg composition, and vegetation cover secondary indicators.

Floodplain unit: [x] Low-Flow Channel [x] Active Floodplain [ ] Low Terrace

GPS point: 11 493458 E 3613488 N

Characteristics of the floodplain unit:

Average sediment texture: sand

Total veg cover: 20 % Tree: ___ % Shrub: ___ % Herb: 20 %

Community successional stage:

- [ ] NA
- [x] Early (herbaceous & seedlings)
- [x] Mid (herbaceous, shrubs, saplings)
- [ ] Late (herbaceous, shrubs, mature trees)

Indicators:

- [ ] Mudcracks
- [ ] Ripples
- [x] Drift and/or debris
- [x] Presence of bed and bank
- [x] Benches
- [ ] Soil development
- [ ] Surface relief
- [ ] Other: ______
- [ ] Other: ______
- [ ] Other: ______

Comments:

The low flow, active channel are w/n the confines of the OHWM

OHWM Data Sheet #2

Project ID: National City Carmax **Cross section ID:** Feature 2 **Date:** 5-19-2015 **Time:**

Floodplain unit: ☐ Low-Flow Channel ☐ Active Floodplain ☐ Low Terrace

GPS point N/A

Characteristics of the floodplain unit:
Average sediment texture: -
Total veg cover: 20 % Tree: ___ % Shrub: ___ % Herb: 20 %
Community successional stage:
- ☐ NA
- ☑ Early (herbaceous & seedlings)
- ☐ Mid (herbaceous, shrubs, saplings)
- ☐ Late (herbaceous, shrubs, mature trees)

Indicators:
- ☐ Mudcracks
- ☐ Ripples
- ☐ Drift and/or debris
- ☐ Presence of bed and bank
- ☑ Benches
- ☐ Soil development
- ☐ Surface relief
- ☐ Other: ___
- ☐ Other: ___
- ☐ Other: ___

Comments:

low terrace is a small bench

Floodplain unit: ☐ Low-Flow Channel ☐ Active Floodplain ☐ Low Terrace

GPS point: N/A

Characteristics of the floodplain unit:
Average sediment texture: ___
Total veg cover: ___ % Tree: ___ % Shrub: ___ % Herb: ___ %
Community successional stage:
- ☐ NA
- ☐ Early (herbaceous & seedlings)
- ☐ Mid (herbaceous, shrubs, saplings)
- ☐ Late (herbaceous, shrubs, mature trees)

Indicators:
- ☐ Mudcracks
- ☐ Ripples
- ☐ Drift and/or debris
- ☐ Presence of bed and bank
- ☐ Benches
- ☐ Soil development
- ☐ Surface relief
- ☐ Other: ___
- ☐ Other: ___
- ☐ Other: ___

Comments:

Appendix C
Wetland Determination Forms

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Carmax National City City/County: National City / S.D. Sampling Date: 5/19/15

Applicant/Owner: CIS LCC State: CA Sampling Point: SP 1

Investigator(s): Paul Schwartz Dale Ritenour Section, Township, Range: No Section, T17S R2W (National City)

Landform (hillslope, terrace, etc.): channel Local relief (concave, convex, none): concave Slope (%): ~1

Subregion (LRR): C-Med Lat: 32.659646° Long: -117.066904° Datum: WGS 84

Soil Map Unit Name: Chino Silt Loam, Saline 0-2% slopes NWI classification: Riverine

Are climatic / hydrologic conditions on the site typical for this time of year? Yes Y No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? No Are "Normal Circumstances" present? Yes ✓ No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓ No ____	Is the Sampled Area within a Wetland? Yes ✓ No ____
Hydric Soil Present?	Yes ✓ No ____	
Wetland Hydrology Present?	Yes ✓ No ____	

Remarks: intermittent to perennial flows (ponding obs prior to rain storm) sample point conducted below lg. culvert.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. Salix lasiolepis	30	Y	FACW
2. Washingtonia robusta	60	Y	FACW
3.			
4.			
= Total Cover			
Sapling/Shrub Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
5.			
= Total Cover			
Herb Stratum (Plot size: 5')			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
= Total Cover			
Woody Vine Stratum (Plot size: 5')			
1.			
2.			
= Total Cover			

% Bare Ground in Herb Stratum 20 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species		x 1 =
FACW species		x 2 =
FAC species		x 3 =
FACU species		x 4 =
UPL species		x 5 =
Column Totals:	(A)	(B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

✓ Dominance Test is >50%
__ Prevalence Index is ≤3.0[1]
__ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
__ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No ____

Remarks: 80% open water

SOIL

Sampling Point: SP1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-10	10YR 5/3	100					Sand	
10-16	N2.5/Black	100					loamy sand	Sulfuric

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- __ Histosol (A1)
- __ Histic Epipedon (A2)
- __ Black Histic (A3)
- X Hydrogen Sulfide (A4)
- __ Stratified Layers (A5) (**LRR C**)
- __ 1 cm Muck (A9) (**LRR D**)
- __ Depleted Below Dark Surface (A11)
- __ Thick Dark Surface (A12)
- __ Sandy Mucky Mineral (S1)
- __ Sandy Gleyed Matrix (S4)
- __ Sandy Redox (S5)
- __ Stripped Matrix (S6)
- __ Loamy Mucky Mineral (F1)
- __ Loamy Gleyed Matrix (F2)
- __ Depleted Matrix (F3)
- __ Redox Dark Surface (F6)
- __ Depleted Dark Surface (F7)
- __ Redox Depressions (F8)
- __ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- __ 1 cm Muck (A9) (**LRR C**)
- __ 2 cm Muck (A10) (**LRR B**)
- __ Reduced Vertic (F18)
- __ Red Parent Material (TF2)
- __ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: None

Depth (inches): Ø

Hydric Soil Present? Yes ✓ No ____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- __ Surface Water (A1)
- X High Water Table (A2) 2"
- __ Saturation (A3)
- __ Water Marks (B1) (**Nonriverine**)
- __ Sediment Deposits (B2) (**Nonriverine**)
- __ Drift Deposits (B3) (**Nonriverine**)
- __ Surface Soil Cracks (B6)
- __ Inundation Visible on Aerial Imagery (B7)
- __ Water-Stained Leaves (B9)
- __ Salt Crust (B11)
- __ Biotic Crust (B12)
- __ Aquatic Invertebrates (B13)
- X Hydrogen Sulfide Odor (C1)
- __ Oxidized Rhizospheres along Living Roots (C3)
- __ Presence of Reduced Iron (C4)
- __ Recent Iron Reduction in Tilled Soils (C6)
- __ Thin Muck Surface (C7)
- __ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ✓ Water Marks (B1) (**Riverine**)
- ✓ Sediment Deposits (B2) (**Riverine**)
- ✓ Drift Deposits (B3) (**Riverine**)
- __ Drainage Patterns (B10)
- __ Dry-Season Water Table (C2)
- __ Crayfish Burrows (C8)
- __ Saturation Visible on Aerial Imagery (C9)
- __ Shallow Aquitard (D3)
- __ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ____ No ✓ Depth (inches): ____

Water Table Present? Yes ✓ No ____ Depth (inches): 2"

Saturation Present? (includes capillary fringe) Yes ✓ No ____ Depth (inches): 3"

Wetland Hydrology Present? Yes ✓ No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Carmax National City City/County: National City / S.D. Sampling Date: 5/19/15

Applicant/Owner: CIS LCC State: CA Sampling Point: SP 2

Investigator(s): Paul Schwartz / Dale Ritenour Section, Township, Range: No Section, T17S, R2W (National City CA)

Landform (hillslope, terrace, etc.): drainage Local relief (concave, convex, none): concave Slope (%): ~1

Subregion (LRR): C-Med Lat: 32.659606 Long: -117.066906 Datum: WGS 84

Soil Map Unit Name: Chino Silt Loam, Saline 0-2% slopes NWI classification: riverine

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? No Are "Normal Circumstances" present? Yes ✓ No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓ No ____	**Is the Sampled Area within a Wetland?**	**Yes** ____ **No** ✓
Hydric Soil Present?	Yes ____ No ✓		
Wetland Hydrology Present?	Yes ✓ No ____		

Remarks: paired pit w/ SP1

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. Salix lasiolepis	60	Y	FACW
2. Washingtonia robusta	25	Y	FACW
3.			
4.			
	85 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
5.			
	Ø = Total Cover		
Herb Stratum (Plot size: 5')			
1. Stipa miliaceum	5	Y	UPL
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	5 = Total Cover		
Woody Vine Stratum (Plot size: 5')			
1.			
2.			
	Ø = Total Cover		

% Bare Ground in Herb Stratum 25 % Cover of Biotic Crust Ø

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 66 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species	____	x 1 = ____
FACW species	____	x 2 = ____
FAC species	____	x 3 = ____
FACU species	____	x 4 = ____
UPL species	____	x 5 = ____
Column Totals:	____ (A)	____ (B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

✓ Dominance Test is >50%

__ Prevalence Index is ≤3.0[1]

__ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

__ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No ____

Remarks:

SOIL

Sampling Point: SP2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-16"	10YR 3/2	100					Sandy loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- __ Histosol (A1)
- __ Histic Epipedon (A2)
- __ Black Histic (A3)
- __ Hydrogen Sulfide (A4)
- __ Stratified Layers (A5) (**LRR C**)
- __ 1 cm Muck (A9) (**LRR D**)
- __ Depleted Below Dark Surface (A11)
- __ Thick Dark Surface (A12)
- __ Sandy Mucky Mineral (S1)
- __ Sandy Gleyed Matrix (S4)
- __ Sandy Redox (S5)
- __ Stripped Matrix (S6)
- __ Loamy Mucky Mineral (F1)
- __ Loamy Gleyed Matrix (F2)
- __ Depleted Matrix (F3)
- __ Redox Dark Surface (F6)
- __ Depleted Dark Surface (F7)
- __ Redox Depressions (F8)
- __ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- __ 1 cm Muck (A9) (**LRR C**)
- __ 2 cm Muck (A10) (**LRR B**)
- __ Reduced Vertic (F18)
- __ Red Parent Material (TF2)
- __ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: None

Depth (inches): Ø

Hydric Soil Present? Yes ____ No ✓

Remarks: No redox detected, very sandy soils

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- __ Surface Water (A1)
- __ High Water Table (A2)
- __ Saturation (A3)
- __ Water Marks (B1) (**Nonriverine**)
- ✓ Sediment Deposits (B2) (**Nonriverine**)
- ✓ Drift Deposits (B3) (**Nonriverine**)
- __ Surface Soil Cracks (B6)
- __ Inundation Visible on Aerial Imagery (B7)
- __ Water-Stained Leaves (B9)
- __ Salt Crust (B11)
- __ Biotic Crust (B12)
- __ Aquatic Invertebrates (B13)
- __ Hydrogen Sulfide Odor (C1)
- __ Oxidized Rhizospheres along Living Roots (C3)
- __ Presence of Reduced Iron (C4)
- __ Recent Iron Reduction in Tilled Soils (C6)
- __ Thin Muck Surface (C7)
- __ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- __ Water Marks (B1) (**Riverine**)
- ✓ Sediment Deposits (B2) (**Riverine**)
- ✓ Drift Deposits (B3) (**Riverine**)
- ✓ Drainage Patterns (B10)
- __ Dry-Season Water Table (C2)
- __ Crayfish Burrows (C8)
- __ Saturation Visible on Aerial Imagery (C9)
- __ Shallow Aquitard (D3)
- __ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ____ No ✓ Depth (inches): ____

Water Table Present? Yes ____ No ✓ Depth (inches): ____

Saturation Present? (includes capillary fringe) Yes ____ No ✓ Depth (inches): ____

Wetland Hydrology Present? Yes ✓ No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Carmax National City City/County: National City / S.D. Sampling Date: 5/19/2015

Applicant/Owner: CIS LLC State: CA Sampling Point: SP 3

Investigator(s): Paul Schwartz / Dale Ritenour Section, Township, Range: No Section, T17S R2W (National City CA)

Landform (hillslope, terrace, etc.): drainage Local relief (concave, convex, none): Concave Slope (%): ~1

Subregion (LRR): C-Med Lat: 32.656532° Long: -117.070369° Datum: WGS 84

Soil Map Unit Name: Chino Silt Loam, Saline 0-2% slopes NWI classification: Riverine

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? No Are "Normal Circumstances" present? Yes Y No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓ No ____	Is the Sampled Area within a Wetland? Yes ✓ No ____
Hydric Soil Present?	Yes ✓ No ____	
Wetland Hydrology Present?	Yes ✓ No ____	

Remarks: Sample point represents lower end of wetland.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
= Total Cover			
Sapling/Shrub Stratum (Plot size: 15')			
1. Salix goodingii	10	Y	FACW
2.			
3.			
4.			
5.			
= Total Cover	10		
Herb Stratum (Plot size: 5')			
1. Festuca perennis	100		FAC
2.			
3.			
4.			
5.			
6.			
7.			
8.			
= Total Cover	100		
Woody Vine Stratum (Plot size: 5')			
1.			
2.			
= Total Cover	Ø		

% Bare Ground in Herb Stratum Ø % Cover of Biotic Crust Ø

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species		x 1 =
FACW species		x 2 =
FAC species		x 3 =
FACU species		x 4 =
UPL species		x 5 =
Column Totals:	(A)	(B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

- ✓ Dominance Test is >50%
- ___ Prevalence Index is ≤3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No ____

Remarks:

SOIL

Sampling Point: SP3

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-6"	10YR 3/2	100					Sandy loam	
6-14"	10YR 3/2	80	7.5YR 4/6	10	D		Sandy loam	
			2.5 4/1	10	RM		Sandy loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ✓ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: None

Depth (inches): Ø

Hydric Soil Present? **Yes** ✓ **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ✓ Water Marks (B1) (**Riverine**)
- ✓ Sediment Deposits (B2) (**Riverine**)
- ✓ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ___	No ✓	Depth (inches): ___
Water Table Present?	Yes ___	No ✓	Depth (inches): ___
Saturation Present? (includes capillary fringe)	Yes ___	No ✓	Depth (inches): ___

Wetland Hydrology Present? **Yes** ✓ **No** ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Carmax National City City/County: National City / S.D. Sampling Date: 5/19/2015

Applicant/Owner: CIS LCC State: CA Sampling Point: SP4

Investigator(s): Paul Schwartz / Dale Ritenour Section, Township, Range: No Section, T17S R2W (National City CA)

Landform (hillslope, terrace, etc.): drainage Local relief (concave, convex, none): concave Slope (%): ~1

Subregion (LRR): C-Med Lat: 32.658571° Long: -117.069412 Datum: WGS 84

Soil Map Unit Name: Chino Silt Loam, Saline 0-2% slopes NWI classification: riverine

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? No Are "Normal Circumstances" present? Yes Y No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓ No ____	Is the Sampled Area within a Wetland?	Yes Y No ____
Hydric Soil Present?	Yes ✓ No ____		
Wetland Hydrology Present?	Yes ✓ No ____		

Remarks:

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: 30)			
1. Salix lasiolepis	75	Y	FACW
2. Schinus terebinthifolius	10	N	FAC
3.			
4.			
	85 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
	____ = Total Cover		
Herb Stratum (Plot size: 5)			
1. Ambrosia psilostachya	1	N	FACU
2. Asparagus officinalis	10	Y	FACU
3.			
4.			
5.			
6.			
7.			
8.			
	11 = Total Cover		
Woody Vine Stratum (Plot size: 5)			
1.			
2.			
	Ø = Total Cover		

% Bare Ground in Herb Stratum 30 % Cover of Biotic Crust Ø

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species	____	x 1 = ____
FACW species	____	x 2 = ____
FAC species	____	x 3 = ____
FACU species	____	x 4 = ____
UPL species	____	x 5 = ____
Column Totals:	____ (A)	____ (B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

✓ Dominance Test is >50%

__ Prevalence Index is ≤3.0[1]

__ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

__ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No ____

Remarks: 59% litter w/n herb strata

SOIL

Sampling Point: SP 4

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-12	10YR 3/2	93	10YR 4/6	7	C	M	Silty clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- _X_ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):
Type: None
Depth (inches): Ø

Hydric Soil Present? Yes ✓ No ___

Remarks: F6

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ✓ Water Marks (B1) (**Riverine**)
- ✓ Sediment Deposits (B2) (**Riverine**)
- ✓ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No ✓ Depth (inches): ___
Water Table Present? Yes ___ No ✓ Depth (inches): ___
Saturation Present? (includes capillary fringe) Yes ___ No ✓ Depth (inches): ___

Wetland Hydrology Present? Yes ✓ No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Carmax National City City/County: National City / S.D. Sampling Date: 5/19/15

Applicant/Owner: CIS LCC State: CA Sampling Point: SP5

Investigator(s): Paul Schwartz Dale Ritenour Section, Township, Range: No Section T17S, R2W (National City CA)

Landform (hillslope, terrace, etc.): drainage Local relief (concave, convex, none): concave Slope (%): ~1

Subregion (LRR): C-Med Lat: 32.658636° Long: -117.069671 Datum: WGS 84

Soil Map Unit Name: Chino Silt Loam, Saline 0-2% slopes NWI classification: Riverine

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? No Are "Normal Circumstances" present? Yes ✓ No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____ No ✓	Is the Sampled Area within a Wetland?	Yes ____ No ✓
Hydric Soil Present?	Yes ✓ No ____		
Wetland Hydrology Present?	Yes ✓ No ____		

Remarks:

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: 30')			
1. Schinus terebinthifolius	25	Y	FAC
2. Melaleuca sp.	20	Y	UPL
3.			
4.			
	45 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Herb Stratum (Plot size: 5')			
1. Bromus diandrus	90	Y	UPL
2. Festuca perennis	1	N	FAC
3. Rhaphanus sativus	8	N	UPL
4.			
5.			
6.			
7.			
8.			
	99 = Total Cover		
Woody Vine Stratum (Plot size: 5')			
1.			
2.			
	Ø = Total Cover		

% Bare Ground in Herb Stratum 1 % Cover of Biotic Crust Ø

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 33 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species		x 1 =
FACW species		x 2 =
FAC species	26	x 3 = 78
FACU species		x 4 =
UPL species	118	x 5 = 590
Column Totals:	144 (A)	668 (B)

Prevalence Index = B/A = 4.6

Hydrophytic Vegetation Indicators:

- ___ Dominance Test is >50% No
- ___ Prevalence Index is ≤3.0[1] No
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ____ No ✓

Remarks:

SOIL

Sampling Point: SP 5

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-12	10YR 3/2	75	5YR 4/6	25	C	M	Silty clay	full of redox

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ✓ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):
Type: None
Depth (inches): Ø

Hydric Soil Present? Yes ✓ No ___

Remarks: F6

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ✓ Drift Deposits (B3) (**Riverine**)
- ✓ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No ✓ Depth (inches): ___
Water Table Present? Yes ___ No ✓ Depth (inches): ___
Saturation Present? (includes capillary fringe) Yes ___ No ✓ Depth (inches): ___

Wetland Hydrology Present? Yes ✓ No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Appendix D
Site Photographs

Photograph: 1

Photo Date: April 27, 2015

Location: Upper Portion of Feature 1.

Direction: Photo looking northeast (upstream).

Comment: Photo depicts a 25-foot wide box culvert located at the upstream end of Feature 1.

Photograph: 2

Photo Date: July 6, 2015

Location: Upper Portion of Feature 1.

Direction: Photo looking east (across the channel).

Comment: Photo depicts large sediment deposits and debris at the upper portion of Feature 1.

Photograph: 3

Photo Date: June 19, 2015

Location: Upper Portion of Feature 1.

Direction: Photo looking south (downstream).

Comment: Photo depicts Sample Point 1.

Photograph: 4

Photo Date: June 19, 2015

Location: Upper Portion of Feature 1.

Direction: Photo looking south (downstream).

Comment: Photo depicts Sample Point 2.

Photograph: 5

Photo Date: June 27, 2015

Location: Upper portion of Feature 1.

Direction: Photo looking northwest (upstream).

Comment: Photo depicts cat-tail and club-rush vegetation with Feature 1.

Photograph: 6

Photo Date: May 19, 2015

Location: Middle portion of Feature 1, just above confluence with Feature 2.

Direction: Photo looking northeast (upstream).

Comment: Photo depicts Sample Point 3.

Photograph: 7

Photo Date: May 20, 2015

Location: Lower portion of Feature 1.

Direction: Photo looking north (upstream).

Comment: Photo depicts the channel bottom and adjacent vegetation at the lower portion of Feature 1.

Photograph: 8

Photo Date: May 20, 2015

Location: Upper Portion of Feature 2.

Direction: Photo looking south (downstream).

Comment: Photo depicts the channel and vegetation associated with the upper portion of Feature 2.

Photograph: 9

Photo Date: May 19, 2015

Location: Lower Portion of Feature 2.

Direction: Photo looking northwest (upstream).

Comment: Photo depicts the conditions present in the lower portion of Feature 2.

	**Photograph:** 10 **Photo Date:** July 6, 2015 **Location:** Feature 2b. **Direction:** Photo looking west (upstream). **Comment:** Photo depicts Feature 2b.
	**Photograph:** 11 **Photo Date:** April 27, 2015 **Location:** Feature 1b. **Direction:** Photo looking west (downstream). **Comment:** Photo depicts cat-tail and vegetation and standing water just below the culvert at the top of Feature 1b.
	**Photograph:** 12 **Photo Date:** May 19, 2015 **Location:** Feature 1b. **Direction:** Photo looking south (across the channel). **Comment:** Photo depicts Wetland Sample Point #4.

	**Photograph:** 13 **Photo Date:** May 19, 2015 **Location:** Feature 1b. **Direction:** Photo looking northeast (upstream). **Comment:** Photo depicts Wetland Sample Point #5.

Memorandum

To: Jason Pruitt, CarMax Auto Superstore

From: Lanika Cervantes
ICF; Regulatory Specialist

Date: November 26, 2019

Re: **National City CarMax Project - Jurisdictional Delineation Addendum**

This jurisdictional delineation addendum updates the jurisdictional limits reported in the Jurisdictional Delineation Report National City CarMax Project, National City, San Diego County, California dated April 2017 and prepared by ICF Jones & Stokes (ICF 2017). Additional fieldwork was completed in 2018 based on comments received by the Resource Agencies, additionally based on inputs by the Regional Water Quality Control Board (RWQCB) the waters of the State jurisdictional limits was revised. This addendum describes the additional fieldwork that was performed, rationale for updates to jurisdictional limits, and provides the updated acreage of existing federal jurisdiction (i.e., subject to U.S. Army Corps of Engineers [USACE] regulation) and state jurisdiction (i.e., subject to the RWQCB and California Department of Fish and Wildlife [CDFW] regulation) within the study area.

Project Description

The proposed development consists of the construction of a CarMax pre-owned automobile dealership, service building and non-public carwash with associated access drives, parking lots and landscaped areas. The proposed project will include a sales building with an attached presentation area, a service area and a detached non-public carwash.

Project Location

The study area is located within National City, San Diego County, California, just east of the Interstate (I) 805 and State Route (SR) 54 intersection (Attachment 1, Figure 1). The study area is mapped within an un-sectioned portion (Township 17 South, Range 2 West) of the *National City, California*, U.S. Geological Survey (USGS) 7.5-minute topographic map quadrangle (USGS 1996) (Attachment 1, Figure 2). The center of the study area is located at the following Universal Transverse Mercator coordinates: 493491 East, 3613481 North (WGS 84).

Methodology

Mapping Waters of the State – RWQCB Only

At the request of the RWQCB, ICF Biologists Lanika Cervantes and Nicole Salas completed additional wetland sample pits onsite on July 26, 2018. Based on the 2- and 5-year existing flood extents, the majority of the study area was shown to pond for a short duration before draining through an 8-foot-wide culvert at the downstream end of the study area. In order to further evaluate these areas and determine if ponding occurred for a long enough duration to support hydric soils, additional wetland sample pits were taken. Wetland sample points 6 through 10 were taken during these surveys and are provided in Attachment 2.

Based on further discussions and negotiations with the RWQCB, waters of the State under the jurisdiction of RWQCB was extended (Attachment 1, Figure 3). After RWQCB's review of the existing 2-year flood extents of the site, RWQCB determined that waters of the State jurisdictional limits should include areas where the existing 2-year flood extent overlaps with hydrophytic dominate vegetation communities. The rationale was that these areas support two parameters (hydrology and hydrophytic vegetation) and therefore this provides evidence that surface waters is present in these areas and meet the state definition for waters of the State.

The vegetation mapping was used to determine vegetation communities onsite that supported dominate hydrophytic vegetation communities, this included: arroyo willow thickets, cattail marshes, cottonwood tree, giant reed breaks, mule-fat thickets, naturalized warm-temperate riparian and wetland semi-natural stands, and red willow thickets. Nonnative riparian and nonnative woodland were not determined to be dominate hydrophytic vegetation communities and therefore were not included. As described in the Biological Technical Report for the National City CarMax Project dated November 2019 and prepared by ICF Jones & Stokes (ICF 2019), nonnative riparian is a mixture of hydrophytic vegetation (tamarisk, Mexican fan palm, Brazilian peppertree, curly dock, and bristly ox-tongue) and upland vegetation (Canary Island date palm, Shamel ash, castro bean, and smilo grass, and wild radish) and therefore is not considered a hydrophytic dominated community. In addition, nonnative woodland is also a mixture of hydrophytic vegetation and upland species dominated by Mexican fan palm, Brazilian peppertree, bottlebrush tree, tree of heaven, and acacia and is also not considered a hydrophytic dominated community.

Water Board Waters of the State Definition

The Water Code defines "waters of the state" broadly to include "any surface water or groundwater, including saline waters, within the boundaries of the state."

The Waters Boards have also provided a new definition for state wetlands as part of the State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State that will go into effect on May 28, 2020.

Based on the new definition, the Water Boards define an area as wetland as follows:

> *An area is wetland if, under normal circumstances, (1) the area has continuous or recurrent saturation of the upper substrate caused by groundwater, or shallow surface*

water, or both; (2) the duration of such saturation is sufficient to cause anaerobic conditions in the upper substrate; and (3) the area's vegetation is dominated by hydrophytes or the area lacks vegetation.

Based on the state wetland definition, an area can be considered a state wetland using only two parameters as long as those parameters include: 1) evidence of hydrology and 2) support hydric soils.

Additional Feature Mapped

A site visit with a representative from the RWQCB and USACE was conducted on September 11, 2018. During this site visit an additional outlet and small drainage was observed and mapped. This new feature (Feature 2c) has been added as a waters of the U.S. and State (Attachment 1, Figures 3 and 4).

Results

Waters of the State has been expanded and one additional feature has been mapped. A description of these additions are provided below. Table 1 below presents the updated limits of jurisdictional waters mapped within the study area.

Waters of the State – RWQCB Only

None of the new wetland sample points taken supported indicators of hydrology or hydric soils. Therefore, areas that occur both within the existing 2-year flood extent and support a dominance of hydrophytic vegetation were mapped as waters of the State – RWQCB only waters (Attachment 1, Figure 3). These are nonwetland waters of the State as there are both modeled (2-year flood extent) and onsite physical evidence of hydrology (hydrophytic dominant communities) that demonstrate that surface water is present for some duration after ordinary flood events. Because these areas support only two parameters (hydrology and hydrophytic vegetation) and lack hydric soils, these areas do not meet the definition of state wetlands.

Feature 2c

Feature 2c is a small unvegetated ephemeral stream that starts at a partially buried culvert at the northeast corner of the project site and flows into Feature 2 (Attachment 1, Figures 3 and 4). This feature supports a one-foot-wide OHWM and shelving was observed along the majority of the feature. A representative photograph are included in Attachment 3.

Table 1: Jurisdictional Waters within the Study Area

Drainage	Waters of the U.S. (acres)		Waters of the State RWQCB Only[1] (acres)	CDFW (acres)		U.S./State/ CDFW (linear feet)
	Non-wetland	Wetland		Un-vegetated Streambed	Riparian	
Feature 1	0.50	0.47	---	0.40	1.63	1,809
Feature 1b	0.01	0.03	---	0.01	0.18	266
Feature 2	0.20	---	---	0.26	---	709
Feature 2b	0.01	---	---	0.01	---	55
Feature 2c	0.01	---	---	0.01	---	261
Feature 3	---	0.33	---	--	0.33	--
Waters of the State – RWQCB Only	---	---	1.68	---	---	---
Total[2]	**0.73**	**0.83**	**1.68**	**0.68**	**2.14**	**3,100**

[1] Full RWQCB jurisdiction includes waters of the U.S. plus the waters of the State RWQCB only areas.
[2] Totals may vary from sum of reported values because of rounding of decimal places.

The information and results presented herein document the investigation, best professional judgment, and conclusions of ICF. It is correct and complete to the best of our knowledge. All jurisdictional delineations should be considered preliminary until reviewed and approved/determined by the regulatory agencies.

If you have any questions about this letter report, please contact Lanika Cervantes at (858) 444-3916.

Figures

1 Regional Vicinity Map
2 Project Location
3 USACE and RWQCB Jurisdictional Delineation Results Map
4 CDFW Jurisdictional Delineation Results Map

Attachments

1. Figures
2. New Wetland Data Forms
3. Photo Log

References

ICF Jones & Stokes. 2017. Jurisdictional Delineation Report National City CarMax Project, National City, San Diego County, California. April.

ICF Jones & Stokes. 2019. Biological Technical Report for the National City CarMax Project. November.

U.S. Geological Survey. 1996. National City, California, 7.5-minute Quadrangle.

Attachment 1 – Figures

Figure 1
Regional Vicinity Map
National City CarMax JD Addendum

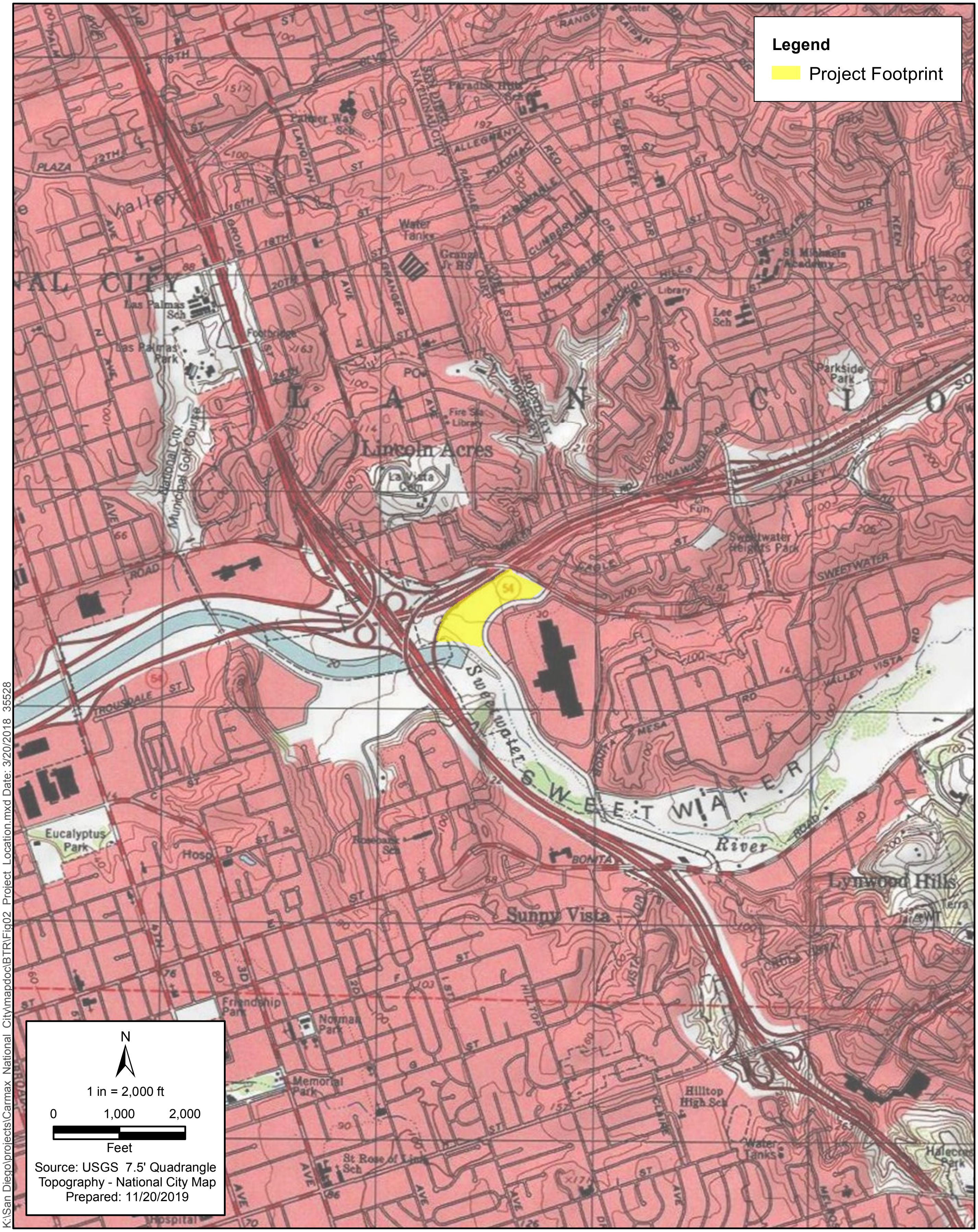


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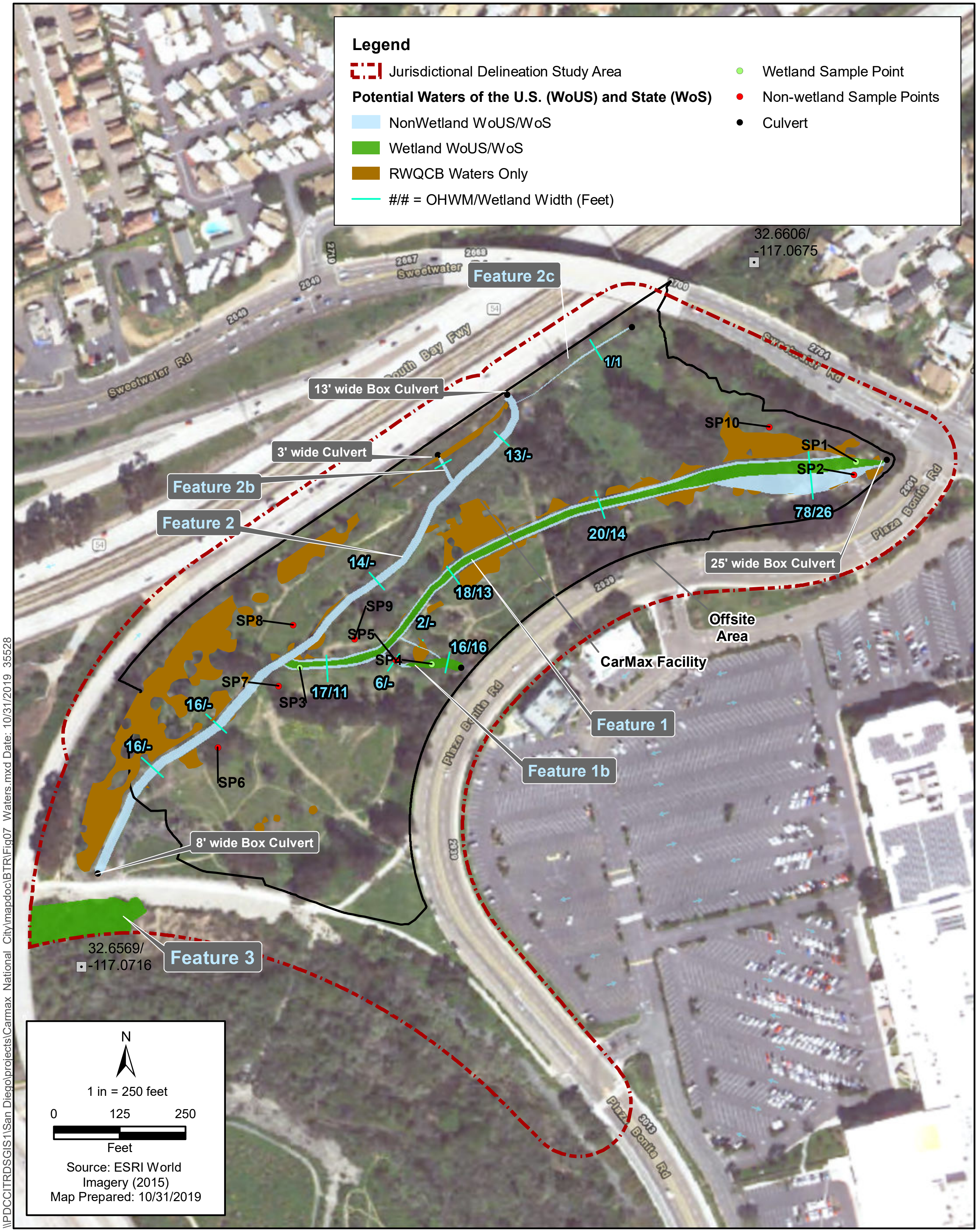
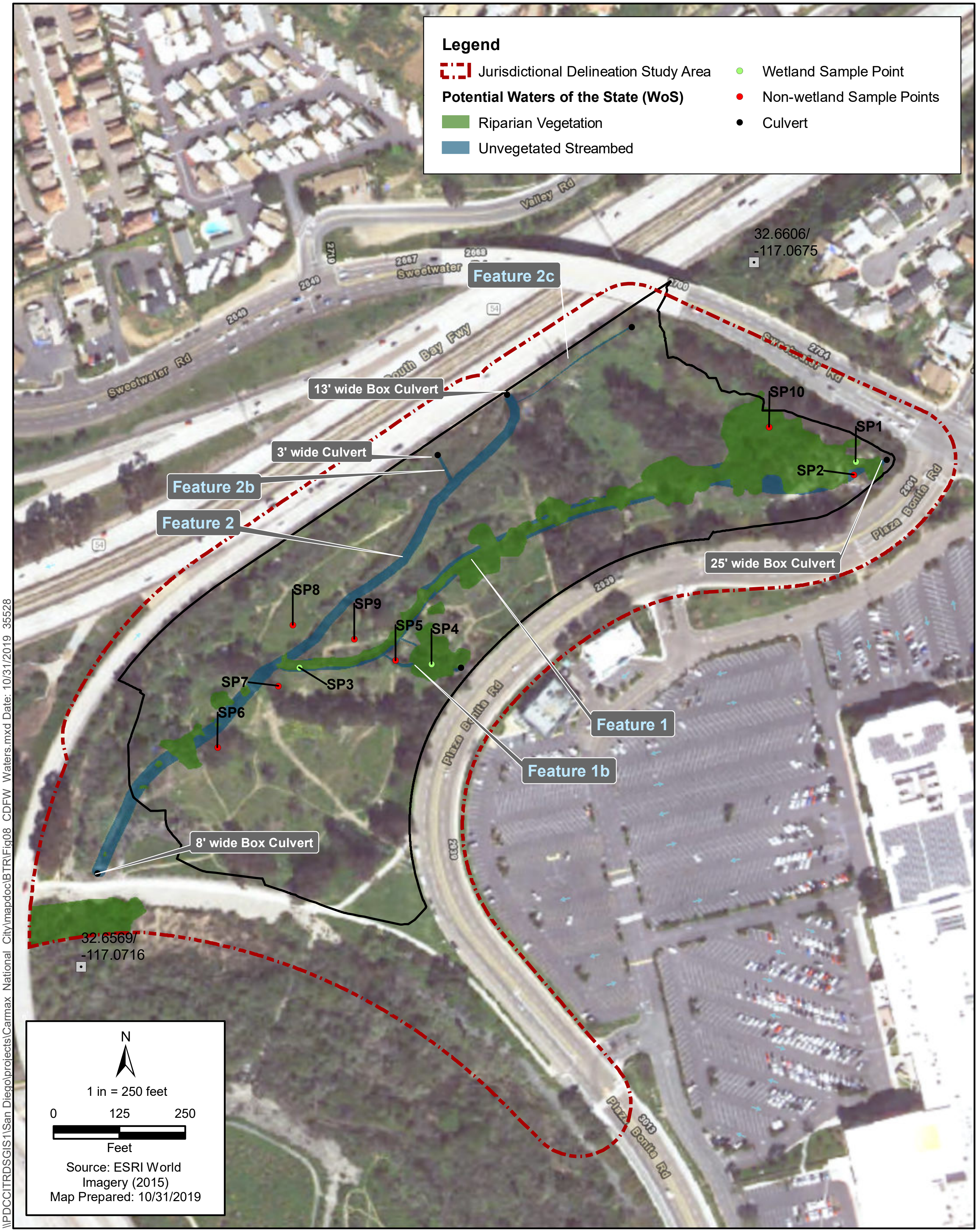
Figure 2
Project Location
National City CarMax JD Addendum



ICF

Figure 3
USACE and RWQCB Jurisdictional Delineation Results Map
National City CarMax JD Addendum



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ICF

Figure 4
CDFW Jurisdictional Delineation Results Map
National City CarMax JD Addendum

Attachment 2 – Wetland Determination Forms

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: National City Carmax City/County: National City/San Diego Sampling Date: 7/26/2018

Applicant/Owner: CarMax State: CA Sampling Point: SP 6

Investigator(s): Lanika Cervantes and Nicole Salas Section, Township, Range: Undefined

Landform (hillslope, terrace, etc.): Terrace - Low area Local relief (concave, convex, none): concave Slope (%): 0

Subregion (LRR): C - Mediterranean California Lat: 32.6580961 Long: -117.0707957 Datum: NAD 83

Soil Map Unit Name: Chino silt loam NWI classification: Undefined

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ◉ No ○ (If no, explain in Remarks.)

Are Vegetation ☐ Soil ☐ or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ◉ No ○

Are Vegetation ☐ Soil ☐ or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ○	No ◉
Hydric Soil Present?	Yes ○	No ◉
Wetland Hydrology Present?	Yes ○	No ◉

Is the Sampled Area within a Wetland? Yes ○ No ◉

Remarks: Sample Point taken in lowest area within the terrace outside of the mapped drainage. Based on the 2- and 5- year existing flood events this area is shown to flood fully.

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Eucalyptus polyanthemos*	40	Yes	Not Listed
2.			
3.			
4.			
Total Cover:	40 %		
Sapling/Shrub Stratum			
1. *Populus fremontii (sapling)*	2	Yes	FAC
2.			
3.			
4.			
5.			
Total Cover:	2 %		
Herb Stratum			
1. *Cynodon dactylon*	30	Yes	FACU
2.			
3.			
4.			
5.			
6.			
7.			
8.			
Total Cover:	30 %		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

% Bare Ground in Herb Stratum 70 % % Cover of Biotic Crust %

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC:	1	(A)
Total Number of Dominant Species Across All Strata:	3	(B)
Percent of Dominant Species That Are OBL, FACW, or FAC:	33.3 %	(A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	0
FACW species		x 2 =	0
FAC species	2	x 3 =	6
FACU species	30	x 4 =	120
UPL species	40	x 5 =	200
Column Totals:	72 (A)		326 (B)

Prevalence Index = B/A = 4.53

Hydrophytic Vegetation Indicators:

- ☐ Dominance Test is >50%
- ☐ Prevalence Index is ≤3.0[1]
- ☐ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ○ No ◉

Remarks: The sample area was mostly covered with plant litter and grasses.

SOIL

Sampling Point: SP 6

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-16	10 YR 3/3	100	-				Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR C**)
- ☐ 1 cm Muck (A9) (**LRR D**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) (**LRR C**)
- ☐ 2 cm Muck (A10) (**LRR B**)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ______

Depth (inches): ______

Hydric Soil Present? Yes ○ No ◉

Remarks: Soils were very dry and no evidence of saturation was observed within the sample area. No redox was observed during subsurface investigations.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1) (**Nonriverine**)
- ☐ Sediment Deposits (B2) (**Nonriverine**)
- ☐ Drift Deposits (B3) (**Nonriverine**)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Recent Iron Reduction in Plowed Soils (C6)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) (**Riverine**)
- ☐ Sediment Deposits (B2) (**Riverine**)
- ☐ Drift Deposits (B3) (**Riverine**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches): ______

Water Table Present? Yes ○ No ◉ Depth (inches): ______

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): ______

Wetland Hydrology Present? Yes ○ No ◉

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: No wetland hydrology indicators, primary or secondary, were observed within the sample area. Sample area located approximately 5 feet higher in elevation from adjacent drainage.

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: National City Carmax | City/County: National City/San Diego | Sampling Date: 7/26/2018

Applicant/Owner: CarMax | State: CA | Sampling Point: SP 7

Investigator(s): Lanika Cervantes and Nicole Salas | Section, Township, Range: Undefined

Landform (hillslope, terrace, etc.): Low area | Local relief (concave, convex, none): concave | Slope (%): 0

Subregion (LRR): C - Mediterranean California | Lat: 32.6584203 | Long: -117.0704234 | Datum: NAD 83

Soil Map Unit Name: Chino silt loam | NWI classification: Undefined

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ◉ No ○ (If no, explain in Remarks.)

Are Vegetation ☐ Soil ☐ or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ◉ No ○

Are Vegetation ☐ Soil ☐ or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ○	No ◉
Hydric Soil Present?	Yes ○	No ◉
Wetland Hydrology Present?	Yes ○	No ◉

Is the Sampled Area within a Wetland? Yes ○ No ◉

Remarks: Sample point taken outside of drainage supporting wetland habitat. This area is within the 2- and 5-year existing flood event area.

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Eucalyptus polyanthemos*	30	Yes	
2.			
3.			
4.			
Total Cover:	30 %		
Sapling/Shrub Stratum			
1. *Ricinus communis*	1	Yes	FACU
2.			
3.			
4.			
5.			
Total Cover:	1 %		
Herb Stratum			
1. *Cynodon dactylon*	50	Yes	FACU
2. *Stipa miliacea var. miliacea*	2	No	Not Listed
3.			
4.			
5.			
6.			
7.			
8.			
Total Cover:	52 %		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

% Bare Ground in Herb Stratum 48 % | % Cover of Biotic Crust %

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC:	0	(A)
Total Number of Dominant Species Across All Strata:	3	(B)
Percent of Dominant Species That Are OBL, FACW, or FAC:	0.0 %	(A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	0
FACW species		x 2 =	0
FAC species		x 3 =	0
FACU species	51	x 4 =	204
UPL species	2	x 5 =	10
Column Totals:	53 (A)		214 (B)

Prevalence Index = B/A = 4.04

Hydrophytic Vegetation Indicators:

- Dominance Test is >50%
- Prevalence Index is ≤3.0[1]
- ☐ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ○ No ◉

Remarks: The sample area was mostly covered with plant litter and an herbaceous layer. Bare ground was present under the plant litter.

SOIL

Sampling Point: SP 7

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-12	10 YR 3/1	100	N/A				Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR C**)
- ☐ 1 cm Muck (A9) (**LRR D**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) (**LRR C**)
- ☐ 2 cm Muck (A10) (**LRR B**)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: Compacted soils

Depth (inches): 12 inches

Hydric Soil Present? Yes ○ No ◉

Remarks: Soils were very dry and compact, difficult to dig deeper than 12 inches. No evidence of saturation was observed within the sample area.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1) (**Nonriverine**)
- ☐ Sediment Deposits (B2) (**Nonriverine**)
- ☐ Drift Deposits (B3) (**Nonriverine**)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Recent Iron Reduction in Plowed Soils (C6)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) (**Riverine**)
- ☐ Sediment Deposits (B2) (**Riverine**)
- ☐ Drift Deposits (B3) (**Riverine**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

	Yes	No	Depth (inches)
Surface Water Present?	○	◉	
Water Table Present?	○	◉	
Saturation Present? (includes capillary fringe)	○	◉	

Wetland Hydrology Present? Yes ○ No ◉

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: No wetland hydrology indicators, primary or secondary, were observed within the sample area. Sample area taken approximately 4 feet higher in elevation from mapped wetland areas.

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: National City Carmax   City/County: National City/San Diego   Sampling Date: 7/26/2018

Applicant/Owner: CarMax   State: CA   Sampling Point: SP 8

Investigator(s): Lanika Cervantes and Nicole Salas   Section, Township, Range: Undefined

Landform (hillslope, terrace, etc.): Terrace   Local relief (concave, convex, none): none   Slope (%): 0

Subregion (LRR): C - Mediterranean California   Lat: 32.6587439   Long: -117.0703374   Datum: NAD 83

Soil Map Unit Name: Chino silt loam   NWI classification: Undefined

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ● No ○ (If no, explain in Remarks.)

Are Vegetation ☐ Soil ☐ or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ● No ○

Are Vegetation ☐ Soil ☐ or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ○	No ●
Hydric Soil Present?	Yes ○	No ●
Wetland Hydrology Present?	Yes ○	No ●

Is the Sampled Area within a Wetland? Yes ○ No ●

Remarks: The sample area is approximately 15 feet away and 5 feet higher in elevation from the drainage feature.

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:	%		
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:	%		
Herb Stratum			
1. *Bromus sp.*	15	Yes	Not Listed
2. *Salsola tragus*	5	Yes	FACU
3.			
4.			
5.			
6.			
7.			
8.			
Total Cover:	20 %		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

% Bare Ground in Herb Stratum 80 %   % Cover of Biotic Crust %

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC:	0	(A)
Total Number of Dominant Species Across All Strata:	2	(B)
Percent of Dominant Species That Are OBL, FACW, or FAC:	0.0 %	(A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	0
FACW species		x 2 =	0
FAC species		x 3 =	0
FACU species	5	x 4 =	20
UPL species	15	x 5 =	75
Column Totals:	20 (A)		95 (B)

Prevalence Index = B/A = 4.75

Hydrophytic Vegetation Indicators:

- ○ Dominance Test is >50%
- ○ Prevalence Index is ≤3.0[1]
- ☐ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ○ No ●

Remarks: The sample area is mostly bare ground with a majority of herbaceous vegetation present.

SOIL

Sampling Point: SP 8

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-10	10 YR 3/2	100	-				Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR C**)
- ☐ 1 cm Muck (A9) (**LRR D**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) (**LRR C**)
- ☐ 2 cm Muck (A10) (**LRR B**)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: Compact soil

Depth (inches): 10

Hydric Soil Present? Yes ○ No ◉

Remarks: Soils were very dry and no evidence of saturation was observed within the sample area. Compact soils that were difficut to dig deeper than 10 inches.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1) (**Nonriverine**)
- ☐ Sediment Deposits (B2) (**Nonriverine**)
- ☐ Drift Deposits (B3) (**Nonriverine**)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Recent Iron Reduction in Plowed Soils (C6)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) (**Riverine**)
- ☐ Sediment Deposits (B2) (**Riverine**)
- ☐ Drift Deposits (B3) (**Riverine**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ○	No ◉	Depth (inches):
Water Table Present?	Yes ○	No ◉	Depth (inches):
Saturation Present? (includes capillary fringe)	Yes ○	No ◉	Depth (inches):

Wetland Hydrology Present? Yes ○ No ◉

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: No wetland hydrology indicators, primary or secondary, were observed within the sample area.

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: National City Carmax City/County: National City/San Diego Sampling Date: 7/26/2018

Applicant/Owner: CarMax State: CA Sampling Point: SP 9

Investigator(s): Lanika Cervantes and Nicole Salas Section, Township, Range: Undefined

Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): none Slope (%): 0

Subregion (LRR): C - Mediterranean California Lat: 32.658675 Long: -117.069963 Datum: NAD 83

Soil Map Unit Name: Chino silt loam NWI classification: Undefined

Are climatic / hydrologic conditions on the site typical for this time of year? Yes (●) No ( ) (If no, explain in Remarks.)

Are Vegetation ☐ Soil ☐ or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes (●) No ( )

Are Vegetation ☐ Soil ☐ or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ( )	No (●)
Hydric Soil Present?	Yes ( )	No (●)
Wetland Hydrology Present?	Yes ( )	No (●)

Is the Sampled Area within a Wetland? Yes ( ) No (●)

Remarks: Sample point taken between the two mapped drainages within the 2- and 5-year existing flood event limits.

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Chamaerops sp.*	15	Yes	Not Listed
2.			
3.			
4.			
Total Cover:	15 %		
Sapling/Shrub Stratum			
1. *Tamarix ramosissima*	5	Yes	FAC
2.			
3.			
4.			
5.			
Total Cover:	5 %		
Herb Stratum			
1. *Cynodon dactylon*	60	Yes	FACU
2. *Bromus diandrus*	25	Yes	Not Listed
3.			
4.			
5.			
6.			
7.			
8.			
Total Cover:	85 %		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

% Bare Ground in Herb Stratum 15 % % Cover of Biotic Crust %

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 25.0 % (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	0
FACW species		x 2 =	0
FAC species	5	x 3 =	15
FACU species	60	x 4 =	240
UPL species	40	x 5 =	200
Column Totals:	105 (A)		455 (B)

Prevalence Index = B/A = 4.33

Hydrophytic Vegetation Indicators:

- ☐ Dominance Test is >50%
- ☐ Prevalence Index is ≤3.0[1]
- ☐ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ( ) No (●)

Remarks: The sample area is dominated with FACU herbaceous vegetation and has some bareground present.

SOIL

Sampling Point: SP 9

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-4	10 YR 3/1	100	-				Loam	
5-12	10 YR 4/3	100	-				Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR C**)
- ☐ 1 cm Muck (A9) (**LRR D**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) (**LRR C**)
- ☐ 2 cm Muck (A10) (**LRR B**)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? Yes ○ No ◉

Remarks: No evidence of saturation was observed within the sample area. Soils pit kept collapsing into itself so difficult to get past 12 inches.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1) (**Nonriverine**)
- ☐ Sediment Deposits (B2) (**Nonriverine**)
- ☐ Drift Deposits (B3) (**Nonriverine**)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Recent Iron Reduction in Plowed Soils (C6)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) (**Riverine**)
- ☐ Sediment Deposits (B2) (**Riverine**)
- ☐ Drift Deposits (B3) (**Riverine**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ○	No ◉	Depth (inches):
Water Table Present?	Yes ○	No ◉	Depth (inches):
Saturation Present? (includes capillary fringe)	Yes ○	No ◉	Depth (inches):

Wetland Hydrology Present? Yes ○ No ◉

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: No wetland hydrology indicators, primary or secondary, were observed within the sample area. Sample area located about 5 feet higher in elevation from mapped drainages.

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: National City Carmax | City/County: National City/San Diego | Sampling Date: 7/26/2018

Applicant/Owner: CarMax | State: CA | Sampling Point: SP 10

Investigator(s): Lanika Cervantes and Nicole Salas | Section, Township, Range: Undefined

Landform (hillslope, terrace, etc.): outer floodplain - Low area | Local relief (concave, convex, none): none | Slope (%): 0

Subregion (LRR): C - Mediterranean California | Lat: 32.6598006 | Long: -117.0674108 | Datum: NAD 83

Soil Map Unit Name: Chino silt loam | NWI classification: Undefined

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ◉ No ○ (If no, explain in Remarks.)

Are Vegetation ☐ Soil ☐ or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ◉ No ○

Are Vegetation ☐ Soil ☐ or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

	Yes	No
Hydrophytic Vegetation Present?	◉	○
Hydric Soil Present?	○	◉
Wetland Hydrology Present?	○	◉

Is the Sampled Area within a Wetland? Yes ○ No ◉

Remarks: Sample point taken within the larger CDFW riparian only habitat, near the boundary of the 2- and 5-year flood event limits.

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Salix lasiolepis*	65	Yes	FACW
2. *Eucalyptus polyanthemos*	10	No	Not Listed
3.			
4.			
Total Cover:	75 %		
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:	%		
Herb Stratum			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
Total Cover:	%		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

% Bare Ground in Herb Stratum 100 % | % Cover of Biotic Crust %

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0 % (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species		x 1 = 0
FACW species	65	x 2 = 130
FAC species		x 3 = 0
FACU species		x 4 = 0
UPL species	10	x 5 = 50
Column Totals:	75 (A)	180 (B)

Prevalence Index = B/A = 2.40

Hydrophytic Vegetation Indicators:

- ☒ Dominance Test is >50%
- ☒ Prevalence Index is ≤3.0[1]
- ☐ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks: The sample area had no herbaceous layer and was covered with leaf litter. Area is dominated by mature willow trees.

SOIL

Sampling Point: SP 10

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-10	10 YR 3/2	100	-				Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR C**)
- ☐ 1 cm Muck (A9) (**LRR D**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) (**LRR C**)
- ☐ 2 cm Muck (A10) (**LRR B**)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: Compact soils and trash

Depth (inches): 10 inches

Hydric Soil Present? Yes ○ No ●

Remarks: wooden planks and compact soils made it difficult to dig within this general area. Soils were uniform and no redox was observed. No evidence of saturation was observed within the sample area.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1) (**Nonriverine**)
- ☐ Sediment Deposits (B2) (**Nonriverine**)
- ☐ Drift Deposits (B3) (**Nonriverine**)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Recent Iron Reduction in Plowed Soils (C6)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) (**Riverine**)
- ☐ Sediment Deposits (B2) (**Riverine**)
- ☒ Drift Deposits (B3) (**Riverine**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ○ No ● Depth (inches):

Water Table Present? Yes ○ No ● Depth (inches):

Saturation Present? (includes capillary fringe) Yes ○ No ● Depth (inches):

Wetland Hydrology Present? Yes ○ No ●

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Drift deposits for a riverine system were observed within the sample area. Many willows are present near the toe of slope from the road adjacent to the sample area. No other hydrology indicators were observed within this area.
Sample point located about 2-3 feet higher in elevation from mapped wetland limits.

Attachment 3 – Photo Log

Feature 2c, newly mapped feature. Blue line indicated the channel bottom added.

Appendix D

CRAM Analysis Report

December 07, 2015

Heath Kennedy
Centerpoint Integrated Solutions, LLC
1240 Bergen Parkway, Suite A-250
Evergreen, CO 80439

Subject: National City CarMax CRAM Analysis, National City, California

Dear Mr. Kennedy:

This letter report details the methodology and results of the wetland condition assessment conducted in support of the National City CarMax Project (Project) located in National City, San Diego County, California (Figure 1). The wetland condition was assessed using the California Rapid Assessment Method (CRAM), which has been developed in collaboration with the scientific community and resource agencies for use throughout California. A total of three CRAM assessment areas were established within the approximately 18.37-acre Project study area (Study Area) (Figure 2).

CRAM Study Area Location and Description

The study area is located within National City, San Diego County, California, just east of the Interstate (I) 805 and State Route (SR) 54 intersection (Figure 1). The study area is mapped within an un-sectioned portion (Township 17 South, Range 2 West) of the *National City, California*, U.S. Geological Survey (USGS) 7.5-minute topographic map quadrangle (USGS 1996). The center of the study area is located at the following Universal Transverse Mercator coordinates: 493491 East, 3613481 North (WGS 84). The majority of the watershed upstream of the study area is developed with both residential, commercial and transportation uses, and most of the historic stream features now exist as altered or underground features.

The study area resembles a basin as it is lower than the surrounding lands and has a relatively level bottom and has slopes on the west, north and east side. Within the study area the elevation ranges from approximately 20 to 30 feet above mean sea level. A jurisdictional delineation was conducted in support of the project and two unnamed soft bottom riverine drainage features were mapped in the study area (Features 1 and 2), both of which originate from culverts (Figure 2). These two features are tributaries to the Sweetwater River, a major river in San Diego County, located immediately south/downstream of the study area on the other side of a levee. Both un-named blue line features located within the study area as well as the Sweetwater River are depicted as having intermittent flows on the *National City, California*, USGS topographic map (USGS 1996).

CRAM Overview

The CRAM methodology has been in development over the last 7-plus years in collaboration with resource agencies and scientists throughout California. The overall goal of CRAM is to "provide rapid, scientifically defensible, standardized, cost-effective assessments of the status and trends in the condition of wetlands and related policies, programs, and projects throughout California" (CWMW 2013a). CRAM is becoming the chosen functional assessment method for future permitted projects throughout California.

CRAM is an ambient monitoring and assessment tool that can be performed on different scales, ranging from an individual wetland to across a watershed or a larger region. CRAM is designed to collect a coarse assessment of the site's ambient conditions but can be used to measure progress toward meeting success criteria established for wetland function/condition, and can be repeated over the long term if necessary or desired. One of the benefits of CRAM is that it does not require an intensive watershed-level assessment to calibrate variable scores. Instead, CRAM has been calibrated throughout California and in various wetland types.

CRAM is being used for the Project to quantify baseline wetland conditions (i.e. CRAM scores) that will be compared with post project CRAM scores to document the effect of the project (as well as any potential restoration activities) on the features in the study area. This information will also be critical for Project regulatory permitting process associated with jurisdictional waters and wetlands under Sections 401 and 404 of the Clean Water Act (CWA).

General CRAM Methodology

The final CRAM score for each AA is composed of four main attribute scores (buffer and landscape context, hydrology, physical structure, and biotic structure), which are based on the metric and submetric scores (a measurable component of each attribute) (Table 1). The anticipated relationships between the CRAM attributes and metrics, and various ecological services expected from conceptual models of wetland form and function are presented in Table 2. The CRAM practitioners assign a letter rating (A–D) for each metric/submetric based on a defined set of conditions "brackets" ranging from an "A" as the theoretical best case achievable for the wetland class across California to a "D," the worst-case achievable. Each metric condition level (A–D) has a fixed numerical value (A=12, B=9, C=6, D=3), which, when combined with the other metrics results in a score for each attribute. That number is then converted to a percentage of the maximum score achievable for each attribute and represents the final attribute score ranging from 25 to 100%. The final overall CRAM score is the sum of the four final attribute scores, ranging from 25 to 100%.

Table 1. CRAM Attributes, Metrics and Submetrics[1]

<table>
<tr><th colspan="2">Attributes</th><th>Metrics and Submetrics</th></tr>
<tr><td colspan="2" rowspan="5">Buffer and Landscape Context</td><td>Aquatic Area Abundance</td></tr>
<tr><td>Buffer:</td></tr>
<tr><td>– Percent of Assessment Area with Buffer</td></tr>
<tr><td>– Average Buffer Width</td></tr>
<tr><td>– Buffer Condition</td></tr>
<tr><td colspan="2" rowspan="3">Hydrology</td><td>Water Source</td></tr>
<tr><td>Hydroperiod</td></tr>
<tr><td>Hydrologic Connectivity</td></tr>
<tr><td rowspan="2">Structure</td><td rowspan="2">Physical</td><td>Structural Patch Richness</td></tr>
<tr><td>Topographic Complexity</td></tr>
</table>

[1] Table as shown on page 14 in the 2013 CRAM User's Manual v. 6.1 (CWMW 2013a).

	Biotic	Plant Community Composition:
		– Number of Plant Layers
		– Number of Codominant Species
		– Percent Invasion
		Horizontal Interspersion and Zonation
		Vertical Biotic Structure

Table 2. Expected Relationship among CRAM Attributes, Metrics, and Key Services[2]

	Attributes	Buffer and Landscape Context	Hydrology			Physical Structure		Biotic Structure				
	Metrics or Submetrics	Buffer and Landscape Connectivity Metrics	Water Source	Channel Stability	Hydrologic Connectivity	Structural Patch Richness	Topographic Complexity	Number of Plant Layers	Number of Codominant Species	Percent Invasion	Horizontal Interspersion	Vertical Biotic Structure
KEY SERVICES	Short- or long-term surface water storage	√		√	√	√	√				√	√
	Subsurface water storage		√	√	√		√					
	Moderation of groundwater flow or discharge	√	√									
	Dissipation of energy					√	√	√			√	√
	Cycling of nutrients	√		√	√	√	√	√	√	√		√
	Removal of elements and compounds	√		√	√		√	√			√	
	Retention of particulates			√	√	√	√	√	√		√	
	Export of organic carbon			√	√			√		√	√	√
	Maintenance of plant and animal communities	√		√	√	√	√	√	√	√	√	√

Methodology

On May 20, 2015, ICF biologists Paul Schwartz and Dale Ritenour (both certified CRAM practitioners) conducted a CRAM analysis of the riverine features in the study area. The CRAM analysis was performed using the CRAM Riverine Model as outlined in the 2013 CRAM User's Manual v. 6.1 (CWMW 2013a) and 2013 CRAM Riverine Wetlands Field Book, v. 6.1 (CWMW 2013b).

[2] Table as shown on page 15 in the 2013 CRAM User's Manual v. 6.1 (CWMW 2013a).

Prior to visiting the site, ICF CRAM practitioners reviewed aerial imagery of the study area, vegetation maps, and the results of a jurisdictional delineation conducted for the study area. Three separate riverine CRAM assessment areas (AAs) were established within the study area (Figure 2). Two AAs were established within Feature 1, with AA1 upstream of the confluence with Feature 2 and the second (AA 2) downstream of the confluence. AA3 was established within Feature 2 (Figure 2). In the field, the CRAM practitioners walked each AA, delimitated the upstream and lateral limits, and documented information used to score each metric. Where appropriate certain landscape and hydrology metrics were scored in the office using aerial imagery at different scales. In addition, photos were taken at four points around the perimeter of each AA (Attachment 1). After recording observations within the AAs, the ICF CRAM practitioners scored each CRAM metric/submetric and calculated the attribute scores and a final overall CRAM score (see description below).

Results

The results below represent the wetland condition of the site as quantified by the CRAM metrics and submetrics. This data is based on ambient conditions present during the May 29, 2015 field visit. All AAs were determined to be non-confined riverine features. Table 3 provides a breakdown of the CRAM scores for each AA including the attribute, metric, submetric scores as well as the overall CRAM score. Photos of each AA are attached as Attachment 1. The completed CRAM datasheets for each of the AAs are included as Attachment 2.

Table 3. Scores for CRAM Attributes, Metrics, Submetrics for Each Assessment Area

Attributes	CRAM Metrics and Submetrics	AA 1	AA 2	AA 3
Buffer and Landscape Context	Stream Corridor Continuity	D (3)	D (3)	D (3)
	Percent of Assessment Area with Buffer	A (12)	A (12)	A (12)
	Average Buffer Width	D (3)	C (6)	D (3)
	Buffer Condition	C (6)	C (6)	C (6)
	Final Attribute Score (%)	**38%**	**42%**	**38%**
Hydrology	Water Source	C (6)	C (6)	C (6)
	Channel Stability	B (9)	B (9)	B (9)
	Hydrologic Connectivity	A (12)	B (9)	A (12)
	Final Attribute Score	**75%**	**58%**	**75%**
Physical Structure	Structural Patch Richness	D (3)	C (6)	D (3)
	Topographic Complexity	C (6)	C (6)	C (6)
	Final Attribute Score	**38%**	**50%**	**38%**
Biotic Structure	Plant Community (PC): Number of Plant Layers	C (6)	B (9)	C (6)
	PC: Number of Codominant Species	D (3)	C (6)	D (3)
	PC: Percent Invasion	C (6)	D (3)	D (3)
	Horizontal Interspersion	B (9)	C (6)	D (3)
	Vertical Biotic Structure	C (6)	C (6)	D (3)
	Attribute Score (Raw/Final)	**56%**	**50%**	**28%**
	Overall AA Score (%)	**52%**	**50%**	**45%**

Discussion

The following discussion includes comments on the current conditions of each AA as it relates to each metric at the time of the assessment. The attribute score and the overall CRAM score is also discussed.

Attribute 1: Buffer and Landscape Context

Metric 1: Stream Corridor Continuity

An AA's stream corridor continuity upstream and downstream generally reflects the overall health of the riverine system, in particular the ability of wildlife to enter the stream corridor from outside of it at any place. As such, this metric score is assessed by looking within a 500 meter area or the AA, both upstream and downstream. The metric is scored based on the quantity (i.e. total length) of "unfavorable land" that interrupts either side of the stream corridor within 500 meters upstream or downstream of the AA. Unfavorable land is defined as a non-buffer land cover occupying more than 10 meters of stream length and can include developed lands, wildlife fences, agriculture, urban parks, lawns and landscaped areas, etc…

AA1 , AA 2 and AA 3 all received D scores for this as metric as the combined total length of non-buffer segments for each is greater than 200 meters upstream of the AAs where both streams drop underground and into structures.

Metric 2: Buffer

The buffer metric is comprised of three submetrics. The scoring for these submetrics are combined with the Landscape Connectivity metric score in a simple algorithm that results in the overall Buffer and Landscape attribute score.

The buffer submetric evaluates the area immediately abutting the lateral limits of the AA. To qualify as buffer the area needs to be in a natural or semi-natural state and currently not dedicated to anthropogenic uses that would severely detract from its ability to entrap contaminants, discourage entry into the AA by people and non-native predators, or otherwise protect the AA from adjacent stress and disturbance. The buffer metric is composed of three submetrics that assess various elements of the buffer habitat: presence of buffer, buffer width, and buffer condition (see below).

Submetric 1: Percent of Assessment Area with Buffer: This submetric is based on the relationship between the extent of buffer and the functions provided. Typically areas with more buffer provide more habitat values, better water quality and other valuable functions. Buffer areas are critical to aquatic areas as they provide protection from outside stressors including noise and light, human uses, pollution, and non-native plant and animal species. The percentage of buffer surrounding the AA is obtained by calculating the percentage of the area paralleling the stream that has at least a 5 meter wide area of buffer land cover types.

All of the AAs received an A score for this submetric, as each AA is surrounded by 100% buffer (Figure 2). In this case, the buffer consists of a mixture of native and non-native habitats present within the study area.

Submetric 2: Average Buffer Width: This submetric scores the average width of buffer within 250 meters of either side of the AA. A wider buffer has a greater capacity to serve as habitat for wetland edge dependent species, to reduce the inputs of non-point source contaminants, to control erosion, and to generally protect the wetland from human activities. The average width of the buffer adjoining the AA is estimated by averaging the lengths of eight straight lines drawn at regular intervals around the AA from its perimeter outward to the nearest non-buffer land cover or 250 meters whichever is first encountered.

AA 1 and AA 3 received a D score for this submetric as the average buffer widths are 52 and 62 meters wide respectively. AA 2 received a C score as its average buffer width is 68 meters wide. The threshold to obtain a C score is to have a minimum of 65 meters average buffer width. The southern portion of the study area where AA 2 is located is slightly wider than the study area where AA 1 and AA 3 are located resulting in a higher score. For accuracy these calculations were completed in GIS.

Submetric 3: Buffer Condition: This submetric scores the overall quality or condition of the buffer in regards to its vegetation cover (native versus non-native species), the overall condition of its substrate (disturbed or undisturbed soils), and intensity of human use. The condition of the buffer, in addition to its width and extent around a wetland, contributes to the overall capacity of the buffer to perform its functions.

All of the AAs received a C for buffer condition due to the presence of a substantial amount of non-native vegetation (>75%), a moderate degree of soil disturbance or compaction, and a moderate intensity of human visitation. The buffer condition is being impacted mostly by the substantial amount of non-native vegetation cover as well as the presence of long term homeless encampments in the study area.

Attribute 2: Hydrology

Metric 1: Water Source

Water sources directly affect the extent, duration, and frequency of the hydrological dynamics within an AA. This metric is assessed based on water sources that affect the dry season condition of the AA and looks at both natural and artificial inputs (urban runoff) as well as diversions (dams and drop structures). To score this metric site aerial imagery was used as well as other information collected about the region and watershed surrounding the AA to assess the water source in a 2 km area upstream of the AA.

Each AA scored a C for this metric because freshwater sources that affect the dry season condition of the AAs are primarily unnatural, as the water source consists chiefly of urban runoff. This is evidenced in that the immediate drainage basin upstream of the AAs consists of more than 20% developed lands which contributes substantially to the water sources affecting the AAs.

Metric 2: Channel Stability

The form of riverine systems as well as their ecological function is largely determined by the patterns of flow, in conjunction with the size, composition, and amount of sediment that the flow carries or deposits. The channel stability metric assesses various field indicators of aggradation (i.e. the net accumulation of sediment on the channel bed causing it to rise over time), degradation (i.e. the net loss of sediment from the channel bed causing it to lower over time), or equilibrium (i.e. represented by a channel having neither an abundance of aggradation, or degradation field indicators) in order to characterize the overall stability of the stream channel.

All AAs received a score of B for channel stability indicating there is some evidence of aggradation or degradation but nothing severe. AA 1 exhibited three field indicators of channel equilibrium, no indicators of active degradation and one indicator of active aggradation. AA 2 exhibited 3 field indicators of channel equilibrium, two indicators of active aggradation, and two indicators of active degradation. AA 3 exhibited five field indicators of channel equilibrium, no indicators of active degradation and one indicator of active aggradation.

Feature 1 (contains AA 1 and AA2) is a highly dynamic feature in that the upper portion of the feature (upstream of AA 1) is showing indicators of active aggradation (i.e. large splays of recent sediment on the floodplain, and perennial vegetation encroaching into the channel) while the lower portion of Feature 1; below the confluence with Feature 2, shows some indicators of active degradation (i.e. lower banks are uniformly scoured and not vegetated, and the channel bed is scoured to bedrock or hard clay). However, neither, AA 1 or AA 2 were determined to have severe indicators of aggradation of degradation. Feature 2 (contains AA 3) is smaller and less dynamic and is characterized by having a few non-severe indicators of aggradation or degradation and contains a consistent sediment load throughout the length of the feature.

<u>Metric 3: Hydrologic Connectivity</u>

Hydrologic connectivity between wetlands and adjacent uplands promotes the exchange of water, sediment, nutrients, and organic carbon. Hydrologic connectivity describes the ability of water to flow into or out of the wetland and into the adjacent upland, or to accommodate rising floodwaters without dramatic changes in water level that can result in stress to wetland plants and animals. This metric is scored by assessing the degree to which the lateral movement of floodwaters is restricted by measuring the degree of channel entrenchment (defined as the flood prone width divided by the bankfull width).

AA 1 and AA 3 each received a score of A for this metric while AA 2 received a score of B. AA 1 and AA 3 each were determined to have an entrenchment ratio of 7 and 10.5 respectively which means that storm flows during a storm event have the potential to "overbank" and extend onto the adjacent floodplain allowing for the exchange of water, sediment, nutrients, and organic carbon. AA 2 was determined to have an entrenchment ratio of 2 which means that storm flows would not normally overbank and would not extend onto the adjacent flood plain.

Attribute 3: Physical Structure

<u>Metric 1: Structural Patch Richness</u>

The richness of physical, structural surfaces and features within a wetland reflects the diversity of physical processes, such as energy dissipation, water storage, and groundwater exchange, which strongly affect the potential ecological complexity of a wetland. Structural patch richness is a measure of the number of different obvious types of physical surfaces or features (patch types) that may provide habitat for aquatic, wetland, or riparian species. Examples of patch types include (but are not limited to) a*bundant wrackline or organic debris in the channel or floodplain*, *cobbles and boulders*, *debris jams*, *large woody debris*, *riffles or rapids*, and *standing snags*.

AA 1 and AA 3 received a score of D for this metric as they contained four and three patch types respectively. AA 2 received a score of C as it contained six patch types. All three AAs contained a*bundant wrackline or organic debris in the channel or floodplain*, and *pools or depressions in the channels*. Both AA 2 and AA 3 contained *point bars and in-channel bars*. In addition, AA 1 contained *standing snags*, and *swales on floodplain or along shoreline*, and AA 2 contained *bank slumps or undercut banks in channels or along shoreline*, *cobbles and boulders*, and *riffles and rapids*.

Metric 2: Topographic Complexity

Topographic complexity promotes variable hydroperiods and concomitant moisture gradients that, in turn, promote ecological complexity by increasing the spatial and temporal variability in energy dissipation, surface water storage, groundwater recharge, particulate matter detention, cycling of elements and compounds, and habitat dynamics. Topographic complexity refers to the micro- and macro-topographic relief and variety of elevations within a wetland due to physical features and elevation gradients that affect moisture gradients or that influence the path of flowing water. This metric is scored by sketching the profile of the AA at the top, middle, and bottom of the AA and scoring the profile based on; the presence and number of definable benches between the channel bottom and the high riparian terrace, slopes between benches, and the number of physical patch types or micro-topographic features that contribute to relief within the channel.

All of the AA's received a score of C for this metric in that all three AAs have are characterized as having a single bench that lacks abundant micro-topographic complexity.

Attribute 4: Biotic Structure

Metric 1: Plant Community

The functions of wetland systems are optimized when a rich native flora dominates the plant community, and when the botanical structure of the wetland is complex in 3-dimensional space, due to species diversity and recruitment, resulting in suitable habitat for multiple animal species.

The plant community metric is comprised of three submetrics. The scoring for these submetrics are averaged for an overall metric score which is combined with the other biotic structure metric scores to get an overall attribute score.

Submetric 1. Number of Plant Layers

This submetric assess the number of plant layers within the AA. To be counted in CRAM, a layer must cover at least 5 percent of the portion of the AA that is suitable for the layer. AA 1 and AA 3 were scored a C for this submetric while AA 2 was scored a B. AA 1 was determined to support two plant layers; a short layer dominated by non-native ripgut brome (*Bromus diandrus**[3]); and a very tall layer dominated by willows (*Salix lasiolepis*, *Salix goodingii*), silver dollar gum (*Eucalyptus polyanthemos*), and giant reed (*Arundo donax**). AA 2 was determined to support three layers; a short layer dominated by non-native grasses wild oats (*Avena* sp.*), ripgut brome (*Bromus diandrus**); a medium layer dominated by mulefat (*Baccharis salicifolia*); and a very tall layer dominated by silver dollar gum (*Eucalyptus polyanthemos*), giant reed (*Arundo donax**) and black cottonwood (*Populus balsamifera*). AA 3 was determined to support two layers; a short layer dominated by hottentot fig (*Carpobrotus edulis**); and a very tall layer dominated by giant reed (*Arundo donax**).

Submetric 2: Number of Co-dominant Species

This submetric assesses the number of dominant species within the AA. For each plant layer present in the AA, all living plant species represented that comprise at least 10 percent relative cover within each of the layers are considered to be a dominant species. The co-dominant species within each AA is listed above under the discussion for Submetric 1. AA 1 and AA 3 were scored a D for this submetric while AA

[3] *Denotes a species listed on the California Invasive Plant Council (Cal-IPC) Invasive Plant Inventory.

2 was scored a C. AA 1 supported five co-dominate species, AA 2 supported six co-dominant species and AA 3 supported two co-dominate species.

Submetric 3: Percent Invasion

This submetric assess the percentage of-dominants in the AA that are listed as invasive by the California Invasive Plant Council (Cal-IPC). AA 1 supported only 1 co-dominant invasive species (ripgut brome) and scored a C with 20% invasive species. AA 2 supported three co-dominant invasive species including wild oats, ripgut brome, and giant reed and scored a D with 50% invasive species. Finally AA3 had two co-dominant invasive species including hottentot fig and giant reed which resulted in a D with 100% invasive species.

Metric 2: Horizontal Interspersion

This metric is a measure of horizontal biotic structure, which refers to the variety and interspersion of plant "zones." Plant zones are often plant monocultures or obvious multi-species associations that are arrayed along gradients of elevation, moisture, or other environmental factors. Interspersion is essentially a measure of the number of distinct plant zones and the amount of edge between them. A drawn depiction of each assessment area is included on the datasheet (Attachment 2). AA 1 was scored a B, AA 2 was scored a C for this metric and AA 3 was scored a D for this metric. AA 1 supports five co-dominate species within three layers that have a moderate degree of horizontal interspersion. AA 2 supports five co-dominant species within two layers and has a low degree of horizontal interspersion. AA 3 had minimal plant interspersion due to the AA having very limited plant species composition (only two co-dominates within two layers).

Metric 3: Vertical Biotic Structure

This metric assesses the vertical component of biotic structure, which consists of the interspersion and complexity of the plant layers previously used in the plant community sub-metrics, above. This metric quantifies the amount of overlap among the layers, with higher scores resulting from overlap of multiple layers and high percent coverage in the AA. AA 1 and AA 2 were scored a C as 25-50% of the vegetated portion of the AAs supported at least a moderate overlap of 2 plant layers. AA 3 was scored a D as less than 25% of the AA supported a moderate overlap of 2 plant layers.

Overall CRAM Score

The metric and sub-metric scores described above were used to calculate the four attribute scores in addition to the overall CRAM score (Table 3 and 4, Attachment 2). Overall CRAM scores ranged from 45 to 52. CRAM scores were relatively consistent for all 3 AAs as all AAs are in relative close proximity to each other and are subject to similar buffer and landscape attribute conditions and similar water source metric conditions. In addition, the biotic structure attribute conditions are more or less consistent throughout the study area due to the low diversity, high invasive/non-native cover, and low-minimal horizontal and vertical interspersion. Overall CRAM scores for the AAs could improve with enhancement/restoration activities such as; management of non-native species; planting of native forbs, shrubs and trees; and reducing human influence/habitation within the study area.

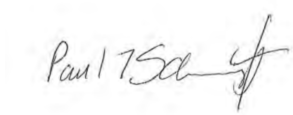
Table 4. Attribute and Overall CRAM Scores

CRAM Attributes	Attribute % Score[1]		
	AA 1	**AA 2**	**AA 3**
Buffer and Landscape Context	38%	42%	38%
Hydrology	75%	58%	75%
Physical Structure	38%	50%	38%
Biotic Structure	56%	50%	28%
Overall CRAM Score[2]	**50%**	**50%**	**45%**

[1] The attribute % score is based on the maximum possible attribute score, which ranges from 25 to 100% for each attribute. See Attachment 2.

[2] The overall score is a percentage of the total possible CRAM score and is calculated as follows: sum of attribute scores/120 x 100 and ranges from 25 to 100%.

Sincerely,



Paul Schwartz
Senior Biologist

Enclosure/Attachment:

Attachment 1 – CRAM Photos

Attachment 2 – CRAM Datasheets

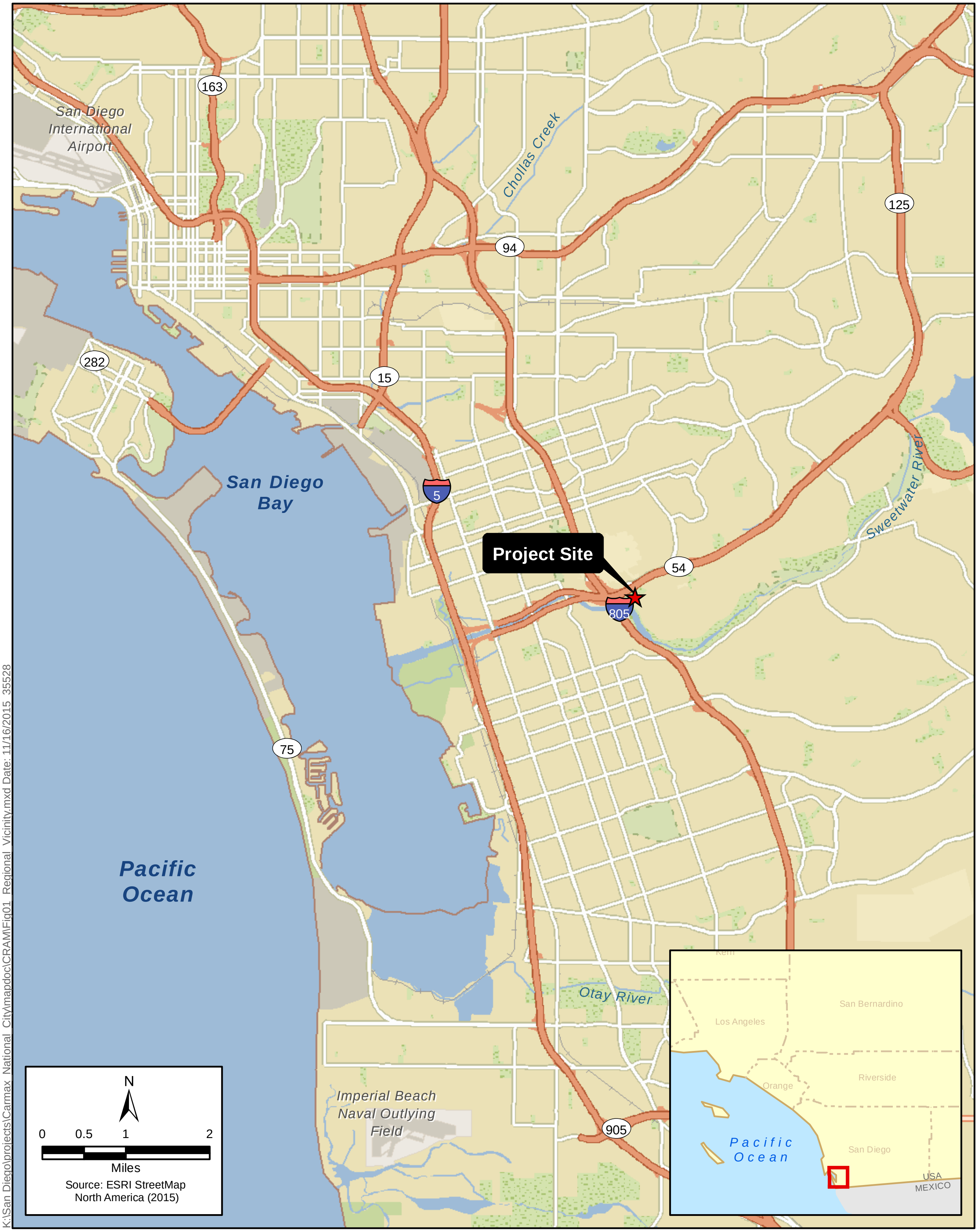


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Figure 1
Regional Vicinity Map
National City CarMax Project

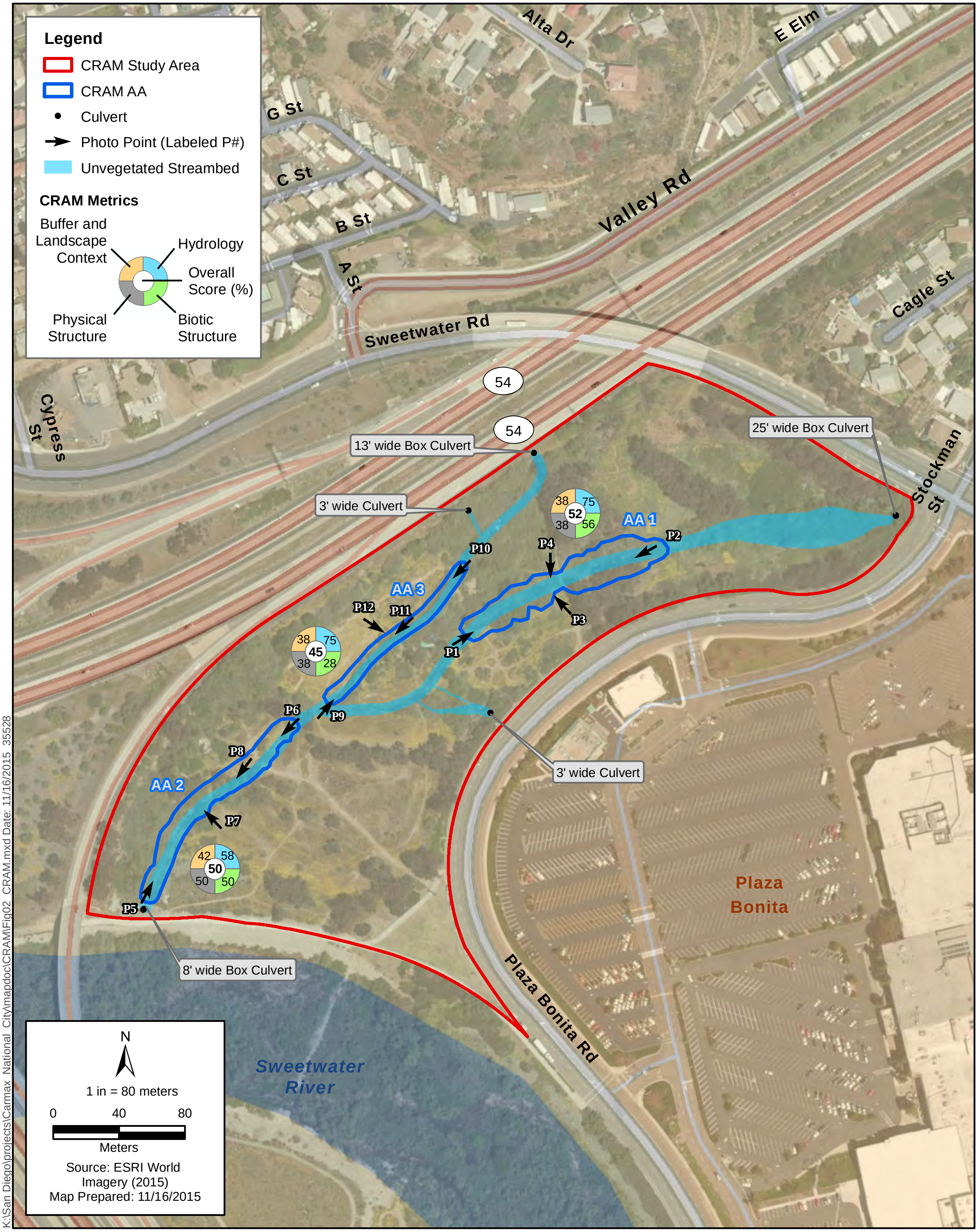

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Figure 2
CRAM Results Map
National City CarMax Project

ATTACHMENT 1

Photograph: 1

Photo Date: May 20, 2015

Location: AA 1

Direction: Downstream end of AA 1 looking upstream.

Comment: Photo of deep pool with debris at the downstream end of AA 1.

Photograph: 2

Photo Date: May 20, 2015

Location: AA 1

Direction: Upstream end of AA 1 looking downstream.

Comment: Photo of channel and riparian vegetation located at the upstream end of AA 1.

Photograph: 3

Photo Date: May 20, 2015

Location: AA 1

Direction: Middle of AA 1 looking east.

Comment: Photo of vegetation within and adjacent to the middle portion of AA 1.

Photograph: 4

Photo Date: May 20, 2015

Location: AA 1

Direction: Middle of AA 1 looking west.

Comment: Photo of vegetation within and adjacent to the middle portion of AA 1.

Photograph: 5

Photo Date: May 20, 2015

Location: AA 2

Direction: Downstream end of AA 2 looking upstream.

Comment: Photo of channel and vegetation present at the downstream end of AA 2.

Photograph: 6

Photo Date: May 20, 2015

Location: AA 2

Direction: Upstream end of AA 2 looking downstream.

Comment: Photo of channel and vegetation present at the upstream end of AA 2.

Photograph: 7

Photo Date: May 20, 2015

Location: AA 2

Direction: Middle of AA 2 looking downstream. No *middle of AA photo looking east* photo was taken as there was a large homeless encampment on the western edge of AA 2.

Comment: Photo of vegetation within and adjacent to the middle portion of AA 2.

Photograph: 8

Photo Date: May 20, 2015

Location: AA 2

Direction: Middle of AA 2 looking west.

Comment: Photo of vegetation within and adjacent to the middle portion of AA 2.

Photograph: 9

Photo Date: May 20, 2015

Location: AA 3

Direction: Downstream end of AA 3 looking upstream.

Comment: Photo of channel and vegetation present at the downstream end of AA 3.

Photograph: 10

Photo Date: May 20, 2015

Location: AA 3

Direction: Upstream end of AA 3 looking downstream.

Comment: Photo of channel and vegetation present at the upstream end of AA 3.

Photograph: 11

Photo Date: May 20, 2015

Location: AA 3

Direction: Middle of AA 3 looking downstream. No *middle of AA photo looking west* photo was taken as there was a large homeless encampment on the eastern edge of AA 3.

Comment: Photo of vegetation within and adjacent to the middle portion of AA 3.

Photograph: 12

Photo Date: May 20, 2015

Location: AA 3

Direction: Middle of AA 3 looking east.

Comment: Photo of vegetation within and adjacent to the middle portion of AA 3.

ATTACHMENT 2

Basic Information Sheet: Riverine Wetlands

Assessment Area Name: Feature 1	
Project Name: National City Carmax	
Assessment Area ID #: AA #1	
Project ID #:	**Date:** 5-20-2015
Assessment Team Members for This AA:	
Paul Schwartz	
Dale Ritenour	
Average Bankfull Width: 6.7 m	
Approximate Length of AA (10 times bankfull width, min 100 m, max 200 m): 133 m	
Upstream Point Latitude: 32° 39.556' N **Longitude:** 117° 4.089' W	
Downstream Point Latitude: 32°.535' N **Longitude:** 117° 4.165' W	

Wetland Sub-type:

☐ Confined ☒ Non-confined

AA Category:

☐ Restoration ☐ Mitigation ☐ Impacted ☒ Ambient ☐ Reference ☐ Training

☐ Other:

Did the river/stream have flowing water at the time of the assessment? ☒ yes ☐ no

What is the apparent hydrologic flow regime of the reach you are assessing?

The hydrologic flow regime of a stream describes the frequency with which the channel conducts water. *Perennial* streams conduct water all year long, whereas *ephemeral* streams conduct water only during and immediately following precipitation events. *Intermittent* streams are dry for part of the year, but conduct water for periods longer than ephemeral streams, as a function of watershed size and water source.

☐ perennial ☒ intermittent ☐ ephemeral

Photo Identification Numbers and Description:

	Photo ID No.	Description	Latitude	Longitude	Datum
1	2357	Upstream	32° 39.567' N	117° 4.090' W	WGS 84
2	2356	Middle Left	32° 39.549' N	117° 4.130' W	WGS 84
3	2355	Middle Right	32° 39.558' N	117° 4.132' W	WGS 84
4	2353	Downstream	32° 39.537' N	117° 4.166' W	WGS 84
5	2353	Bot Ent	32° 39.537' N	117° 4.166' W	WGS 84
6	*	Mid Ent			
7	2357	Top Ent	32° 39.567' N	117° 4.090' W	WGS 84
8					
9					
10					

Site Location Description:

Site consists of a "basin" like feature w/ 2 main riverine features that traverse N to S through the "basin". The Sweetwater R. is located immediately S of the "basin". AA1 was established above the confluence of the 2 main features in the basin.

Comments:

*No middle entrenchment photo taken

Scoring Sheet: Riverine Wetlands

AA Name: AA# 1 Feature 1					**Date:** 5-20-2015	
Attribute 1: Buffer and Landscape Context (pp. 11-19)					**Comments**	
			Alpha.	Numeric	upstream of confl. w/ Feature 2.	
Stream Corridor Continuity (D)			D	3		
Buffer:						
	Alpha.	Numeric				
Buffer submetric A: Percent of AA with Buffer	A	12				
Buffer submetric B: Average Buffer Width	D	3				
Buffer submetric C: Buffer Condition	C	6				
Raw Attribute Score = D+[C x (A x B)^{½}]^{½}				9	**Final Attribute Score = (Raw Score/24) x 100**	38
Attribute 2: Hydrology (pp. 20-26)						
			Alpha.	Numeric		
Water Source			C	6		
Channel Stability			B	9		
Hydrologic Connectivity			A	12		
Raw Attribute Score = sum of numeric scores				27	**Final Attribute Score = (Raw Score/36) x 100**	75
Attribute 3: Physical Structure (pp. 27-33)						
			Alpha.	Numeric		
Structural Patch Richness			D	3		
Topographic Complexity			C	6		
Raw Attribute Score = sum of numeric scores				9	**Final Attribute Score = (Raw Score/24) x 100**	38
Attribute 4: Biotic Structure (pp. 34-41)						
Plant Community Composition (based on sub-metrics A-C)						
	Alpha.	Numeric				
Plant Community submetric A: Number of plant layers	C	6				
Plant Community submetric B: Number of Co-dominant species	D	3				
Plant Community submetric C: Percent Invasion	C	6				
Plant Community Composition Metric *(numeric average of submetrics A-C)*				5		
Horizontal Interspersion			B	9		
Vertical Biotic Structure			C	6		
Raw Attribute Score = sum of numeric scores				20	**Final Attribute Score = (Raw Score/36) x 100**	56
Overall AA Score (average of four final Attribute Scores)					52	

Worksheet for Stream Corridor Continuity Metric for Riverine Wetlands

Lengths of Non-buffer Segments For Distance of 500 m Upstream of AA		Lengths of Non-buffer Segments For Distance of 500 m Downstream of AA	
Segment No.	Length (m)	Segment No.	Length (m)
1	370 x2	1	23 x2
2		2	
3		3	
4		4	
5		5	
Upstream Total Length	740/1000	Downstream Total Length	46/1000

Percent of AA with Buffer Worksheet

In the space provided below make a quick sketch of the AA, or perform the assessment directly on the aerial imagery; indicate where buffer is present, estimate the percentage of the AA perimeter providing buffer functions, and record the estimate amount in the space provided.

See attached Figures

Percent of AA with Buffer: 100 %

Worksheet for calculating average buffer width of AA

Line	Buffer Width (m)
A	27
B	25
C	35
D	42
E	64
F	64
G	72
H	86
Average Buffer Width *Round to the nearest integer*	52

Worksheet for Assessing Channel Stability for Riverine Wetlands

Condition	Field Indicators (check all existing conditions)
Indicators of Channel Equilibrium 3	☒ The channel (or multiple channels in braided systems) has a well-defined bankfull contour that clearly demarcates an obvious active floodplain in the cross-sectional profile of the channel throughout most of the AA. ☐ Perennial riparian vegetation is abundant and well established along the bankfull contour, but not below it. ☐ There is leaf litter, thatch, or wrack in most pools (if pools are present). ☐ The channel contains embedded woody debris of the size and amount consistent with what is naturally available in the riparian area. ☒ There is little or no active undercutting or burial of riparian vegetation. ☐ If mid-channel bars and/or point bars are present, they are not densely vegetated with perennial vegetation. ☐ Channel bars consist of well-sorted bed material (smaller grain size on the top and downstream end of the bar, larger grain size along the margins and upstream end of the bar). ☒ There are channel pools, the spacing between pools tends to be regular and the bed is not planar throughout the AA ☐ The larger bed material supports abundant mosses or periphyton.
Indicators of Active Degradation Ø	☐ The channel is characterized by deeply undercut banks with exposed living roots of trees or shrubs. ☐ There are abundant bank slides or slumps. ☐ The lower banks are uniformly scoured and not vegetated. ☐ Riparian vegetation is declining in stature or vigor, or many riparian trees and shrubs along the banks are leaning or falling into the channel. ☐ An obvious historical floodplain has recently been abandoned, as indicated by the age structure of its riparian vegetation. ☐ The channel bed appears scoured to bedrock or dense clay. ☐ Recently active flow pathways appear to have coalesced into one channel (i.e. a previously braided system is no longer braided). ☐ The channel has one or more knickpoints indicating headward erosion of the bed.
Indicators of Active Aggradation 1	☐ There is an active floodplain with fresh splays of coarse sediment (sand and larger that is not vegetated) deposited in the current or previous year. ☐ There are partially buried living tree trunks or shrubs along the banks. ☐ The bed is planar (flat or uniform gradient) overall; it lacks well-defined channel pools, or they are uncommon and irregularly spaced. ☐ There are partially buried, or sediment-choked, culverts. ☒ Perennial terrestrial or riparian vegetation is encroaching into the channel or onto channel bars below the bankfull contour. ☐ There are avulsion channels on the floodplain or adjacent valley floor.
Overall	☒ **Equilibrium** ☐ **Degradation** ☐ **Aggradation**

Riverine Wetland Entrenchment Ratio Calculation Worksheet

The following 5 steps should be conducted for each of 3 cross-sections located in the AA at the approximate midpoints along straight riffles or glides, away from deep pools or meander bends. An attempt should be made to place them at the top, middle, and bottom of the AA.

Steps	Replicate Cross-sections →	TOP	MID	BOT
1 Estimate bankfull width.	This is a critical step requiring familiarity with field indicators of the bankfull contour. Estimate or measure the distance between the right and left bankfull contours.	9.0	6.3	4.9
2: Estimate max. bankfull depth.	Imagine a level line between the right and left bankfull contours; estimate or measure the height of the line above the thalweg (the deepest part of the channel).	0.5	0.6	0.8
3: Estimate flood prone depth.	Double the estimate of maximum bankfull depth from Step 2.	1.0	1.2	1.6
4: Estimate flood prone width.	Imagine a level line having a height equal to the flood prone depth from Step 3; note where the line intercepts the right and left banks; estimate or measure the length of this line.	35	45	50
5: Calculate entrenchment ratio.	Divide the flood prone width (Step 4) by the bankfull width (Step 1).	3.9	7.1	10.2
6: Calculate average entrenchment ratio.	Calculate the average results for Step 5 for all 3 replicate cross-sections. Enter the average result here and use it in Table 13a or 13b.			7.0

Structural Patch Type Worksheet for Riverine wetlands

Circle each type of patch that is observed in the AA and enter the total number of observed patches in Table below. In the case of riverine wetlands, their status as confined or non-confined must first be determined (see page 6) to determine with patches are expected in the system (indicated by a "1" in the table below). Any feature onsite should only be counted once as a patch type. If a feature appears to meet the definition of more than one patch type (i.e. swale and secondary channel) the practitioner should choose which patch type best illustrates the feature. Not all features at a site will be patch types.

**Please refer to the CRAM Photo Dictionary at www.cramwetlands.org for photos of each of the following patch types.*

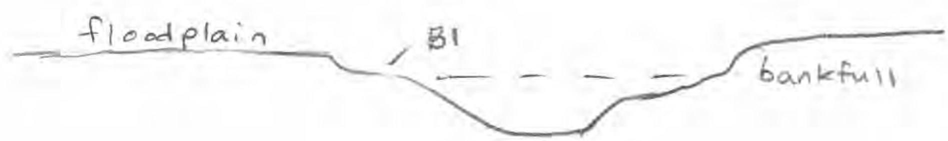
STRUCTURAL PATCH TYPE (circle for presence)	**Riverine (Non-confined)**	**Riverine (Confined)**
Minimum Patch Size	**3 m²**	**3 m²**
Abundant wrackline or organic debris in channel, on floodplain	1	1
Bank slumps or undercut banks in channels or along shoreline	1	1
Cobbles and/or Boulders	1	1
Debris jams	1	1
Filamentous macroalgae or algal mats	1	1
Large woody debris	1	1
Pannes or pools on floodplain	1	N/A
Plant hummocks and/or sediment mounds	1	1
Point bars and in-channel bars	1	1
Pools or depressions in channels (wet or dry channels)	1	1
Riffles or rapids (wet or dry channels)	1	1
Secondary channels on floodplains or along shorelines	1	N/A
Standing snags (at least 3 m tall)	1	1
Submerged vegetation	1	N/A
Swales on floodplain or along shoreline	1	N/A
Variegated, convoluted, or crenulated foreshore (instead of broadly arcuate or mostly straight)	1	1
Vegetated islands (mostly above high-water)	1	N/A
Total Possible	17	12
No. Observed Patch Types (enter here and use in Table 14 below)	4	

Worksheet for AA Topographic Complexity

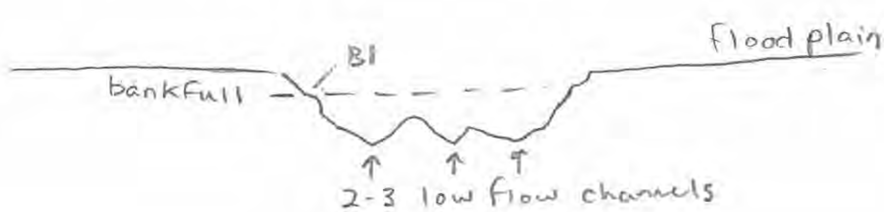
At three locations along the AA, make a sketch of the profile of the stream from the AA boundary down to its deepest area then back out to the other AA boundary. Try to capture the benches and the intervening micro-topographic relief. To maintain consistency, make drawings at each of the stream hydrologic connectivity measurements, always facing downstream. Include the water level, an arrow at the bankfull contour, and label the benches. Based on these sketches and the profiles in Figure 10, choose a description in Table 16 that best describes the overall topographic complexity of the AA.

Profile 1 Bottom

Profile 2 Mid



Profile 3 Top



Plant Community Metric Worksheet: Co-dominant species richness for Riverine wetlands
(A dominant species represents ≥10% *relative* cover)

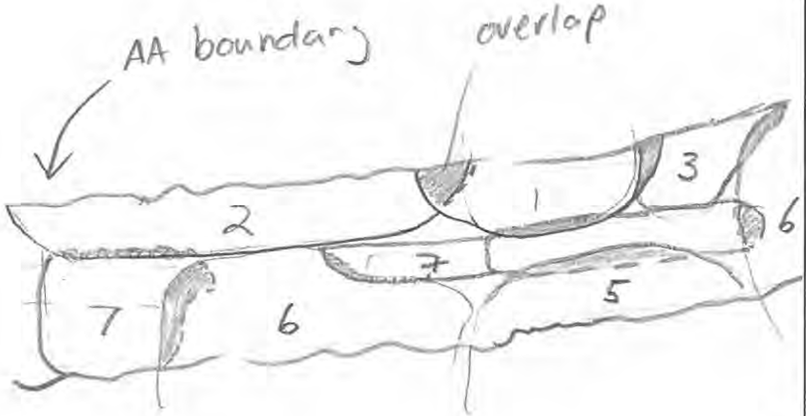
Special Note:

* *Combine the counts of co-dominant species from all layers to identify the total species count. Each plant species is only counted once when calculating the Number of Co-dominant Species and Percent Invasion submetric scores, regardless of the numbers of layers in which it occurs.*

Floating or Canopy-forming (non-confined only)	Invasive?	Short (<0.5 m)	Invasive?
		Bromus diandrus	Y
Medium (0.5-1.5 m)	**Invasive?**	**Tall (1.5-3.0 m)**	**Invasive?**
Very Tall (>3.0 m)	**Invasive?**	**Total number of co-dominant species for all layers combined (enter here and use in Table 18)**	5
Salix goodingii	N		
Salix lasiolepis	N		
Eucalyptus polyanthemos	N	**Percent Invasion *Round to the nearest integer* (enter here and use in Table 18)**	40%
Arundo donax	Y		

Horizontal Interspersion Worksheet.

Use the spaces below to make a quick sketch of the AA in plan view, outlining the major plant zones (this should take no longer than 10 minutes). Assign the zones names and record them on the right. Based on the sketch, choose a single profile from Figure 12 that best represents the AA overall.



Assigned zones:

1) Salix goodingii / eucalyptus.
2) Arundo
3) wild radish
4) Typha
5) Eucalyptus
6) Salix lasiolepis Salix goodingii
7). grasses

Worksheet for Wetland disturbances and conversions

Has a major disturbance occurred at this wetland?	Yes	No		
If yes, was it a flood, fire, landslide, or other?	flood	fire	landslide	other
If yes, then how severe is the disturbance?	likely to affect site next 5 or more years	likely to affect site next 3-5 years	likely to affect site next 1-2 years	
Has this wetland been converted from another type? If yes, then what was the previous type?	depressional	vernal pool	vernal pool system	
	non-confined riverine	confined riverine	seasonal estuarine	
	perennial saline estuarine	perennial non-saline estuarine	wet meadow	
	lacustrine	seep or spring	playa	

Stressor Checklist Worksheet

HYDROLOGY ATTRIBUTE (WITHIN 50 M OF AA)	Present	Significant negative effect on AA
Point Source (PS) discharges (POTW, other non-stormwater discharge)		
Non-point Source (Non-PS) discharges (urban runoff, farm drainage)	X	X
Flow diversions or unnatural inflows	X	X
Dams (reservoirs, detention basins, recharge basins)		
Flow obstructions (culverts, paved stream crossings)	X	X
Weir/drop structure, tide gates		
Dredged inlet/channel		
Engineered channel (riprap, armored channel bank, bed)		
Dike/levees		
Groundwater extraction		
Ditches (borrow, agricultural drainage, mosquito control, etc.)		
Actively managed hydrology		
Comments		

PHYSICAL STRUCTURE ATTRIBUTE (WITHIN 50 M OF AA)	Present	Significant negative effect on AA
Filling or dumping of sediment or soils **(N/A for restoration areas)**		
Grading/ compaction **(N/A for restoration areas)**		
Plowing/Discing **(N/A for restoration areas)**		
Resource extraction (sediment, gravel, oil and/or gas)		
Vegetation management		
Excessive sediment or organic debris from watershed	X	X
Excessive runoff from watershed	X	X
Nutrient impaired (PS or Non-PS pollution)		
Heavy metal impaired (PS or Non-PS pollution)		
Pesticides or trace organics impaired (PS or Non-PS pollution)		
Bacteria and pathogens impaired (PS or Non-PS pollution)	X	
Trash or refuse	X	X
Comments		

BIOTIC STRUCTURE ATTRIBUTE (WITHIN 50 M OF AA)	Present	Significant negative effect on AA
Mowing, grazing, excessive herbivory (within AA)		
Excessive human visitation	X	X
Predation and habitat destruction by non-native vertebrates (e.g., *Virginia opossum* and domestic predators, such as feral pets)		
Tree cutting/sapling removal		
Removal of woody debris		
Treatment of non-native and nuisance plant species		
Pesticide application or vector control		
Biological resource extraction or stocking (fisheries, aquaculture)		
Excessive organic debris in matrix (for vernal pools)		
Lack of vegetation management to conserve natural resources	X	X
Lack of treatment of invasive plants adjacent to AA or buffer	X	X

Comments

BUFFER AND LANDSCAPE CONTEXT ATTRIBUTE (WITHIN 500 M OF AA)	Present	Significant negative effect on AA
Urban residential	X	X
Industrial/commercial	X	X
Military training/Air traffic		
Dams (or other major flow regulation or disruption)		
Dryland farming		
Intensive row-crop agriculture		
Orchards/nurseries		
Commercial feedlots		
Dairies		
Ranching (enclosed livestock grazing or horse paddock or feedlot)		
Transportation corridor	X	X
Rangeland (livestock rangeland also managed for native vegetation)		
Sports fields and urban parklands (golf courses, soccer fields, etc.)		
Passive recreation (bird-watching, hiking, etc.)	X	X
Active recreation (off-road vehicles, mountain biking, hunting, fishing)		
Physical resource extraction (rock, sediment, oil/gas)		
Biological resource extraction (aquaculture, commercial fisheries)		

Comments

Basic Information Sheet: Riverine Wetlands

Assessment Area Name: Feature 1	
Project Name: National City Carmax	
Assessment Area ID #: AA #2	
Project ID #:	**Date:** 5/20/2015
Assessment Team Members for This AA:	
Paul Schwartz	
Dale Ritenour	
Average Bankfull Width: 4.3 m	
Approximate Length of AA (10 times bankfull width, min 100 m, max 200 m): 148 m	
Upstream Point Latitude: 32° 39.508′ N	**Longitude:** 117° 4.233′ W
Downstream Point Latitude: 32° 39.447′ N	**Longitude:** 117° 4.291′ W

Wetland Sub-type:

☐ Confined ☒ Non-confined

AA Category:

☐ Restoration ☐ Mitigation ☐ Impacted ☒ Ambient ☐ Reference ☐ Training

☐ Other:

Did the river/stream have flowing water at the time of the assessment? ☐ yes ☒ no

What is the apparent hydrologic flow regime of the reach you are assessing?

The hydrologic flow regime of a stream describes the frequency with which the channel conducts water. *Perennial* streams conduct water all year long, whereas *ephemeral* streams conduct water only during and immediately following precipitation events. *Intermittent* streams are dry for part of the year, but conduct water for periods longer than ephemeral streams, as a function of watershed size and water source.

☐ perennial ☐ intermittent ☒ ephemeral

Photo Identification Numbers and Description:

	Photo ID No.	Description	Latitude	Longitude	Datum
1	2358	Upstream	32° 39.509' N	117° 4.234' W	WGS 84
2	2363	Middle Left	32° 39.480' N	117° 4.261' W	WGS 84
3	*	Middle Right			
4	2361	Downstream	32° 39.451' N	117° 4.290' W	WGS 84
5	2358	Top Ent	32° 39.509' N	117° 4.234' W	WGS 84
6	2360	Mid Ent	32° 39.464' N	117° 4.264' W	WGS 84
7	2361	Bot Ent	32° 39.451' N	117° 4.290' W	WGS 84
8	2359	Pool			
9					
10					

Site Location Description:

site consists of a "basin" like feature w/ 2 main riverine features that traverse through the basin N to S. The Sweetwater R. is located S of the "basin" AA 2 was established below the confluence of the 2 main features in the "basin"

Comments:

middle right photo not taken due to proximity to homeless encampment

Scoring Sheet: Riverine Wetlands

AA Name: AA # 2			**Date:** 5/20/2015

Attribute 1: Buffer and Landscape Context (pp. 11-19)

	Alpha.	Numeric	Comments
Stream Corridor Continuity (D)	D	3	Downstream of Feature 2 confluence

Buffer:

	Alpha.	Numeric
Buffer submetric A: Percent of AA with Buffer	A	12
Buffer submetric B: Average Buffer Width	C	6
Buffer submetric C: Buffer Condition	C	6

Raw Attribute Score = $D+[C \times (A \times B)^{1/2}]^{1/2}$	10	**Final Attribute Score = (Raw Score/24) x 100**	42

Attribute 2: Hydrology (pp. 20-26)

	Alpha.	Numeric
Water Source	C	3
Channel Stability	B	9
Hydrologic Connectivity	B	9

Raw Attribute Score = sum of numeric scores	21	**Final Attribute Score = (Raw Score/36) x 100**	58

Attribute 3: Physical Structure (pp. 27-33)

	Alpha.	Numeric
Structural Patch Richness	C	6
Topographic Complexity	C	6

Raw Attribute Score = sum of numeric scores	12	**Final Attribute Score = (Raw Score/24) x 100**	50

Attribute 4: Biotic Structure (pp. 34-41)

Plant Community Composition (based on sub-metrics A-C)

	Alpha.	Numeric
Plant Community submetric A: Number of plant layers	B	9
Plant Community submetric B: Number of Co-dominant species	C	6
Plant Community submetric C: Percent Invasion	D	3

Plant Community Composition Metric *(numeric average of submetrics A-C)*		6
Horizontal Interspersion	C	6
Vertical Biotic Structure	C	6

Raw Attribute Score = sum of numeric scores	18	**Final Attribute Score = (Raw Score/36) x 100**	50

Overall AA Score (average of four final Attribute Scores)	50

Worksheet for Stream Corridor Continuity Metric for Riverine Wetlands

Lengths of Non-buffer Segments For Distance of 500 m Upstream of AA		Lengths of Non-buffer Segments For Distance of 500 m Downstream of AA	
Segment No.	Length (m)	Segment No.	Length (m)
1	224	1	46
2		2	
3		3	
4		4	
5		5	
Upstream Total Length	224 /1000	Downstream Total Length	46/1000

Percent of AA with Buffer Worksheet

In the space provided below make a quick sketch of the AA, or perform the assessment directly on the aerial imagery; indicate where buffer is present, estimate the percentage of the AA perimeter providing buffer functions, and record the estimate amount in the space provided.

See attached figures

Percent of AA with Buffer: 100 %

Worksheet for calculating average buffer width of AA

Line	Buffer Width (m)
A	112
B	154
C	88
D	18
E	36
F	35
G	47
H	52
Average Buffer Width *Round to the nearest integer*	68

Worksheet for Assessing Channel Stability for Riverine Wetlands

Condition	Field Indicators (check all existing conditions)
Indicators of Channel Equilibrium 3	☒ The channel (or multiple channels in braided systems) has a well-defined bankfull contour that clearly demarcates an obvious active floodplain in the cross-sectional profile of the channel throughout most of the AA. ☒ Perennial riparian vegetation is abundant and well established along the bankfull contour, but not below it. ☐ There is leaf litter, thatch, or wrack in most pools (if pools are present). ☐ The channel contains embedded woody debris of the size and amount consistent with what is naturally available in the riparian area. ☐ There is little or no active undercutting or burial of riparian vegetation. ☐ If mid-channel bars and/or point bars are present, they are not densely vegetated with perennial vegetation. ☒ Channel bars consist of well-sorted bed material (smaller grain size on the top and downstream end of the bar, larger grain size along the margins and upstream end of the bar). ☐ There are channel pools, the spacing between pools tends to be regular and the bed is not planar throughout the AA ☐ The larger bed material supports abundant mosses or periphyton.
Indicators of Active Degradation 2	☐ The channel is characterized by deeply undercut banks with exposed living roots of trees or shrubs. ☐ There are abundant bank slides or slumps. ☒ The lower banks are uniformly scoured and not vegetated. ☐ Riparian vegetation is declining in stature or vigor, or many riparian trees and shrubs along the banks are leaning or falling into the channel. ☐ An obvious historical floodplain has recently been abandoned, as indicated by the age structure of its riparian vegetation. ☒ The channel bed appears scoured to bedrock or dense clay. ☐ Recently active flow pathways appear to have coalesced into one channel (i.e. a previously braided system is no longer braided). ☐ The channel has one or more knickpoints indicating headward erosion of the bed.
Indicators of Active Aggradation 2	☐ There is an active floodplain with fresh splays of coarse sediment (sand and larger that is not vegetated) deposited in the current or previous year. ☐ There are partially buried living tree trunks or shrubs along the banks. ☒ The bed is planar (flat or uniform gradient) overall; it lacks well-defined channel pools, or they are uncommon and irregularly spaced. ☐ There are partially buried, or sediment-choked, culverts. ☒ Perennial terrestrial or riparian vegetation is encroaching into the channel or onto channel bars below the bankfull contour. ☐ There are avulsion channels on the floodplain or adjacent valley floor.
Overall	☒ **Equilibrium** ☐ **Degradation** ☐ **Aggradation**

Riverine Wetland Entrenchment Ratio Calculation Worksheet

The following 5 steps should be conducted for each of 3 cross-sections located in the AA at the approximate midpoints along straight riffles or glides, away from deep pools or meander bends. An attempt should be made to place them at the top, middle, and bottom of the AA.

Steps	Replicate Cross-sections ⟶	TOP	MID	BOT
1 Estimate bankfull width.	This is a critical step requiring familiarity with field indicators of the bankfull contour. Estimate or measure the distance between the right and left bankfull contours.	4.2	4.0	4.7
2: Estimate max. bankfull depth.	Imagine a level line between the right and left bankfull contours; estimate or measure the height of the line above the thalweg (the deepest part of the channel).	0.6	0.7	0.6
3: Estimate flood prone depth.	Double the estimate of maximum bankfull depth from Step 2.	1.2	1.4	1.1
4: Estimate flood prone width.	Imagine a level line having a height equal to the flood prone depth from Step 3; note where the line intercepts the right and left banks; estimate or measure the length of this line.	7.6	6.0	12 est
5: Calculate entrenchment ratio.	Divide the flood prone width (Step 4) by the bankfull width (Step 1).	1.9	1.5	2.6
6: Calculate average entrenchment ratio.	Calculate the average results for Step 5 for all 3 replicate cross-sections. Enter the average result here and use it in Table 13a or 13b.			2

Structural Patch Type Worksheet for Riverine wetlands

Circle each type of patch that is observed in the AA and enter the total number of observed patches in Table below. In the case of riverine wetlands, their status as confined or non-confined must first be determined (see page 6) to determine with patches are expected in the system (indicated by a "1" in the table below). Any feature onsite should only be counted once as a patch type. If a feature appears to meet the definition of more than one patch type (i.e. swale and secondary channel) the practitioner should choose which patch type best illustrates the feature. Not all features at a site will be patch types.

**Please refer to the CRAM Photo Dictionary at www.cramwetlands.org for photos of each of the following patch types.*

STRUCTURAL PATCH TYPE (circle for presence)	**Riverine (Non-confined)**	**Riverine (Confined)**	
Minimum Patch Size	**3 m^2**	**3 m^2**	
Abundant wrackline or organic debris in channel, on floodplain	1	1	
Bank slumps or undercut banks in channels or along shoreline	1	1	only
Cobbles and/or Boulders	1	1	only
Debris jams	1	1	
Filamentous macroalgae or algal mats	1	1	
Large woody debris	1	1	
Pannes or pools on floodplain	1	N/A	
Plant hummocks and/or sediment mounds	1	1	
Point bars and in-channel bars	1	1	3
Pools or depressions in channels (wet or dry channels)	1	1	
Riffles or rapids (wet or dry channels)	1	1	only
Secondary channels on floodplains or along shorelines	1	N/A	
Standing snags (at least 3 m tall)	1	1	
Submerged vegetation	1	N/A	
Swales on floodplain or along shoreline	1	N/A	
Variegated, convoluted, or crenulated foreshore (instead of broadly arcuate or mostly straight)	1	1	
Vegetated islands (mostly above high-water)	1	N/A	
Total Possible	17	12	
No. Observed Patch Types (enter here and use in Table 14 below)	6		

Worksheet for AA Topographic Complexity

At three locations along the AA, make a sketch of the profile of the stream from the AA boundary down to its deepest area then back out to the other AA boundary. Try to capture the benches and the intervening micro-topographic relief. To maintain consistency, make drawings at each of the stream hydrologic connectivity measurements, always facing downstream. Include the water level, an arrow at the bankfull contour, and label the benches. Based on these sketches and the profiles in Figure 10, choose a description in Table 16 that best describes the overall topographic complexity of the AA.

Profile 1 top

Profile 2 mid

Profile 3 bottom

Plant Community Metric Worksheet: Co-dominant species richness for Riverine wetlands

(A dominant species represents ≥10% *relative* cover)

Special Note:

** Combine the counts of co-dominant species from all layers to identify the total species count. Each plant species is only counted once when calculating the Number of Co-dominant Species and Percent Invasion submetric scores, regardless of the numbers of layers in which it occurs.*

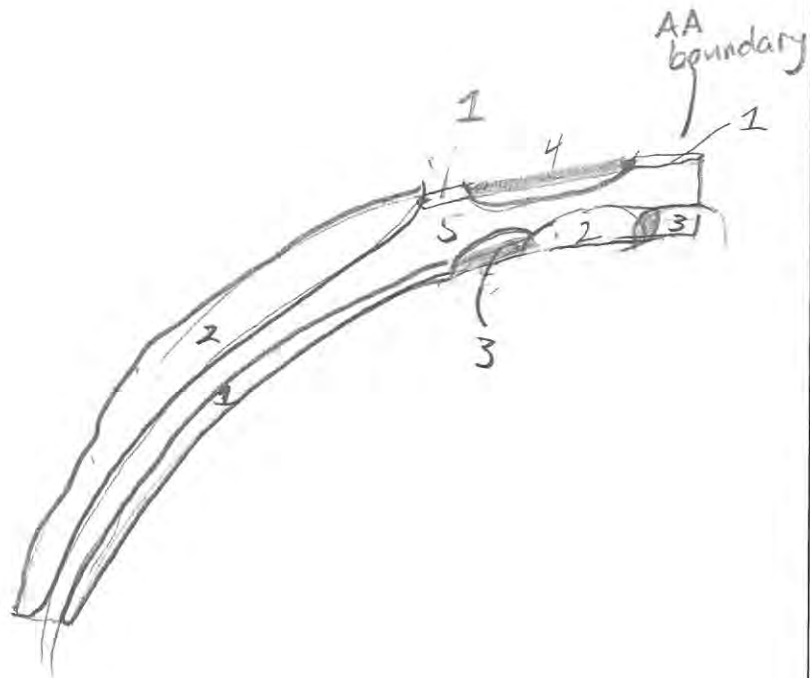
Floating or Canopy-forming (non-confined only)	Invasive?	Short (<0.5 m)	Invasive?
		Avena sp.	Y
		Bromus diandrus	Y

Medium (0.5-1.5 m)	Invasive?	Tall (1.5-3.0 m)	Invasive?
Baccharis salicifolia	N		

Very Tall (>3.0 m)	Invasive?		
Arundo donax	Y	**Total number of co-dominant species for all layers combined (enter here and use in Table 18)**	6
Populus Freemontii	N		
Eucalyptus polyanthemos	N	**Percent Invasion *Round to the nearest integer* (enter here and use in Table 18)**	50

Horizontal Interspersion Worksheet.

Use the spaces below to make a quick sketch of the AA in plan view, outlining the major plant zones (this should take no longer than 10 minutes). Assign the zones names and record them on the right. Based on the sketch, choose a single profile from Figure 12 that best represents the AA overall.



Assigned zones:

1) Grasses

2) Arundo

3) Eucalyptus

4) cottonwood

5) non-vegetated channel

6)

Worksheet for Wetland disturbances and conversions

Has a major disturbance occurred at this wetland?	Yes	No		
If yes, was it a flood, fire, landslide, or other?	flood	fire	landslide	other
If yes, then how severe is the disturbance?	likely to affect site next 5 or more years	likely to affect site next 3-5 years	likely to affect site next 1-2 years	
Has this wetland been converted from another type? If yes, then what was the previous type?	depressional	vernal pool	vernal pool system	
	non-confined riverine	confined riverine	seasonal estuarine	
	perennial saline estuarine	perennial non-saline estuarine	wet meadow	
	lacustrine	seep or spring	playa	

Stressor Checklist Worksheet

HYDROLOGY ATTRIBUTE (WITHIN 50 M OF AA)	Present	Significant negative effect on AA
Point Source (PS) discharges (POTW, other non-stormwater discharge)		
Non-point Source (Non-PS) discharges (urban runoff, farm drainage)		
Flow diversions or unnatural inflows		
Dams (reservoirs, detention basins, recharge basins)		
Flow obstructions (culverts, paved stream crossings)	X	
Weir/drop structure, tide gates		
Dredged inlet/channel		
Engineered channel (riprap, armored channel bank, bed)		
Dike/levees	X	
Groundwater extraction		
Ditches (borrow, agricultural drainage, mosquito control, etc.)		
Actively managed hydrology		

Comments

PHYSICAL STRUCTURE ATTRIBUTE (WITHIN 50 M OF AA)	Present	Significant negative effect on AA
Filling or dumping of sediment or soils **(N/A for restoration areas)**		
Grading/ compaction **(N/A for restoration areas)**		
Plowing/Discing **(N/A for restoration areas)**		
Resource extraction (sediment, gravel, oil and/or gas)		
Vegetation management		
Excessive sediment or organic debris from watershed		
Excessive runoff from watershed		
Nutrient impaired (PS or Non-PS pollution)		
Heavy metal impaired (PS or Non-PS pollution)		
Pesticides or trace organics impaired (PS or Non-PS pollution)		
Bacteria and pathogens impaired (PS or Non-PS pollution)		
Trash or refuse	X	

Comments

BIOTIC STRUCTURE ATTRIBUTE (WITHIN 50 M OF AA)	Present	Significant negative effect on AA
Mowing, grazing, excessive herbivory (within AA)		
Excessive human visitation	X	X
Predation and habitat destruction by non-native vertebrates (e.g., *Virginia opossum* and domestic predators, such as feral pets)		
Tree cutting/sapling removal		
Removal of woody debris		
Treatment of non-native and nuisance plant species		
Pesticide application or vector control		
Biological resource extraction or stocking (fisheries, aquaculture)		
Excessive organic debris in matrix (for vernal pools)		
Lack of vegetation management to conserve natural resources	X	
Lack of treatment of invasive plants adjacent to AA or buffer	X	

Comments

BUFFER AND LANDSCAPE CONTEXT ATTRIBUTE (WITHIN 500 M OF AA)	Present	Significant negative effect on AA
Urban residential	X	
Industrial/commercial	X	
Military training/Air traffic		
Dams (or other major flow regulation or disruption)		
Dryland farming		
Intensive row-crop agriculture		
Orchards/nurseries		
Commercial feedlots		
Dairies		
Ranching (enclosed livestock grazing or horse paddock or feedlot)		
Transportation corridor	X	
Rangeland (livestock rangeland also managed for native vegetation)		
Sports fields and urban parklands (golf courses, soccer fields, etc.)		
Passive recreation (bird-watching, hiking, etc.)		
Active recreation (off-road vehicles, mountain biking, hunting, fishing)	X	
Physical resource extraction (rock, sediment, oil/gas)		
Biological resource extraction (aquaculture, commercial fisheries)		

Comments

Basic Information Sheet: Riverine Wetlands

Assessment Area Name: Feature 2 -AA3
Project Name: National City Carmax
Assessment Area ID #: AA #3
Project ID #: **Date:** 5-20-2015

Assessment Team Members for This AA:

Paul Schwartz

Dale Ritenour

Average Bankfull Width: 3.8 m

Approximate Length of AA (10 times bankfull width, min 100 m, max 200 m): 120 m

Upstream Point Latitude: 32° 39.561′ N **Longitude:** 117° 4.168′ W

Downstream Point Latitude: 32° 39.515′ N **Longitude:** 117° 4.221′ W

Wetland Sub-type:

☐ Confined ☒ Non-confined

AA Category:

☐ Restoration ☐ Mitigation ☐ Impacted ☒ Ambient ☐ Reference ☐ Training

☐ Other:

Did the river/stream have flowing water at the time of the assessment? ☐ yes ☒ no

What is the apparent hydrologic flow regime of the reach you are assessing?

The hydrologic flow regime of a stream describes the frequency with which the channel conducts water. *Perennial* streams conduct water all year long, whereas *ephemeral* streams conduct water only during and immediately following precipitation events. *Intermittent* streams are dry for part of the year, but conduct water for periods longer than ephemeral streams, as a function of watershed size and water source.

☐ perennial ☐ intermittent ☒ ephemeral

Photo Identification Numbers and Description:

	Photo ID No.	Description	Latitude	Longitude	Datum
1	2347	Upstream	32° 39.561′ N	117° 4.168′ W	WGS 84
2	*	Middle Left			
3	2349	Middle Right	32° 542′ N	117° 4.199′ W	WGS 84
4	2350	Downstream	32° 39.516′ N	117° 4.221′ W	WGS 84
5	2347	Top Ent.	32° 39.561′ N	117° 4.168′ W	WGS 84
6	2348	Mid Ent.	32° 39.539′ N	117° 4.192′ W	WGS 84
7	2350	Bot Ent.	32° 39.516′ N	117° 4.221′ W	WGS 84
8	2352	sed. deposition			
9					
10					

Site Location Description:

Site consists of a "basin" like feature w/ 2 main riverine features that traverse through the "basin" N to S. The Sweetwater R. is located immediately S of the "basin" AA 3 was established w/in the smaller of the 2 main features (Feature 2).

Comments:

* No middle left photo taken due to proximity to homeless encampment.

Scoring Sheet: Riverine Wetlands

AA Name: AA #3 (Feature 2)			**Date:** 5/20/2015	
Attribute 1: Buffer and Landscape Context (pp. 11-19)	Alpha.	Numeric	**Comments**	
Stream Corridor Continuity (D)	D	3		
Buffer:				
Buffer submetric A: Percent of AA with Buffer	A	12		
Buffer submetric B: Average Buffer Width	D	3		
Buffer submetric C: Buffer Condition	C	6		
Raw Attribute Score = D+[C x (A x B)^{½}]^{½}		9	**Final Attribute Score = (Raw Score/24) x 100**	38
Attribute 2: Hydrology (pp. 20-26)	Alpha.	Numeric		
Water Source	C	6		
Channel Stability	B	9		
Hydrologic Connectivity	A	12		
Raw Attribute Score = sum of numeric scores		27	**Final Attribute Score = (Raw Score/36) x 100**	75
Attribute 3: Physical Structure (pp. 27-33)	Alpha.	Numeric		
Structural Patch Richness	D	3		
Topographic Complexity	C	6		
Raw Attribute Score = sum of numeric scores		9	**Final Attribute Score = (Raw Score/24) x 100**	38
Attribute 4: Biotic Structure (pp. 34-41)				
Plant Community Composition (based on sub-metrics A-C)	Alpha.	Numeric		
Plant Community submetric A: Number of plant layers	C	6		
Plant Community submetric B: Number of Co-dominant species	D	3		
Plant Community submetric C: Percent Invasion	D	3		
Plant Community Composition Metric *(numeric average of submetrics A-C)*		4		
Horizontal Interspersion	D	3		
Vertical Biotic Structure	D	3		
Raw Attribute Score = sum of numeric scores		10	**Final Attribute Score = (Raw Score/36) x 100**	28
Overall AA Score (average of four final Attribute Scores)			45	

Worksheet for Stream Corridor Continuity Metric for Riverine Wetlands

Lengths of Non-buffer Segments For Distance of 500 m Upstream of AA		Lengths of Non-buffer Segments For Distance of 500 m Downstream of AA	
Segment No.	Length (m)	Segment No.	Length (m)
1	842	1	46
2		2	
3		3	
4		4	
5		5	
Upstream Total Length	842/1000	Downstream Total Length	46/1000

Percent of AA with Buffer Worksheet

In the space provided below make a quick sketch of the AA, or perform the assessment directly on the aerial imagery; indicate where buffer is present, estimate the percentage of the AA perimeter providing buffer functions, and record the estimate amount in the space provided.

See attached figure.

Percent of AA with Buffer: 100 %

Worksheet for calculating average buffer width of AA

Line	Buffer Width (m)
A	79
B	72
C	79
D	87
E	55
F	47
G	45
H	35
Average Buffer Width *Round to the nearest integer*	62

Worksheet for Assessing Channel Stability for Riverine Wetlands

Condition	Field Indicators (check all existing conditions)
Indicators of Channel Equilibrium 5	☒ The channel (or multiple channels in braided systems) has a well-defined bankfull contour that clearly demarcates an obvious active floodplain in the cross-sectional profile of the channel throughout most of the AA. ☒ Perennial riparian vegetation is abundant and well established along the bankfull contour, but not below it. ☐ There is leaf litter, thatch, or wrack in most pools (if pools are present). ☐ The channel contains embedded woody debris of the size and amount consistent with what is naturally available in the riparian area. ☒ There is little or no active undercutting or burial of riparian vegetation. ☒ If mid-channel bars and/or point bars are present, they are not densely vegetated with perennial vegetation. ☒ Channel bars consist of well-sorted bed material (smaller grain size on the top and downstream end of the bar, larger grain size along the margins and upstream end of the bar). ☐ There are channel pools, the spacing between pools tends to be regular and the bed is not planar throughout the AA ☐ The larger bed material supports abundant mosses or periphyton.
Indicators of Active Degradation 0	☐ The channel is characterized by deeply undercut banks with exposed living roots of trees or shrubs. ☐ There are abundant bank slides or slumps. ☐ The lower banks are uniformly scoured and not vegetated. ☐ Riparian vegetation is declining in stature or vigor, or many riparian trees and shrubs along the banks are leaning or falling into the channel. ☐ An obvious historical floodplain has recently been abandoned, as indicated by the age structure of its riparian vegetation. ☐ The channel bed appears scoured to bedrock or dense clay. ☐ Recently active flow pathways appear to have coalesced into one channel (i.e. a previously braided system is no longer braided). ☐ The channel has one or more knickpoints indicating headward erosion of the bed.
Indicators of Active Aggradation 1	☐ There is an active floodplain with fresh splays of coarse sediment (sand and larger that is not vegetated) deposited in the current or previous year. ☐ There are partially buried living tree trunks or shrubs along the banks. ☒ The bed is planar (flat or uniform gradient) overall; it lacks well-defined channel pools, or they are uncommon and irregularly spaced. ☐ There are partially buried, or sediment-choked, culverts. ☐ Perennial terrestrial or riparian vegetation is encroaching into the channel or onto channel bars below the bankfull contour. ☐ There are avulsion channels on the floodplain or adjacent valley floor.
Overall	☒ **Equilibrium** ☐ **Degradation** ☐ **Aggradation**

Riverine Wetland Entrenchment Ratio Calculation Worksheet

The following 5 steps should be conducted for each of 3 cross-sections located in the AA at the approximate midpoints along straight riffles or glides, away from deep pools or meander bends. An attempt should be made to place them at the top, middle, and bottom of the AA.

Steps	Replicate Cross-sections ⟶	TOP	MID	BOT
1 Estimate bankfull width.	This is a critical step requiring familiarity with field indicators of the bankfull contour. Estimate or measure the distance between the right and left bankfull contours.	3.6	2.9	4.8
2: Estimate max. bankfull depth.	Imagine a level line between the right and left bankfull contours; estimate or measure the height of the line above the thalweg (the deepest part of the channel).	0.7	0.6	1.1
3: Estimate flood prone depth.	Double the estimate of maximum bankfull depth from Step 2.	1.4	1.2	2.14
4: Estimate flood prone width.	Imagine a level line having a height equal to the flood prone depth from Step 3; note where the line intercepts the right and left banks; estimate or measure the length of this line.	5.5	4.4	137
5: Calculate entrenchment ratio.	Divide the flood prone width (Step 4) by the bankfull width (Step 1).	1.5	1.5	28.4
6: Calculate average entrenchment ratio.	Calculate the average results for Step 5 for all 3 replicate cross-sections. Enter the average result here and use it in Table 13a or 13b.			10.5

Structural Patch Type Worksheet for Riverine wetlands

Circle each type of patch that is observed in the AA and enter the total number of observed patches in Table below. In the case of riverine wetlands, their status as confined or non-confined must first be determined (see page 6) to determine with patches are expected in the system (indicated by a "1" in the table below). Any feature onsite should only be counted once as a patch type. If a feature appears to meet the definition of more than one patch type (i.e. swale and secondary channel) the practitioner should choose which patch type best illustrates the feature. Not all features at a site will be patch types.

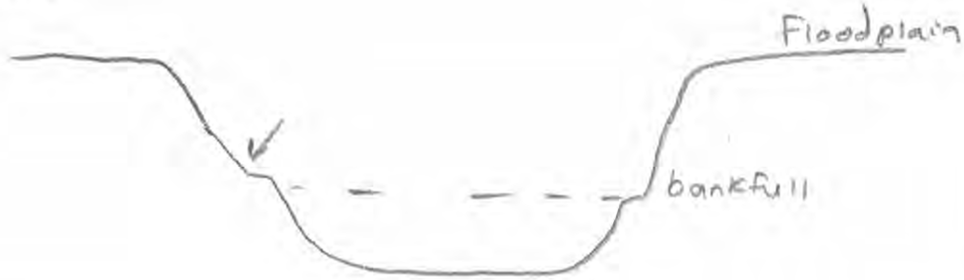
**Please refer to the CRAM Photo Dictionary at www.cramwetlands.org for photos of each of the following patch types.*

STRUCTURAL PATCH TYPE (circle for presence)	**Riverine (Non-confined)**	**Riverine (Confined)**	
Minimum Patch Size	**3 m^2**	**3 m^2**	
Abundant wrackline or organic debris in channel, on floodplain	1	1	✓
Bank slumps or undercut banks in channels or along shoreline	1	1	
Cobbles and/or Boulders	1	1	
Debris jams	1	1	
Filamentous macroalgae or algal mats	1	1	
Large woody debris	1	1	
Pannes or pools on floodplain	1	N/A	
Plant hummocks and/or sediment mounds	1	1	
Point bars and in-channel bars	1	1	2
Pools or depressions in channels (wet or dry channels)	1	1	✓
Riffles or rapids (wet or dry channels)	1	1	
Secondary channels on floodplains or along shorelines	1	N/A	
Standing snags (at least 3 m tall)	1	1	
Submerged vegetation	1	N/A	
Swales on floodplain or along shoreline	1	N/A	
Variegated, convoluted, or crenulated foreshore (instead of broadly arcuate or mostly straight)	1	1	
Vegetated islands (mostly above high-water)	1	N/A	
Total Possible	**17**	**12**	
No. Observed Patch Types (enter here and use in Table 14 below)	3		

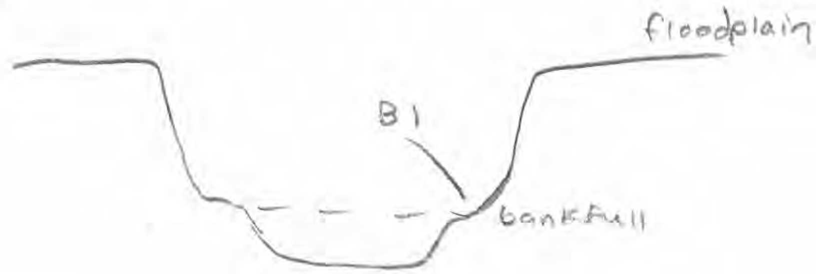
Worksheet for AA Topographic Complexity

At three locations along the AA, make a sketch of the profile of the stream from the AA boundary down to its deepest area then back out to the other AA boundary. Try to capture the benches and the intervening micro-topographic relief. To maintain consistency, make drawings at each of the stream hydrologic connectivity measurements, always facing downstream. Include the water level, an arrow at the bankfull contour, and label the benches. Based on these sketches and the profiles in Figure 10, choose a description in Table 16 that best describes the overall topographic complexity of the AA.

Profile 1 Bottom



Profile 2 mid



Profile 3 Top

Plant Community Metric Worksheet: Co-dominant species richness for Riverine wetlands
(A dominant species represents ≥10% *relative* cover)

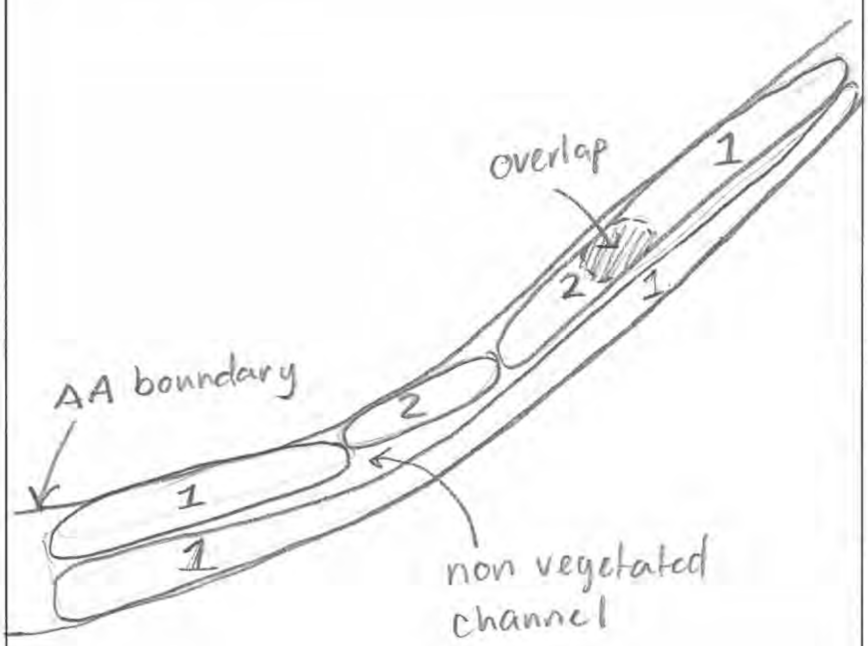
Special Note:

** Combine the counts of co-dominant species from all layers to identify the total species count. Each plant species is only counted once when calculating the Number of Co-dominant Species and Percent Invasion submetric scores, regardless of the numbers of layers in which it occurs.*

Floating or Canopy-forming (non-confined only)	Invasive?	Short (<0.5 m)	Invasive?
		Carprobrotus sp.	Y
Medium (0.5-1.5 m)	**Invasive?**	**Tall (1.5-3.0 m)**	**Invasive?**
Very Tall (>3.0 m)	**Invasive?**	**Total number of co-dominant species for all layers combined (enter here and use in Table 18)**	2
Arundo donax	Y		
		Percent Invasion *Round to the nearest integer* (enter here and use in Table 18)	100

Horizontal Interspersion Worksheet.

Use the spaces below to make a quick sketch of the AA in plan view, outlining the major plant zones (this should take no longer than 10 minutes). Assign the zones names and record them on the right. Based on the sketch, choose a single profile from Figure 12 that best represents the AA overall.



Assigned zones:

1) Arundo

2) Ice plant

3)

4)

5)

6)

Worksheet for Wetland disturbances and conversions

Has a major disturbance occurred at this wetland?	Yes	No		
If yes, was it a flood, fire, landslide, or other?	flood	fire	landslide	other
If yes, then how severe is the disturbance?	likely to affect site next 5 or more years	likely to affect site next 3-5 years	likely to affect site next 1-2 years	
Has this wetland been converted from another type? If yes, then what was the previous type?	depressional	vernal pool	vernal pool system	
	non-confined riverine	confined riverine	seasonal estuarine	
	perennial saline estuarine	perennial non-saline estuarine	wet meadow	
	lacustrine	seep or spring	playa	

4A Reach 2

Stressor Checklist Worksheet

HYDROLOGY ATTRIBUTE (WITHIN 50 M OF AA)	Present	Significant negative effect on AA
Point Source (PS) discharges (POTW, other non-stormwater discharge)		
Non-point Source (Non-PS) discharges (urban runoff, farm drainage)	X	
Flow diversions or unnatural inflows		
Dams (reservoirs, detention basins, recharge basins)		
Flow obstructions (culverts, paved stream crossings)	X	
Weir/drop structure, tide gates		
Dredged inlet/channel		
Engineered channel (riprap, armored channel bank, bed)		
Dike/levees		
Groundwater extraction		
Ditches (borrow, agricultural drainage, mosquito control, etc.)		
Actively managed hydrology		
Comments		

PHYSICAL STRUCTURE ATTRIBUTE (WITHIN 50 M OF AA)	Present	Significant negative effect on AA
Filling or dumping of sediment or soils **(N/A for restoration areas)**		
Grading/ compaction **(N/A for restoration areas)**		
Plowing/Discing **(N/A for restoration areas)**		
Resource extraction (sediment, gravel, oil and/or gas)		
Vegetation management		
Excessive sediment or organic debris from watershed		
Excessive runoff from watershed	X	
Nutrient impaired (PS or Non-PS pollution)		
Heavy metal impaired (PS or Non-PS pollution)		
Pesticides or trace organics impaired (PS or Non-PS pollution)		
Bacteria and pathogens impaired (PS or Non-PS pollution)	X	
Trash or refuse	X	
Comments		

BIOTIC STRUCTURE ATTRIBUTE (WITHIN 50 M OF AA)	Present	Significant negative effect on AA
Mowing, grazing, excessive herbivory (within AA)		
Excessive human visitation	X	X
Predation and habitat destruction by non-native vertebrates (e.g., *Virginia opossum* and domestic predators, such as feral pets)	X	
Tree cutting/sapling removal		
Removal of woody debris		
Treatment of non-native and nuisance plant species		
Pesticide application or vector control		
Biological resource extraction or stocking (fisheries, aquaculture)		
Excessive organic debris in matrix (for vernal pools)		
Lack of vegetation management to conserve natural resources	X	X
Lack of treatment of invasive plants adjacent to AA or buffer	X	X

Comments

Significant invasive weeds and homeless population

BUFFER AND LANDSCAPE CONTEXT ATTRIBUTE (WITHIN 500 M OF AA)	Present	Significant negative effect on AA
Urban residential	X	X
Industrial/commercial	X	X
Military training/Air traffic		
Dams (or other major flow regulation or disruption)		
Dryland farming		
Intensive row-crop agriculture		
Orchards/nurseries		
Commercial feedlots		
Dairies		
Ranching (enclosed livestock grazing or horse paddock or feedlot)		
Transportation corridor	X	X
Rangeland (livestock rangeland also managed for native vegetation)		
Sports fields and urban parklands (golf courses, soccer fields, etc.)		
Passive recreation (bird-watching, hiking, etc.)		
Active recreation (off-road vehicles, mountain biking, hunting, fishing)	X	
Physical resource extraction (rock, sediment, oil/gas)		
Biological resource extraction (aquaculture, commercial fisheries)		

Comments

Appendix E

Focused Survey Results for Least Bell's Vireo and Southwestern Willow Flycatcher

September 10, 2015

Ms. Stacey Love
Recovery Permit Coordinator
Department of Interior
Carlsbad Fish and Wildlife Office
2177 Salk Avenue, Suite 250
Carlsbad, California 92008

Subject: **2015 Least Bell's Vireo (*Vireo bellii pusillus*) and Southwestern Willow Flycatcher (*Empidonax trailii extimus*) Focused Survey Results for the Proposed National City CarMax Project Area.**

Dear Ms. Love:

This report documents the results of presence/absence surveys for least Bell's vireo and southwestern willow flycatcher conducted by ICF International (ICF) in 2015 for the proposed National City CarMax project, in National City, California.

Project Area Location

The study area is located in National City, California (Figure 1), specifically within Township 17 South, Range 2 West of the U.S. Geological Survey 7.5-minute quadrangle map for National City, California (Figure 2). The approximately 15-acre project area is bound to the north by State Highway 54, to the east by Sweetwater Road and to the south by Plaza Bonita Road. The Sweetwater River (River) is adjacent to study area.

Environmental Setting

Vegetation communities found within the study area and areas immediately adjacent included southern cottonwood-willow riparian forest, freshwater marsh, grassland, disturbed habitat, monotypic stands of giant reed (*Arundo donax*), tamarisk scrub, disturbed Diegan coastal sage scrub, and eucalyptus woodland. Due to illegal human habitation in the study area and brush fires, vegetation communities including riparian habitats on-site are disturbed. The area is best described as a basin, culverts direct flows into the area and eventually the River. A 300-foot survey area buffer area included southern cottonwood-willow riparian forest and scrub associated with the River. Elevation on site consists of 27 feet above mean sea level (AMSL).

Species Account

Least Bell's Vireo

Least Bell's vireo is a small, migratory insect gleaner that breeds in mid- to southern California and northern Baja California, with the majority in San Diego County. This species selects dense vegetation low in riparian zones for nesting. As discussed in Franzreb (Franzerb 1989), among 126 locations of California nests recorded in the literature and in museum records, 71 (56%) were in willows and 14 (11%) were in wild rose (*Rosa* spp.). The remaining nests were distributed among 20 other species of vines, shrubs, herbs, and trees.

Willows often dominate the canopy layer in the species' territories, with a mean canopy height of about 8 meters (Salata 1983). Salata believed that a dense, shrubby layer near the ground was a critical component in the breeding habitat. Goldwasser (1981) found that the most critical structural component is a dense shrub layer from 0.6 to 3.0 meters from the ground. As determined from field data (San Diego Association of Governments and Regional Environmental Consultants 1990) for southern California, vireo nest sites were most frequently located in riparian stands between 5 and 10 years old. Even though mature trees are present at many of the sites, the average age of willow vegetation in the immediate vicinity of most nests was between 4 and 7 years. When mature riparian woodland is selected, vireos nest in areas with a substantial robust understory of willows as well as other plant species (Goldwasser 1981). Based on rigorous statistical analysis of vireo habitat structure and composition (San Diego Association of Governments and Regional Environmental Consultants 1990), vireos appear to select sites with large amounts of both shrub and tree cover, a large degree of vertical stratification, and small amounts of aquatic and herbaceous cover.

This westernmost subspecies of the Bell's vireo was first given protection as an endangered species by the state of California on October 2, 1980, and then by the federal government on May 2, 1986. The species is normally present on breeding grounds between March 15 and September 15.

Southwestern Willow Flycatcher

The willow flycatcher (*Empidonax traillii*) as a whole was given protection by the state of California as an Endangered species on December 3, 1990, and the southwestern subspecies (*Empidonax traillii extimus*) was federally listed as an Endangered species effective March 29, 1995.

This southwestern subspecies (or race) of the willow flycatcher normally arrives on breeding grounds in southern California beginning in early May and remains through at least late July. Timing of departure of local birds is obscured by secretive behavior at that time, along with more abundant migrants of other subspecies passing through the area. Migrants of other subspecies are very widespread, and are uncommon to fairly common as they pass through southern California. This occurs mainly from late May through mid-June, and again from late July through September.

The period in which migrants of other subspecies are typically absent from southern California is approximately June 14 through July 17 (Unitt 1987).

As noted in the Federal Register final rule listing the species as endangered (U.S. Fish and Wildlife Service 1995), the flycatcher

> "occurs in riparian habitats along rivers, streams, or other wetlands, where dense growths of willows (*Salix* spp.), mule fat (*Baccharis* spp.), arrowweed (*Pluchea* spp.), buttonbush (*Cephalanthus* spp.), tamarisk (*Tamarix* spp.), Russian olive (*Eleagnus* spp.) or other plants are present, often with a scattered overstory of cottonwood (*Populus* spp.). Throughout the range of *E.t. extimus*, these riparian habitats tend to be rare, widely separated, small and/or linear locales, separated by vast expanses of arid lands. The southwestern willow flycatcher has experienced extensive loss and modification of this habitat and is also endangered by other factors including brood parasitism by the brown-headed cowbird (*Molothrus ater*)."

In describing breeding habitat, the Final Rule (U.S. Fish and Wildlife Service 1995) also noted that the subspecies

> "nests in thickets of trees and shrubs approximately 4 - 7 meters (13 - 23 feet) or more in height, with dense foliage from approximately 0 - 4 meters (13 feet) above ground, and often a high canopy cover percentage. The diversity of nest site plant species may be low (e.g., willows) or comparatively high. Nest site vegetation may be even- or uneven-aged, but is usually dense and structurally homogenous. Following modern changes in riparian plant communities, *E.t. extimus* still nests in native vegetation where available, but has been known to nest in thickets dominated by Tamarisk and Russian olive. Nesting Willow Flycatchers of all subspecies generally prefer areas with surface water nearby but *E.t. extimus* virtually always nests near surface water or saturated soil (Phillips et al. 1964, Muiznieks et al. 1994). At some nest sites surface water may be present early in the breeding season but only damp soil is present by late June or early July."

Survey Methods

<u>Least Bell's Vireo</u>
ICF biologists conducted eight presence/absence surveys for vireo within the survey area between April 27 and July 24, 2015. Methods for the focused survey adhered to the recommended guidelines provided by the U.S. Fish and Wildlife Service for presence/absence surveys (U.S. Fish and Wildlife Service 2001). All visits were performed during morning hours prior to 1100, when vireos are most active, and included frequent stops to look for individuals and listen for vocalizations (songs and/or scolds). Surveys were not conducted during inclement weather, such as extreme temperatures, fog, high winds, or rain Survey dates, times, and weather conditions are presented in Table 1.

<u>Southwestern Willow Flycatcher</u>
Five presence/absence surveys for southwestern willow flycatcher were conducted by permitted ICF biologist Monica Alfaro (TE-051242-2) between May 19 and July 14, 2015; one within the first survey period (May 15–31), two within the second survey period (June 1–24), and two within the third survey period (June 25–July 17). The amended published survey methodology (Sogge et al. 2010; U.S. Fish and Wildlife Service 2000) was followed during the surveys. The five-visit protocol

was used for the proposed project. Each survey was conducted at least 10 days apart and included thorough coverage of all potentially suitable habitats. This included walking slowly with frequent stops to look, listen, and play recordings of flycatcher vocalizations. Recordings were played every several minutes, or at distance intervals of approximately 75–100 feet, and only while stationary after first looking and listening for any potential flycatchers. Survey dates, times, and weather conditions are summarized in Table 1. The surveys were not conducted during inclement weather such as extreme hot or cold temperatures, fog, high winds, or rain and were concluded by 1000. All wildlife species observed during site visits were identified and recorded. A Willow Flycatcher Survey and Detection Form was completed and is attached (USGS 2010).

Table 1. Survey Dates, Time and Weather

Survey	Date	Time	Weather	Biologist
LBVI #1	4/27/15	0645-1100	63° F-75° F, 5%-0% CC, 0-4mph	P. Schwartz
LBVI #2	5/8/15	0645-1100*	57° F-60° F, 100% CC, 0-1mph wind	J. Hickman and A. Parra
LBVI #3/SWFL #1	5/19/15	0700-1000	60° F-66° F, 90%-60% CC, 2-5 mph wind	M. Alfaro
LBVI #4/SWFL #2	6/2/15	0700-0930	60° F-68° F, 95%-0% CC, 1-2 mph wind	M. Alfaro
LBVI #5/SWFL #3	6/16/15	0650-0910	66°F-66°F, 100% CC, 3-5 mph wind	M. Alfaro
LBVI #6/SWFL #4	6/30/15	0700-0830	66°F-71°F, 80%-20% CC, 0-1 mph wind	M. Alfaro
LBVI #7/SWFL #5	7/14/15	0700-0900	67°F-68°F, 100% CC, 3-5 mph wind	M. Alfaro
LBVI #8	7/24/15	0705-0925	70°F-73°F, 100%-50% CC, 0-2 mph	D. Ritenour

*Survey was stopped between the hours of 0710 and 0720 due to rain event.

Results

No least Bell's vireos or southwestern willow flycatchers were detected during the 2015 surveys. As discussed previously, riparian habitat within the project area has been subject to continual disturbance by illegal lodging, fires and other unauthorized recreational activities. The feral cat colony in the project area may be a deterrent for birds that nest in the lower vegetation. Portions of the River occurring within the 300-foot survey area buffer exist in close proximity to Interstate 805 and State Route 54 and are subject to noise. Several persons were observed lodging illegally with pets including dogs in this portion of the River. Finally, the presence of brown-headed cowbird (*Malothrus ater*), a species known to parasitize both least Bell's vireo and southwestern willow flycatcher nests may also contribute to the absence of these species in the area. It should be noted that these species have been documented in riparian habitats with similar disturbance dynamics.

A total of 39 wildlife species were detected during the surveys (Table 2). Yellow warbler (*Setophaga petechia*) a state species of special concern was observed within the project area and the 300-foot survey area buffer (Figure 3). Yellow breasted chat (*Icteria virens*), also a state species of special concern was detected within the 300-foot survey area buffer.

Table 2. List of Vertebrate Species Detected

Common Name	Scientific Name	Special Status
Birds		
Great blue heron	*Ardea herodias*	
Cooper's hawk	*Accipiter cooperii*	
Red-tailed hawk	*Buteo jamaicensis*	
Western gull	*Larus occidentalis*	
Rock pigeon	*Columba livia*	
Mourning dove	*Zenaida macroura*	
White throated swift	*Aeronautes saxatalis*	
Anna's hummingbird	*Calypte anna*	
Nuttall's woodpecker	*Picoides nuttallii*	
American kestrel	*Falco sparverius*	
Red-crowned parrot	*Amazona viridigenalis*	
Western wood-pewee	*Contopus sordiadulus*	
Pacific slope flycatcher	*Empidonax difficilis*	
Black phoebe	*Sayornis nigricans*	
Warbling vireo	*Vireo gilvus*	
Hutton's vireo	*Vireo huttoni*	
American crow	*Corvus brachyrhynchos*	
Common raven	*Corvus corax*	
Northern rough-winged swallow	*Stelgidopteryx serripennis*	
Cliff swallow	*Petrochelidon pyrrhonota*	
Bushtit	*Psaltriparus minimus*	
Bewick's wren	*Thryomanes bewickii*	
House wren	*Troglodytes aedon*	
Common yellowthroat	*Geothlypis trichas*	
Yellow warbler	*Setophaga petechia*	CSC
Yellow breasted chat	*Icteria virens*	
California towhee	*Melozone crissalis*	CSC
Song sparrow	*Melospiza melodia*	
Western tanager	*Piranga ludoviciana*	
Brown-headed cowbird	*Molothrus ater*	
Hooded oriole	*Icterus cucullatus*	
House finch	*Haemorhous mexicanus*	
Lesser goldfinch	*Spinus psaltria*	
American goldfinch	*Spinus tristis*	
House sparrow	*Passer domesticus*	
Nutmeg mannikin	*Lonchura punctulata*	
Mammals		
Feral cat	*Felis catus*	
California ground squirrel	*Otospermophilus beecheyi*	

Common Name	**Scientific Name**	**Special Status**
Domestic dog	*Canis lupus familiaris*	

FT - Federally Threatened, CE - California Endangered, CSC - California Species of Special Concern

Certification

I certify that the information in this survey report and attached exhibits fully and accurately represent my work.

Monica Alfaro
Wildlife Biologist
TE-051242

September 10, 2015
Date

Attachments

Dale Ritenour		James Hickman
Paul Schwartz		Amanda Parra

References

Franzreb, K. E. 1989. Ecology and conservation of the endangered Least Bell's Vireo. U.S. Fish and Wildlife, Service Biol. Rep. 89(1).

Goldwasser, S. 1981. Habitat requirements of the Least Bell's Vireo. Calif. Dept. Fish and Game, Nongame Wildlife Investigations Rep. 81.09, Proj. E-W-4, Job IV-38.1. Nongame Bird and Mammal Sec. Rep. 81.09. 16 pp.

Muiznieks, B. D., T. E. Corman, S. J. Sferra, M. K. Sogge, and T. J. Tibbitts. 1994. Arizona Partners in Flight Southwestern Willow Flycatcher Survey 1993. Arizona Game and Fish Dept. Tech. Rep. 52, Phoenix, AZ. 25 pp.

Phillips, A. R., J. Marshall, and G. Monson. 1964. The Birds of Arizona. Univ. Ariz. Pr., Tucson. 212 pp.

Salata, L. 1983. Status of the Least Bell's Vireo on Camp Pendleton, California. U.S. Fish and Wildlife Service, Laguna Niguel, CA. Unpubl. Rep.

San Diego Association of Governments and Regional Environmental Consultants. 1990. Draft Comprehensive Species Management Plan for the Least Bell's Vireo (Draft). San Diego Assoc. of Governments, San Diego, CA. 244 pp.

Sogge, M. K., R. M. Marshall, S. J. Sferra, and T. J. Tibbets. 1997. A Southwestern Willow Flycatcher Natural History Summary and Survey Protocol. Tech. Rep. NPS/NAUCPRS/NRTR-97/12. U.S.Dept. Int., National Park Service, Colorado Plateau Research Station at Northern Arizona University.

Sogge, M.K., Ahlers, Darrell, and Sferra, S.J., 2010, A natural history summary and survey protocol for the southwestern willow flycatcher: U.S. Geological Survey Techniques and Methods 2A-10, 38 p.

Unitt, P. 1987. *Empidonax traillii extimus*: an endangered subspecies. W. Birds 18:137-162.

U.S. Fish and Wildlife Service (USFWS). 1995. Endangered and Threatened Wildlife and Plants; Final rule determining Endangered status for the Southwestern Willow Flycatcher. Federal Register 60:10693-10715. 27 February 1995.

———. 2000. Southwestern Willow Flycatcher Protocol Revision 2000. Unpublished report with cover letter dated 11 Jul 2000.

———. 2001. Least Bell’s Vireo Survey Guidelines. Report from Carlsbad, California Field Office, dated 19 January 2001. 3 pp.

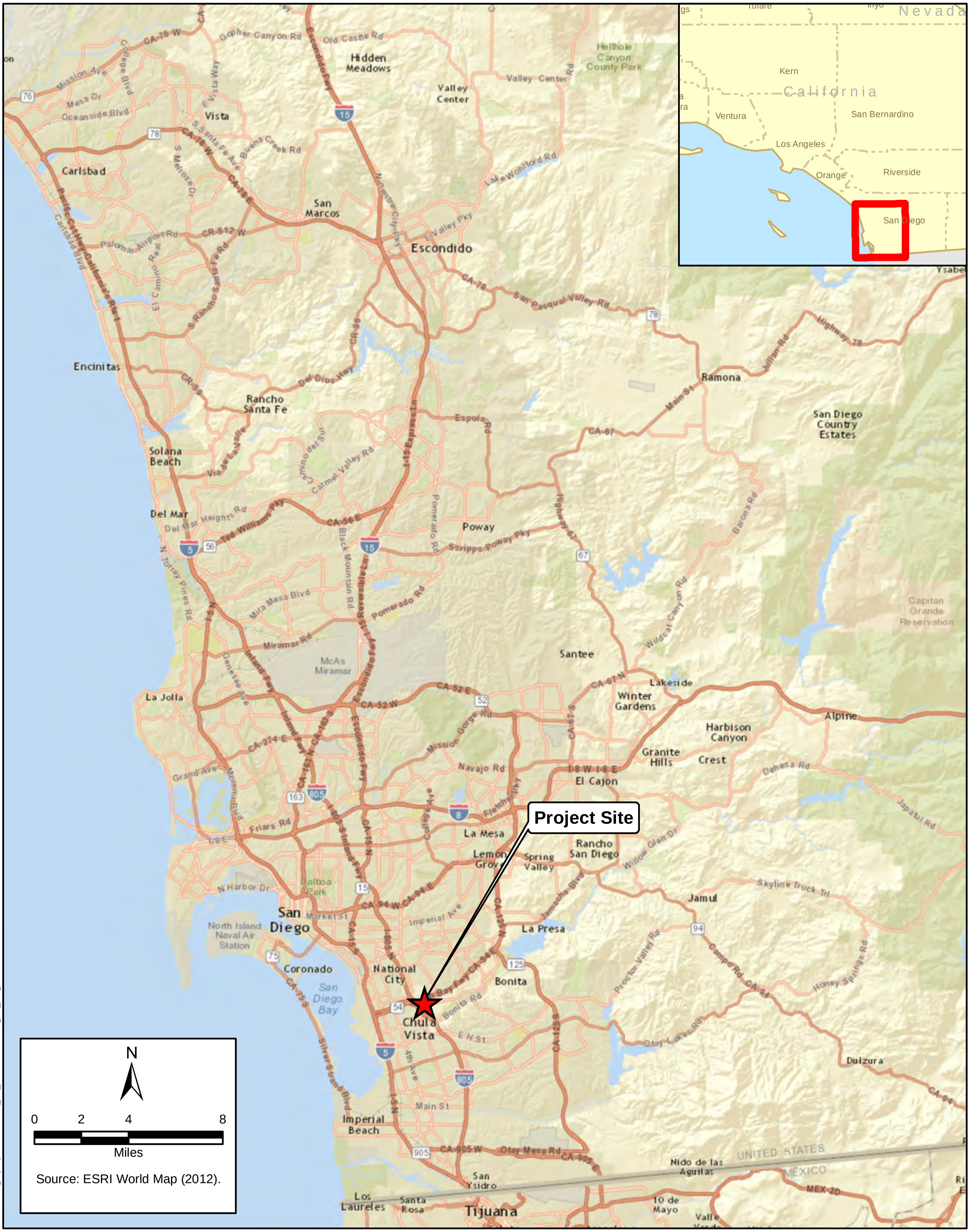


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Figure 1
Regional Location
Carmax National City

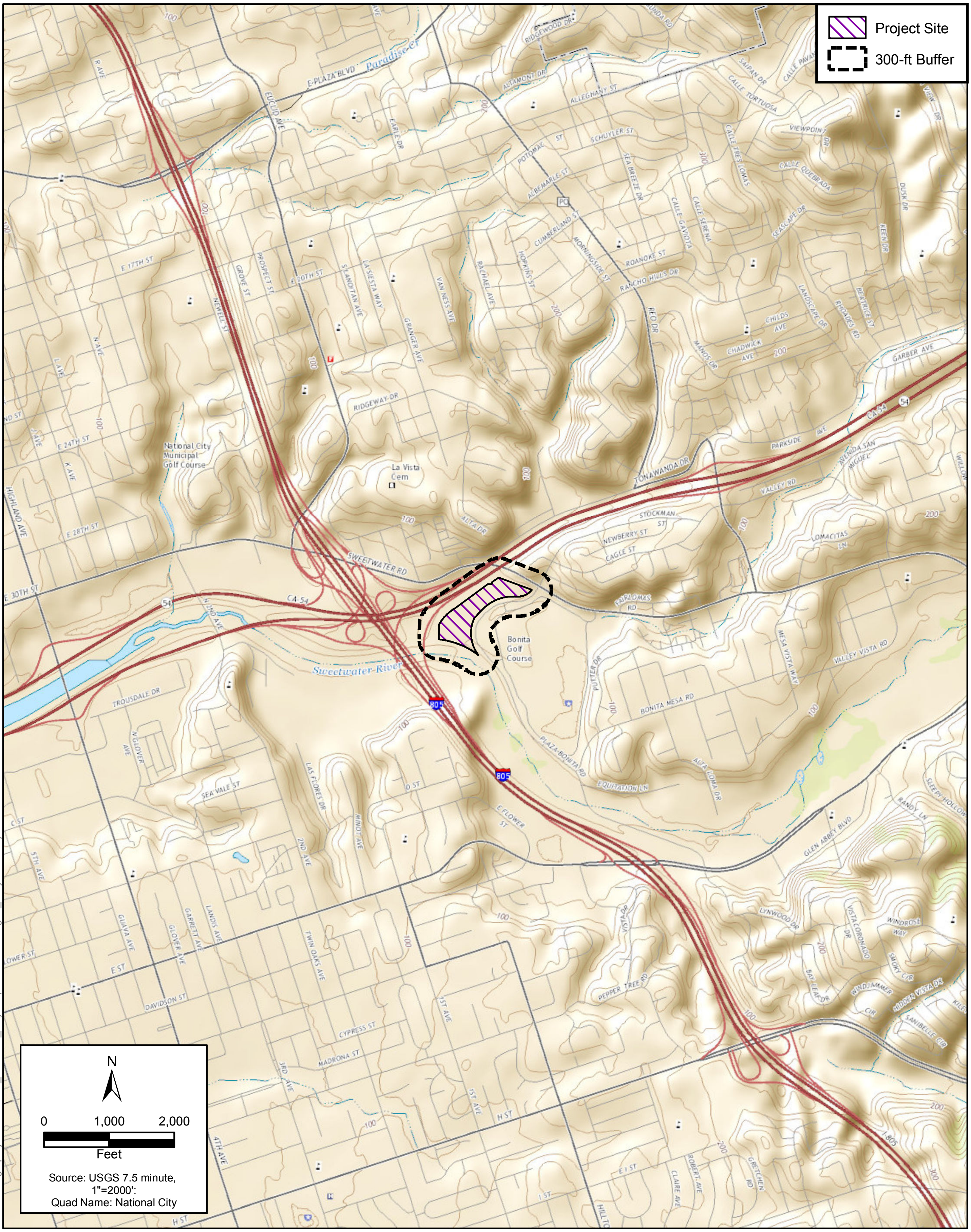

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Figure 2
Project Vicinity
Carmax National City

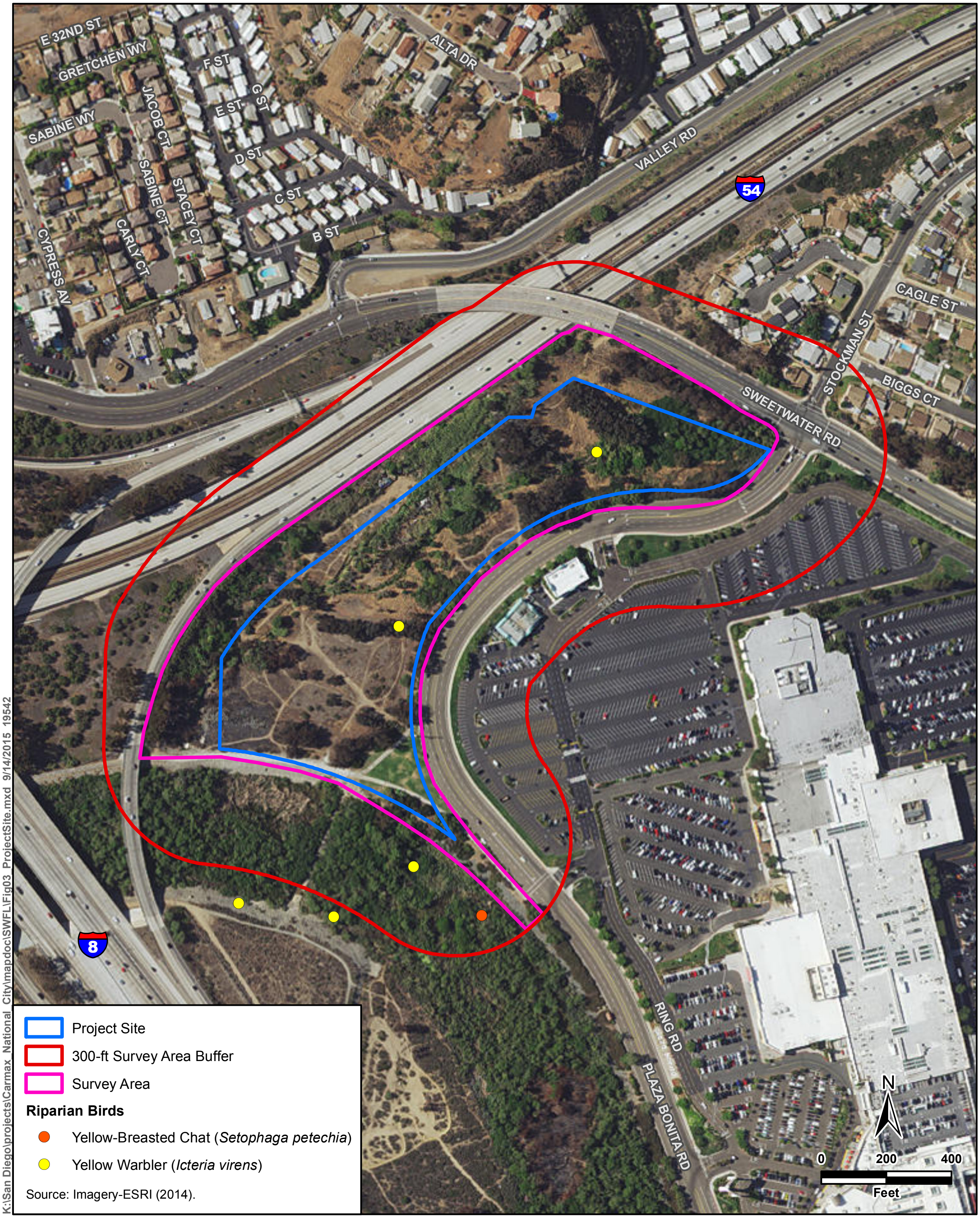

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Figure 3
2015 Southwestern Willow Flycatcher and Least Bell's Vireo Survey Area
CarMax National City

Appendix F

Focused Survey Results for Coastal California Gnatcatcher

September 10, 2015

Ms. Stacey Love
Recovery Permit Coordinator
Department of Interior
Carlsbad Fish and Wildlife Office
2177 Salk Avenue, Suite 250
Carlsbad, California 92008

Subject: **Focused Survey Results for Coastal California Gnatcatcher (*Polioptila californica californica*) for the Proposed National City CarMax Project Area, 2015.**

Dear Ms. Love:

This report documents the results of focused coastal California gnatcatcher surveys conducted by ICF International (ICF) in 2015 for the proposed National City CarMax Project area, in National City, California.

Project Area Location

The study area is located in National City, California (Figure 1), specifically within Township 17 South, Range 2 West of the U.S. Geological Survey 7.5-minute quadrangle map for National City, California (Figure 2). The approximately 15-acre study area is bound to the north by State Highway 54, to the east by Sweetwater Road and to the south by Plaza Bonita Road. The Sweetwater River is adjacent to study area.

Environmental Setting

Vegetation communities found within the study area and areas immediately adjacent included disturbed Diegan coastal sage scrub, southern cottonwood-willow riparian forest, freshwater marsh, grassland, disturbed habitat, monotypic stands of giant reed (*Arundo donax*) and eucalyptus woodland. Due to illegal human habitation in the study area and brush fires, vegetation communities including Diegan coastal sage scrub on-site are disturbed. Approximately 0.07 acre of potential habitat including disturbed Diegan coastal sage scrub (0.03 acre), San Diego scrub (0.02 acre) and coyote brush scrub (0.02 acre) occurs on site. These habitats can be described as small, sparsely distributed patches of scrub, comprised of a few individual plants including Coyote bush (*Baccharis pilularis*), broom baccharis (*Baccharis sarothroides*), California buckwheat (*Eriogonum fasciculatum*), California sagebrush (*Artemisia californica*) and San Diego viguiera (*Bahiopsis laciniata*). Elevation on site consists of 27 feet above mean sea level (AMSL). The area is best described as a basin, culverts direct flows into the area and eventually the Sweetwater River. Mesic conditions on site may preclude the establishment of coastal sage scrub elements, as these were primarily observed on slopes. Areas up to 300 feet from the project area do not support suitable gnatcatcher habitat and were not included in the study.

Coastal California Gnatcatcher Biology

The coastal California gnatcatcher is a small resident insectivorous species whose occurrence is strongly associated with sage scrub habitats found throughout southern California into northern Baja California, Mexico. Although coastal California gnatcatchers have a close association with sage scrub, this species has also been documented using coastal sage-chaparral scrub, chamise chaparral, and other habitat types (Campbell et al. 1998, Bontrager 1991). The USFWS listed this species as threatened in 1993. It is considered a California Department of Fish and Wildlife Species of Special Concern. Critical habitat was designated for this species in 2000 and revised in 2007 (USFWS 2000, USFWS 2007).

Historically, coastal California gnatcatchers range extended from southern Ventura County southward through Los Angeles, Orange, Riverside, San Bernardino, and San Diego counties, and into Baja California, Mexico, to approximately 30 degrees north latitude near El Rosario (Atwood 1990). Habitat destruction, fragmentation and modification have led to this species' decline (USFWS 1993). Loss to agriculture and urban development were leading causes until 2003 when the Cedar Fire destroyed almost 28% of the remaining habitat that the USFWS believed to be suitable for the coastal California gnatcatcher (Bond and Bradley 2003). In October 2007, several fires burned approximately 369,000 acres in San Diego County. The extent of damage to habitat types and listed species is currently being analyzed by the USFWS.

Methods

Protocol surveys for the coastal California gnatcatcher in areas outside of an approved NCCP planning area consisted of six surveys, at least one week apart between March 15 and June 30. All surveys were conducted in accordance with USFWS protocol requirements (USFWS 1997). Individuals permitted to conduct surveys independently were used during every survey. The surveys consisted of careful, thorough coverage of potential habitat within the study area. No more than 100 acres were surveyed in a morning (0600 to 1200). Plant and animal species observed or detected by sign were also noted. Pre-recorded audiotape playback was used. All visits were performed during morning hours prior to 1200, when gnatcatchers are most active; surveys were not conducted during inclement weather such as extreme hot or cold temperatures, fog, high winds, or rain (Table 1). Monica Alfaro of ICF conducted the protocol surveys. She is authorized to conduct USFWS protocol presence/absence surveys for this species by Federal Endangered Species Permit TE-051242 and State of California Scientific Collecting Permit Number SC-10035. Surveys 2, 3, 4 and 6 were conducted after the conclusion of riparian bird surveys.

Table 1. Survey Dates, Times, and Weather Conditions

Survey	Date	Time	Weather	Biologist
1	5/12/15	0705-0850	62°F-66°F, 100%-40% CC, 0-3 mph	M. Alfaro
2	5/19/15	1000-1115	64°F-66°F, 60%-20% CC, 2-5 mph	M. Alfaro
3	6/2/15	0930-1030	65°F-68°F, 30%-0% CC, 2-3 mph	M. Alfaro
4	6/16/15	0910-1000	66°F, 100% CC, 3-5 mph	M. Alfaro
5	6/23/15	0655-0750	63°F-67°F, 40% CC, 0-1 mph	M. Alfaro
6	6/30/15	0835-0910	71°F, 20% CC, 0-1 mph	M. Alfaro

Results

No Coastal California gnatcatchers were detected during the surveys. Diegan coastal sage scrub (0.07 acre) on-site is disturbed and occurs only as small patches that may not be large enough to support this species. The study area has been degraded by illegal human habitation, brush fires, and recreational activities such as cycling and paintball. Several adult feral cats and kittens were observed in the study area. In total, 27 bird and one mammal species were observed (Table 2). Brown-headed cowbird, was observed in the Sweetwater River, this species known to parasitize gnatcatcher nests.

Table 2. List of Vertebrate Species Detected

Common Name	Scientific Name	Special Status
Birds		
Great blue heron	*Ardea herodias*	
Cooper's hawk	*Accipiter cooperii*	
Red-tailed hawk	*Buteo jamaicensis*	
Western gull	*Larus occidentalis*	
Mourning dove	*Zenaida macroura*	
White throated swift	*Aeronautes saxatalis*	
Anna's hummingbird	*Calypte anna*	
Nuttall's woodpecker	*Picoides nuttallii*	
Red-crowned parrot	*Amazona viridigenalis*	
Western wood-pewee	*Contopus sordiadulus*	
Pacific slope flycatcher	*Empidonax difficilis*	
Black phoebe	*Sayornis nigricans*	
Hutton's vireo	*Vireo huttoni*	
American crow	*Corvus brachyrhynchos*	
Common raven	*Corvus corax*	
Northern rough-winged swallow	*Stelgidopteryx serripennis*	
Cliff swallow	*Petrochelidon pyrrhonota*	
Bushtit	*Psaltriparus minimus*	

Common Name	Scientific Name	Special Status
California towhee	*Melozone crissalis*	
Song sparrow	*Melospiza melodia*	
Brown-headed cowbird	*Molothrus ater*	
Hooded oriole	*Icterus cucullatus*	
House finch	*Haemorhous mexicanus*	
Lesser goldfinch	*Spinus psaltria*	
Song sparrow	*Passer domesticus*	
Nutmeg mannikin	*Lonchura punctulata*	
Mammals		
Feral cat	*Felis catus*	

FT - Federally Threatened, CE - California Endangered, CSC - California Species of Special Concern

Certification

I certify that the information in this survey report and attached exhibits fully and accurately represent my work.

Monica Alfaro
Wildlife Biologist
TE-051242

September 10, 2015
Date

Attachments

References

Atwood, J.L. 1990. Status review of the California Gnatcatcher (*Polioptila californica*). Unpublished technical report, Manomet Bird Observatory, Manomet, MA. 79 pp.

Bond, M. and C. Bradley. 2003. Impacts of the 2003 Southern California Wildfires on Four Species Listed as Threatened or Endangered Under the Federal Endangered Species Act*:* Quino checkerspot butterfly, Mountain yellow-legged frog, Coastal California gnatcatcher, Least Bell's vireo. Unpublished report prepared by the Center for Biological Diversity.

Bontrager, D.R. 1991. Habitat requirements, home range requirements, and breeding biology of the California Gnatcatcher (*Polioptila californica*) in south Orange County, California. Prepared for Santa Margarita Company, Ranch Santa Margarita, CA. April.

Campbell, K.F., R.A. Erickson, W.E. Haas, and M.A. Patten. 1998. California Gnatcatcher use of habitats other than coastal sage scrub: conservation and management implications. Western Birds *29*: 421–433.

U.S. Fish and Wildlife Service (USFWS) 1993. Endangered and threatened wildlife and plants: Special rule concerning take of the threatened coastal California Gnatcatcher. Final Rule. Federal Register *58*: 65088–65096.

_______. 1997. Coastal California Gnatcatcher (*Polioptila californica californica*) Presence/Absence Survey Guidelines. Report from Carlsbad Field Office dated 28 July 1997. 5pp.

_______. 2000. Endangered and Threatened Wildlife and Plants; Final Determination of Critical Habitat for the Coastal California Gnatcatcher; Final Rule. Federal Register *65*: 63679–63743.

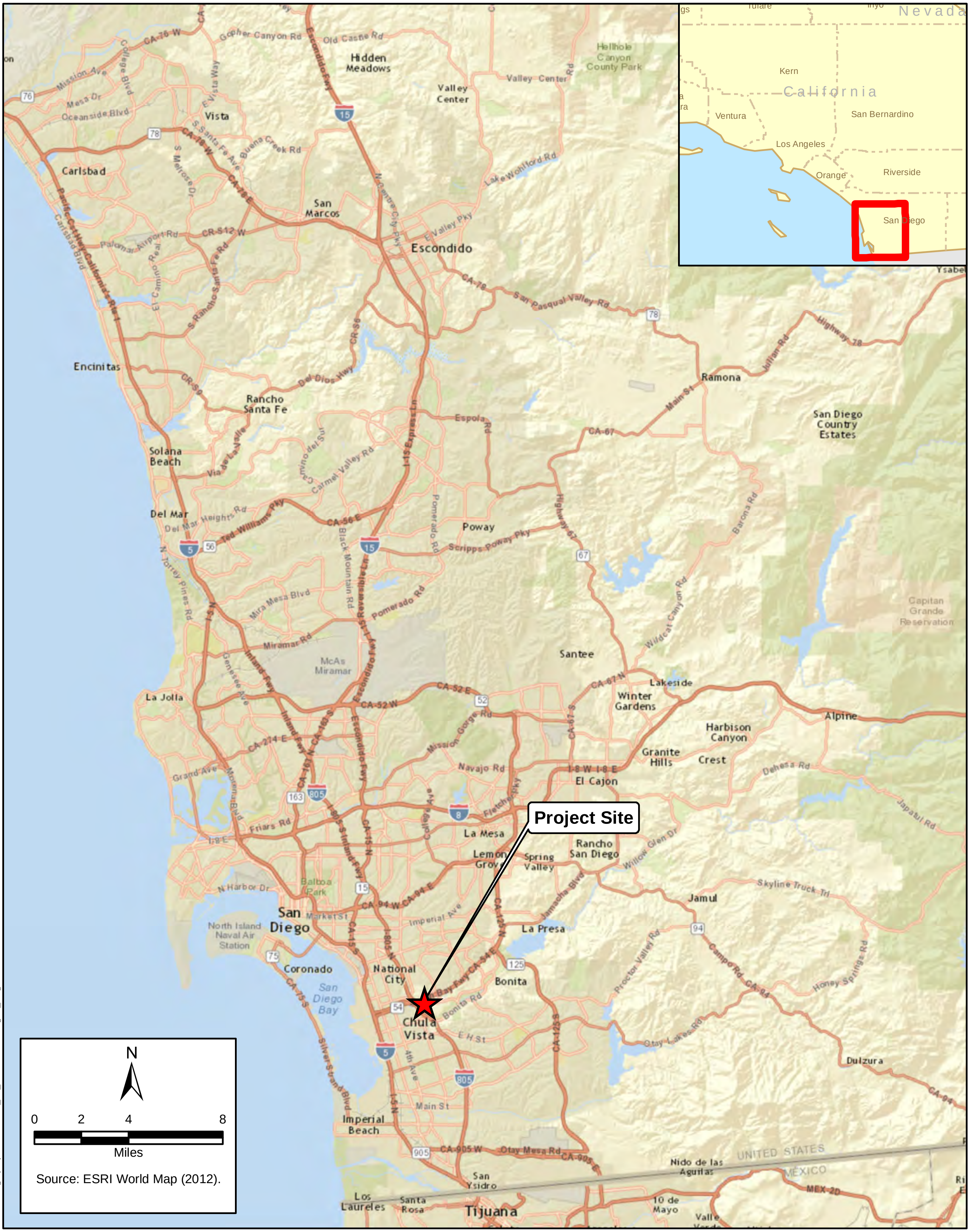

Figure 1
Regional Location
Carmax National City

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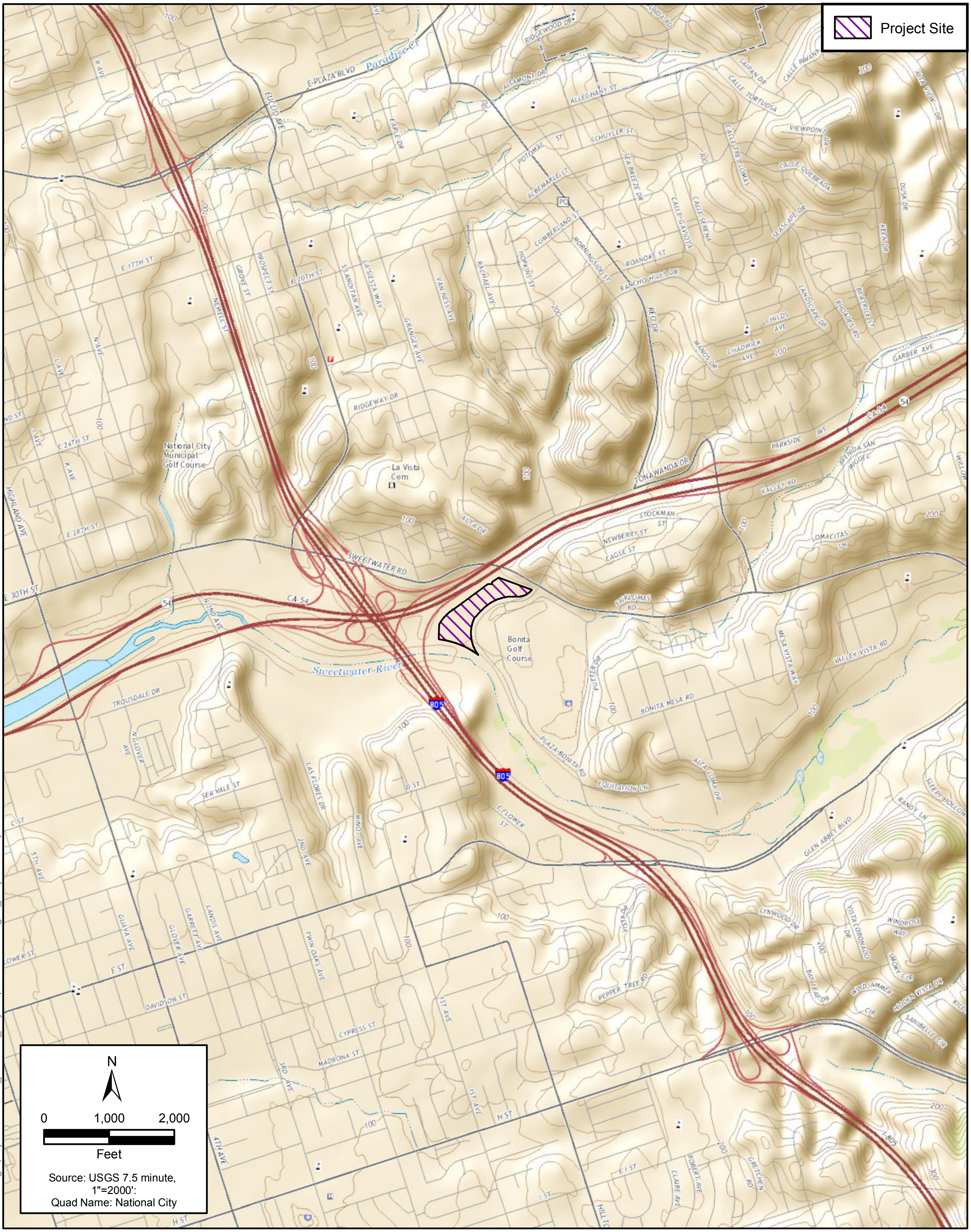

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Figure 2
Project Vicinity
Carmax National City

ICF INTERNATIONAL

Figure 3
Coastal California Gnatcatcher Survey Area 2015
Carmax National City

Appendix G

List of Plant Species Observed

Appendix G. List of Plant Species Observed within the Study Area

Scientific Name	Common Name	Special Status[1]
EUDICOTS		
Aizoaceae - Fig-marigold family		
**Carpobrotus chilensis*	sea fig	
**Carpobrotus edulis*	hottentot fig	
**Mesembryanthemum crystallinum*	crystalline iceplant	
Amaranthaceae - Amaranth family		
Amaranthus blitoides	procumbent amaranth	
Anacardiaceae - Sumac Or Cashew family		
**Schinus molle*	Peruvian pepper tree	
Apiaceae - Carrot family		
**Apium graveolens*	celery	
**Foeniculum vulgare*	fennel	
Asteraceae - Sunflower family		
Ambrosia psilostachya	western ragweed	
Artemisia californica	California sagebrush	
Baccharis pilularis ssp. *pilularis*	coyote brush	
Baccharis salicifolia ssp. *salicifolia*	mule fat	
Baccharis sarothroides	broom baccharis	
Bahiopsis laciniata	San Diego sunflower	CRPR 4.2
**Carduus pycnocephalus* ssp. *pycnocephalus*	Italian thistle	
**Centaurea melitensis*	tocalote	
Encelia farinosa	brittlebush	
Erigeron canadensis	horseweed	
**Glebionis coronaria*	crown daisy	
Heterotheca grandiflora	telegraph weed common	
**Senecio vulgaris*	ragwort blessed	
**Silybum marianum*	milkthistle prickly sow	
**Sonchus asper* ssp. *asper*	thistle cocklebur	
Xanthium strumarium		
Boraginaceae - Borage family	alkali heliotrope	
Heliotropium curassavicum var. *oculatum*		
Brassicaceae - Mustard family	black mustard perennial	
**Brassica nigra*	pepper-grass radish	
**Lepidium latifolium*		
**Raphanus sativus*	Australian saltbush	
Chenopodiaceae - Goosefoot family	sprawling saltbush	
**Atriplex semibaccata*	fivehorn smotherweed	
**Atriplex suberecta*	nettleleaf goosefoot	
**Bassia hyssopifolia*	prickly Russian thistle	
**Chenopodium murale*		
**Salsola tragus*	alkali weed	
Convolvulaceae - Morning-glory family		
Cressa truxillensis	petty spurge castorbean	
Euphorbiaceae - Spurge family		
**Euphorbia peplus*	sydney golden wattle	
**Ricinus communis*	vanilla-scented wattle	
Fabaceae - Legume family	horned lotus	
**Acacia longifolia*		
**Acacia redolens*		
**Lotus corniculatus*		

Appendix G. List of Plant Species Observed within the Study Area

Scientific Name	Common Name	Special Status[1]
**Melilotus albus*	white sweetclover	
**Melilotus indicus*	indian sweetclover	
Juglandaceae - Walnut family		
Juglans californica	southern California black walnut	CRPR 4.2
Lamiaceae - Mint family		
**Marrubium vulgare*	horehound	
Lythraceae - Loosestrife family		
**Lythrum hyssopifolia*	grass poly	
Myrsinaceae - Myrsine family		
**Anagallis arvensis*	scarlet pimpernel	
Myrtaceae - Myrtle family		
**Eucalyptus polyanthemos*	silver dollar gum	
**Eucalyptus globulus*	blue gum	
**Melaleuca viminalis*	weeping bottlebrush	
Oleaceae - Olive family		
**Fraxinus uhdei*	Shamel ash	
Onagraceae - Evening Primrose family		
Oenothera elata	great marsh evening primrose	
Platanaceae - Plane Tree, Sycamore family		
Platanus racemosa	western sycamore	
Plumbaginaceae - Leadwort family		
**Plumbago auriculata*	cape leadwort	
Polygonaceae - Buckwheat family		
Eriogonum fasciculatum	California buckwheat	
**Rumex crispus*	curly dock	
Salicaceae - Willow family		
Populus fremontii ssp. *fremontii*	Fremont cottonwood	
Salix gooddingii	Goodding's black willow	
Salix lasiolepis	arroyo willow	
Scrophulariaceae - Figwort family		
**Myoporum laetum*	Ngaio tree	
Simaroubaceae - Quassia Or Simarouba family		
**Ailanthus altissima*	tree of heaven	
Solanaceae - Nightshade family		
**Nicotiana glauca*	tree tobacco	
Tamaricaceae - Tamarisk family		
**Tamarix ramosissima*	hairy tamarix	
Tropaeolaceae - Nasturtium family		
**Tropaeolum majus*	garden nasturtium	
Urticaceae - Nettle family		
**Urtica urens*	dwarf nettle	
MONOCOTS		
Arecaceae - Palm family		
**Phoenix canariensis*	Canary Island palm	
**Washingtonia robusta*	mexican fan palm	
Asparagaceae - Asparagus family		
**Asparagus asparagoides*	African asparagus fern	
Cyperaceae - Sedge family		
Bolboschoenus maritimus ssp. *paludosus*	saltmarsh bulrush	
Cyperus eragrostis	tall flatsedge	
Cyperus odoratus	fragrant flatsedge	
Eleocharis macrostachya	pale spikerush	

Appendix G. List of Plant Species Observed within the Study Area

Scientific Name	Common Name	Special Status[1]
Schoenoplectus americanus	American bulrush	
Schoenoplectus californicus	California bulrush	
Juncaceae - Rush family		
Juncus acutus ssp. *leopoldii*	southwestern spiny rush	CRPR 4.2
Juncus bufonius	toad rush	
Juncus mexicanus	Mexican rush	
Poaceae - Grass family		
**Arundo donax*	giant reed	
**Avena fatua*	wild oat	
**Bromus diandrus*	ripgut brome	
**Bromus madritensis* ssp. *rubens*	red brome	
**Cortaderia selloana*	pampas grass	
**Cynodon dactylon*	Bermuda grass	
Distichlis spicata	salt grass	
**Festuca perennis*	rye grass	
**Paspalum dilatatum*	dallis grass	
**Polypogon monspeliensis*	rabbit foot beard grass	
**Polypogon viridis*	water beard grass	
**Schismus barbatus*	Mediterranean schismus	
**Stipa miliacea* var. *miliacea*	smilo grass	
Typhaceae - Cattail family		
Typha domingensis	southern cattail	

*Non-native or invasive species

[1]Special Status:

Federal:

FE = Endangered

FT = Threatened

State:

SE = Endangered

ST =Threatened

CRPR – California Rare Plant Rank

1A. Presumed extinct in California and elsewhere

1B. Rare or Endangered in California and elsewhere

2A. Presumed extinct in California, more common elsewhere

2B. Rare or Endangered in California, more common elsewhere

3. Plants for which we need more information - Review list

4. Plants of limited distribution - Watch list

Threat Ranks

.1 - Seriously endangered in California

.2 – Fairly endangered in California

.3 – Not very endangered in California

Appendix H

Potential to Occur – Sensitive Species Table: Flora

Appendix H. Potential to Occur -Sensitive Species Table - Flora

Scientific Name Common Name	**Special Status Designation[1]**	**Species Habitat Requirements[2]**	**Detected On-site (Yes/No)**	**Specific Habitat Present/Absent**	**Potential to occur**	**Rationale**
Acanthomintha ilicifolia San Diego thornmint	**Federal**: T **State**: E **CNPS**: 1B.1	**Life Form**: Annual herb **Habitat**: Prefers friable or broken clay soils in grassy openings in chaparral and coastal sage scrub, valley and foothill grassland, and vernal pools **Elevation**: 10-960 m **Blooming Period**: April - June	No	Absent	Not Expected	Appropriate habitat for this species does not occur within the study area.
Acmispon prostratus Nuttall's lotus	**Federal**:-- **State**:-- **CNPS**: 1B.1	**Life Form**: Annual herb **Habitat**: Coastal dunes and sandy coastal scrub **Elevation**: 0-10 m **Blooming Period**: March - July	No	Absent	Not Expected	Appropriate habitat for this species does not occur within the study area.
Adolphia californica California adolphia	**Federal**:-- **State**:-- **CNPS**: 2B.1	**Life Form**: Deciduous shrub **Habitat**: Clay soils in chaparral, coastal scrub, and valley and foothill grassland **Elevation**: 45-740 m **Blooming Period**: December - May	No	Absent	Not Expected	Appropriate habitat for this species does not occur within the study area.
Agave shawii* var. *shawii Shaw's agave	**Federal**:-- **State**:-- **CNPS**: 2B.1	**Life Form**: Perennial leaf succulent **Habitat**: Coastal bluff scrub, coastal scrub **Elevation**: 10-120 m **Blooming Period**: September - May	No	Absent	Not Expected	Appropriate habitat for this species does not occur within the study area.
Ambrosia chenopodiifolia San Diego bur-sage	**Federal**:-- **State**:-- **CNPS**: 2B.1	**Life Form**: Perennial shrub **Habitat**: Coastal scrub **Elevation**: 55-155 m **Blooming Period**: April - June	No	Present	Low	Appropriate habitat for this species does not occur within the study area.
Ambrosia monogyra Singlewhorl burrobrush	**Federal**:-- **State**:-- **CNPS**: 2B.2	**Life Form**: Perennial shrub **Habitat**: Sandy soils in chaparral, coastal sage scrub, Sonoran desert scrub, and washes **Elevation**: 10-500 m **Blooming Period**: August - November	No	Present	Low	Marginally suitable habitat for this species is present within the study area.

Appendix H. Potential to Occur -Sensitive Species Table - Flora

Scientific Name Common Name	Special Status Designation[1]	Species Habitat Requirements[2]	Detected On-site (Yes/No)	Specific Habitat Present/Absent	Potential to occur	Rationale
Ambrosia pumila San Diego ambrosia	**Federal**: E **State**:-- **CNPS**:1B.1	**Life Form**: Rhizomatous herb **Habitat**: Sandy loam or clay soils in chaparral, coastal sage scrub, valley, and foothill grassland, vernal pools; often in disturbed areas or sometimes alkaline areas. Can occur in creek beds, seasonally dry drainages, and floodplains **Elevation**: 20-415 m **Blooming Period**: April - October	No	Present	Low	Marginally suitable habitat for this species is present within the study area.
Aphanisma blitoides aphanisma	**Federal**:-- **State**:-- **CNPS**: 1B.2	**Life Form**: Annual herb **Habitat**: Sandy soils in coastal bluff scrub, coastal dunes, and coastal scrub **Elevation**: 1-305 m **Blooming Period**: March - June	No	Absent	Not Expected	Marginally suitable habitat for this species is present within the study area.
Arctostaphylos glandulosa* ssp. *crassifolia Del Mar manzanita	**Federal**: E **State**:-- **CNPS**: 1B.1	**Life Form**: Evergreen shrub **Habitat**: Maritime chaparral with sandy soils **Elevation**: 0-365 m **Blooming Period**: December - June	No	Absent	Not Expected	Appropriate habitat for this species does not occur within the study area.
Arctostaphylos otayensis Otay manzanita	**Federal**:-- **State**:-- **CNPS**: 1B.2	**Life Form**: Evergreen shrub **Habitat**: Chaparral or cismontane woodlands on volcanic rock outcrops **Elevation**: 275-1700 m **Blooming Period**: January - April	No	Absent	Not Expected	Appropriate habitat for this species does not occur within the study area.
Artemisia palmeri San Diego sagewort	**Federal**:-- **State**:-- **CNPS**: 4.2	**Life Form**: Deciduous shrub **Habitat**: Sandy soils in mesic areas in chaparral, coastal scrub, riparian forest, riparian scrub, riparian woodland **Elevation**: 15-915 m **Blooming Period**: February - September	No	Present	Low	Marginally suitable habitat for this species is present within the study area.
Astragalus deanei Dean's milk-vetch	**Federal**:-- **State**:-- **CNPS**: 1B.1	**Life Form**: Perennial herb **Habitat**: Open shrubby slopes, coastal sage scrub, chaparral, cismontane woodland, riparian forest, and sandy washes **Elevation**: 75-695 m **Blooming Period**: February - May	No	Present	Low	Marginally suitable habitat for this species is present within the study area.

Appendix H. Potential to Occur -Sensitive Species Table - Flora

Scientific Name Common Name	Special Status Designation[1]	Species Habitat Requirements[2]	Detected On-site (Yes/No)	Specific Habitat Present/Absent	Potential to occur	Rationale
Astragalus tener* var. *titi coastal dunes milk-vetch	**Federal**: E **State**: E **CNPS**: 1B.1	**Life Form**: Annual herb **Habitat**: Often in vernally mesic areas in sandy coastal bluff scrub, coastal dunes, and mesic coastal prairie **Elevation**: 1-50 m **Blooming Period**: March - May	No	Absent	Not Expected	Appropriate habitat for this species does not occur within the study area.
Atriplex coulteri Coulter's saltbush	**Federal**:-- **State**:-- **CNPS**: 1B.2	**Life Form**: Perennial herb **Habitat**: Alkaline or clay soils in coastal bluff scrub, coastal dunes, coastal scrub, and valley and foothill grassland **Elevation**: 3-460 m **Blooming Period**: March - October	No	Present	Low	Marginally suitable habitat for this species is present within the study area.
Atriplex pacifica South coast saltscale	**Federal**:-- **State**:-- **CNPS**: 1B.2	**Life Form**: Annual herb **Habitat**: Coastal bluff scrub, coastal dunes, coastal scrub, playas **Elevation**: 0-140 m **Blooming Period**: March - October	No	Present	Low	Marginally suitable habitat for this species is present within the study area.
Bahiopsis laciniata San Diego sunflower	**Federal**:-- **State**:-- **CNPS**: 4.2	**Life Form**: Perennial shrub **Habitat:** Chaparral and coastal scrub **Elevation:** 10-750 m **Blooming period:** February - August	Yes	Present	Present	This species was detected during surveys.
Bergerocactus emoryi Golden-spined cereus	**Federal**:-- **State**:-- **CNPS**: 2B.2	**Life Form**: Perennial stem succulent **Habitat**: Sandy soils in costal scrub, chaparral, and closed-cone coniferous forest, moist ocean breezes are preferred **Elevation**: 3-395 m **Blooming Period**: May - June	No	Absent	Not Expected	Appropriate habitat for this species does not occur within the study area.
Bloomeria clevelandii San Diego goldenstar	**Federal**:-- **State**:-- **CNPS**: 1B.1	**Life Form**: Perennial bulbiferous herb **Habitat**: Clay soils in chaparral, coastal sage scrub, valley grasslands, particularly near mima mound topography or the vicinity of vernal pools **Elevation**: 50 - 465 m **Blooming Period** : April - May	No	Absent	Not Expected	Appropriate habitat for this species does not occur within the study area.

Appendix H. Potential to Occur -Sensitive Species Table - Flora

Scientific Name Common Name	Special Status Designation[1]	Species Habitat Requirements[2]	Detected On-site (Yes/No)	Specific Habitat Present/Absent	Potential to occur	Rationale
Brodiaea orcuttii Orcutt's brodiaea	**Federal**:-- **State**:-- **CNPS**: 1B.1	**Life Form**: Bulbiferous herb **Habitat**: Found on mesic, clay, sometimes serpentine soils in closed-cone coniferous forest, chaparral, cismontane woodland, meadows and seeps, valley and foothill grassland, and vernal pools **Elevation**: 30-1692 m **Blooming Period**: May - July	No	Absent	Not Expected	Appropriate habitat for this species does not occur within the study area.
California macrophylla round-leaved filaree	**Federal**:-- **State**:-- **CNPS**: 1B.1	**Life Form**: Annual herb **Habitat**: Clay soils in cismontane woodland and valley and foothill grassland **Elevation**: 15-1200 m **Blooming Period**: March - May	No	Absent	Not Expected	Appropriate habitat for this species does not occur within the study area.
Calochortus dunnii Dunn's mariposa-lily	**Federal**:-- **State**:-- **CNPS**: 1B.2,	**Life Form**: Perennial bulbiferous herb **Habitat**: Gabbroic or metavolcanic soils, or rocky openings in chaparral or grassland/chaparral ecotone, also in closed-cone coniferous forest **Elevation**: 185-1830 m **Blooming Period**: February - June	No	Absent	Not Expected	Appropriate habitat for this species does not occur within the study area.
Camissoniopsis lewisii Lewis' evening-primrose	**Federal**:-- **State**:-- **CNPS**: 3	**Life Form**: Annual herb **Habitat**: Sandy or clay soils in coastal bluff scrub, cismontane woodland, coastal dunes, coastal scrub, and valley and foothill grassland **Elevation**: 0-300 m **Blooming Period**: March - June	No	Present	Low	Marginally suitable habitat for this species is present within the study area.
Ceanothus cyaneus Lakeside ceanothus	**Federal**:-- **State**:-- **CNPS**: 1B.2	**Life Form**: Evergreen shrub **Habitat**: Closed-cone coniferous forest and often dense chaparral **Elevation**: 235-755 m **Blooming Period**: April - June	No	Absent	Not Expected	Appropriate habitat for this species does not occur within the study area.
Ceanothus otayensis Otay Mountain ceanothus	**Federal**:-- **State**:-- **CNPS**: 1B.2	**Life Form**: Perennial evergreen shrub **Habitat**: Metavolcanic or gabbroic chaparral **Elevation**: 600-1100 m **Blooming Period**: January - April	No	Absent	Not Expected	Appropriate habitat for this species does not occur within the study area.

Appendix H. Potential to Occur -Sensitive Species Table - Flora

Scientific Name Common Name	Special Status Designation[1]	Species Habitat Requirements[2]	Detected On-site (Yes/No)	Specific Habitat Present/Absent	Potential to occur	Rationale
Ceanothus verrucosus Wart-stemmed ceanothus	**Federal**:-- **State**:-- **CNPS**: 2B.2	**Life Form**: Evergreen shrub **Habitat**: Chaparral **Elevation**: 1-380 m **Blooming Period**: December - May	No	Absent	Not Expected	Appropriate habitat for this species does not occur within the study area.
Centromadia pungens* ssp. *laevis smooth ttarplant	**Federal**:-- **State**:-- **CNPS**: 1B.1	**Life Form**: Annual herb **Habitat**ion: Alkaline soils in chenopod scrub, meadows and seeps, playas, riparian woodland, and valley and foothill grassland **Elevation**: 0-640 m **Blooming Period**: April - September	No	Present	Low	Marginally suitable habitat for this species is present within the study area.
Chaenactis glabriuscula* var. *orcuttiana Orcutt's pincushion	**Federal**:-- **State**:-- **CNPS**: 1B.1	**Life Form**: Annual herb **Habitat**: Sandy soils in coastal bluff scrub and coastal dunes **Elevation**: 0-100 m **Blooming Period**: January - August	No	Absent	Not Expected	Appropriate habitat for this species does not occur within the study area.
Chloropyron maritimum* ssp. *maritimum salt marsh bird's-beak	**Federal**: E **State**: E **CNPS**: 1B.2	**Life Form**: Hemiparasitic annual herb **Habitat**: Coastal dunes and coastal salt marshes and swamps **Elevation**: 0-30 m **Blooming Period**: May - October	No	Absent	Not Expected	Appropriate habitat for this species does not occur within the study area.
Chorizanthe orcuttiana Orcutt's spineflower	**Federal**: E **State**: E **CNPS**: 1B.1	**Life Form**: Annual herb **Habitat**: Sandy openings in closed-cone coniferous forest, maritime chaparral, and coastal scrub **Elevation**: 3-125 m **Blooming Period**: March - May	No	Absent	Not Expected	Appropriate habitat for this species does not occur within the study area.
Chorizanthe polygonoides* var. *longispina long-spined spineflower	**Federal**:-- **State**:-- **CNPS**: 1B.2	**Life Form**: Annual herb **Habitat**: Clay lenses, largely devoid of shrubs in chaparral, coastal scrub, meadows and seeps, valley and foothill grassland, and vernal pools **Elevation**: 30-1530 m **Blooming Period**: April - July	No	Present	Low	Marginally suitable habitat for this species is present within the study area.

Appendix H. Potential to Occur -Sensitive Species Table - Flora

Scientific Name Common Name	**Special Status Designation**[1]	**Species Habitat Requirements**[2]	**Detected On-site (Yes/No)**	**Specific Habitat Present/Absent**	**Potential to occur**	**Rationale**
Clarkia delicata delicate clarkia	**Federal**:-- **State**:-- **CNPS**: 1B.2	**Life Form**: Annual herb **Habitat**: Oak woodlands and chaparral, often on gabbroic soils **Elevation**: 235-1000 m **Blooming Period**: April - June	No	Absent	Not Expected	Appropriate habitat for this species does not occur within the study area.
Clinopodium chandleri San Miguel savory	**Federal**:-- **State**:-- **CNPS**: 1B.2	**Life Form**: Perennial shrub **Habitat**: Rocky , gabbroic, or metavolcanic areas in chaparral, cismontane woodland, coastal scrub, riparian scrub, and valley and foothill grassland **Elevation**: 120-1075 **Blooming Period**: March - July	No	Absent	Not Expected	Appropriate habitat for this species does not occur within the study area.
Comarostaphylis diversifolia* ssp. *diversifolia summer holly	**Federal**:-- **State**:-- **CNPS**: 1B.2	**Life Form**: Evergreen shrub **Habitat**: Chaparral and cismontane woodland **Elevation**: 30-790 m **Blooming Period**: April - June	No	Absent	Not Expected	Appropriate habitat for this species does not occur within the study area.
Corethrogyne filaginifolia var. incana San Diego sand aster	**Federal**:-- **State**:-- **CNPS**: 1B.1	**Life Form**: Perennial herb **Habitat**: Coastal bluff scrub, chaparral, and coastal scrub **Elevation**: 3-115 m **Blooming Period**: June - September	No	Absent	Not Expected	Appropriate habitat for this species does not occur within the study area.
Corethrogyne filaginifolia* var. *linifolia Del Mar Mesa sand aster	**Federal**:-- **State**:-- **CNPS**: 1B.1	**Life Form**: Perennial herb **Habitat**: Sandy soils in coastal bluff scrub, coastal scrub, and openings in maritime chaparral **Elevation**: 15-150 m **Blooming Period**: May-September	No	Absent	Not Expected	Appropriate habitat for this species does not occur within the study area.
Cylindropuntia californica* var. *californica snake cholla	**Federal**:-- **State**:-- **CNPS**: 1B.1	**Life Form**: Stem succulent **Habitat**: Chaparral and coastal scrub, usually on xeric hillsides **Elevation**: 30-150 m **Blooming Period**: April - May	No	Absent	Not Expected	Appropriate habitat for this species does not occur within the study area.

Appendix H. Potential to Occur -Sensitive Species Table - Flora

Scientific Name Common Name	**Special Status Designation**[1]	**Species Habitat Requirements**[2]	**Detected On-site (Yes/No)**	**Specific Habitat Present/Absent**	**Potential to occur**	**Rationale**
Deinandra conjugens Otay tarplant	**Federal**: E **State**: E **CNPS**: 1B.1	**Life Form**: Annual herb **Habitat**: Clay soils in coastal sage scrub and valley and foothill grassland **Elevation**: 25-300 m **Blooming Period**: May - June	No	Absent	Not Expected	Appropriate habitat for this species does not occur within the study area.
Dicranostegia orcuttiana Orcutt's bird's-beak	**Federal**:-- **State**:-- **CNPS**: 2B.1	**Life Form**: Hemiparasitic annual herb **Habitat**: Coastal scrub, seasonally dry drainages, uplands adjacent to riparian habitat **Elevation**: 10-350 m **Blooming Period**: March - September	No	Present	Low	Marginally suitable habitat for this species is present within the study area.
Dudleya attenuata* ssp. *attenuataa Orcutt's dudleya	**Federal**:-- **State**:-- **CNPS**: 2B.1	**Life Form**: Perennial herb **Habitat**: Rocky or gravelly coastal bluff scrub, chaparral, coastal scrub **Elevation**: 3-50 m **Blooming Period**: May -July	No	Absent	Not Expected	Appropriate habitat for this species does not occur within the study area.
Dudleya blochmaniae* ssp. *blochmaniae Blochman's dudleya	**Federal**:-- **State**:-- **CNPS**: 1B.1	**Life Form**: Perennial herb **Habitat**: Rocky, often clay or serpentine soils in coastal bluff scrub, chaparral, coastal scrub, and valley and foothill grassland **Elevation**: 5-450 m **Blooming Period**: April - June	No	Absent	Not Expected	Appropriate habitat for this species does not occur within the study area.
Dudleya brevifolia short-leaved dudleya	**Federal**:-- **State**: E **CNPS**: 1B.1	**Life Form**: Perennial herb Habtitat: Torrey sandstone in coastal scrub and openings in maritime chaparral **Elevation**: 30-250 m **Blooming Period**: April - May	No	Absent	Not Expected	Appropriate habitat for this species does not occur within the study area.
Dudleya variegata variegated dudleya	**Federal**:-- **State**:-- **CNPS**: 1B.2	**Life Form**: Perennial herb **Habitat**: Clay soils in chaparral, cismontane woodland, coastal scrub, valley and foothill grassland, and vernal pools **Elevation**: 3-580 m **Blooming Period**: April - June	No	Absent	Not Expected	Appropriate habitat for this species does not occur within the study area.

Appendix H. Potential to Occur -Sensitive Species Table - Flora

Scientific Name Common Name	**Special Status Designation[1]**	**Species Habitat Requirements[2]**	**Detected On-site (Yes/No)**	**Specific Habitat Present/Absent**	**Potential to occur**	**Rationale**
Dudleya viscida sticky dudleya	**Federal**:-- **State**:-- **CNPS**: 1B.2	**Life Form**: Perennial herb **Habitat**: Rocky soils in coastal bluff scrub, chaparral, cismontane woodland, and coastal scrub **Elevation**: 10-550 m **Blooming Period**: May - June	No	Absent	Not Expected	Appropriate habitat for this species does not occur within the study area.
Ericameria palmeri* var. *palmeri Palmer's goldenbush	**Federal**:-- **State**:-- **CNPS**: 1B.1	**Life Form**: Evergreen shrub **Habitat**: Coastal drainages, in mesic chaparral sites or mesic coastal sage scrub **Elevation**: below 600 **Blooming Period**: August - October (uncommon in July)	No	Present	Low	Marginally suitable habitat for this species is present within the study area.
Eryngium aristulatum* var. *parishii San Diego button-celery	**Federal**: E **State**: E **CNPS**: 1B.1	**Life Form**: Annual/perennial herb **Habitat**: Mesic soils in coastal scrub, valley and foothill grassland, and vernal pools **Elevation**: 20-620 m **Blooming Period**: April - June	No	Absent	Not Expected	Appropriate habitat for this species does not occur within the study area.
Euphorbia misera cliff spurge	**Federal**:-- **State**:-- **CNPS**: 2B.2	**Life Form**: Perennial shrub **Habitat**: Rocky areas in coastal bluff scrub, coastal scrub, and Mojavean desert scrub **Elevation**: 10-500 m **Blooming Period**: December - October	No	Absent	Not Expected	Appropriate habitat for this species does not occur within the study area.
Ferocactus viridescens San Diego barrel cactus	**Federal**:-- **State**:-- **CNPS**: 2B.1	**Life Form**: Stem succulent **Habitat**: Sandy to rocky areas; chaparral, coastal scrub, valley and foothill grassland, vernal pools **Elevation**: 3-450 m **Blooming Period**: May - June	No	Absent	Not Expected	Appropriate habitat for this species does not occur within the study area.
Frankenia palmeri Palmer's frankenia	**Federal**:-- **State**:-- **CNPS**: 2B.1	**Life Form**: Perennial herb **Habitat**: Coastal dunes, coastal salt marshes and swamps, playas **Elevation**: 0-10 m **Blooming Period**: May - July	No	Absent	Not Expected	Appropriate habitat for this species does not occur within the study area.

Appendix H. Potential to Occur -Sensitive Species Table - Flora

Scientific Name Common Name	Special Status Designation[1]	Species Habitat Requirements[2]	Detected On-site (Yes/No)	Specific Habitat Present/Absent	Potential to occur	Rationale
Fremontodendron mexicanum mexican flannelbush	**Federal**: E **State**: SR **CNPS**: 1B.1	**Life Form**: Evergreen shrub **Habitat**: Gabbroic, metavolcanic, or serpentine soils in closed-cone coniferous forest, chaparral, and cismontane woodland **Elevation**: 10-716 m **Blooming Period**: March - June	No	Absent	Not Expected	Appropriate habitat for this species does not occur within the study area.
Galium proliferum desert bedstraw	**Federal**:-- **State**:-- **CNPS**: 2B.2	**Life Form**: Annual herb **Habitat**: Rocky or limestone carbonate areas in Joshua tree woodland, Mojavean desert scrub, and Pinyon and Juniper woodland **Elevation**: 1190-1630 m **Blooming Period**: March - June	No	Absent	Not Expected	Appropriate habitat for this species does not occur within the study area.
Geothallus tuberosus Campbell's liverwort	**Federal**:-- **State**:-- **CNPS**: 1B.1	**Life Form**: bryophyte **Habitat**: Coastal scrub and vernal pools in mesic soils **Elevation**: 10-600 m	No	Absent	Not Expected	Appropriate habitat for this species does not occur within the study area.
Grindelia hallii San Diego gumplant	**Federal**:-- **State**:-- **CNPS**: 1B.2	**Life Form**: Perennial herb **Habitat**: Meadows, chaparral, lower montane coniferous forest, and valley and foothill grassland **Elevation**: 185-1745 m **Blooming Period**: May - October	No	Absent	Not Expected	Appropriate habitat for this species does not occur within the study area.
Harpagonella palmeri Palmer's Grapplinghook	**Federal**:-- **State**:-- **CNPS**: 4.2	**Life Form**: Annual herb **Habitat**: Clay soils in chaparral, grasslands, coastal sage scrub **Elevation**: 20-955 m **Blooming Period**: March - May	No	Present	Low	Marginally suitable habitat for this species is present within the study area.
Hesperocyparis forbesii Tecate cypress	**Federal**:-- **State**:-- **CNPS**: 1B.1	**Life Form**: Perennial evergreen tree **Habitat**: Clay, gabbroic, or metavolcanic soils within closed-cone coniferous forest and chaparral **Elevation**: 80-1500 m	No	Absent	Not Expected	Appropriate habitat for this species does not occur within the study area.

Appendix H. Potential to Occur -Sensitive Species Table - Flora

Scientific Name Common Name	**Special Status Designation**[1]	**Species Habitat Requirements**[2]	**Detected On-site (Yes/No)**	**Specific Habitat Present/Absent**	**Potential to occur**	**Rationale**
Heterotheca sessiliflora* ssp. *sessiliflora beach goldenaster	**Federal**:-- **State**:-- **CNPS**: 1B.1	**Life Form**: Perennial herb **Habitat**: Coastal chaparral, coastal dunes, and coastal scrub **Elevation**: 0-1225 m **Blooming Period**: March - December	No	Absent	Not Expected	Appropriate habitat for this species does not occur within the study area.
Hordeum intercedens vernal barley	**Federal**:-- **State**:-- **CNPS**: 3.2	**Life Form**: Annual herb **Habitat**: Coastal dunes, coastal scrub, saline flats and depressions in valley and foothill grassland, and vernal pools **Elevation**: 5-1000 m **Blooming Period**: March - June	No	Present	Low	Marginally suitable habitat for this species is present within the study area.
Horkelia truncate Ramona horkelia	**Federal**:-- **State**:-- **CNPS**: 1B.3	**Life Form**: Perennial herb **Habitat**: Clay and gabbroic soils in chaparral and cismontane woodland **Elevation**: 400-1300 m **Blooming Period**: May - June	No	Absent	Not Expected	Appropriate habitat for this species does not occur within the study area.
Isocoma menziesii* var. *decumbens decumbent goldenbush	**Federal**:-- **State**:-- **CNPS**: 1B.2	**Life Form**: Perennial shrub **Habitat**: Chaparral and in sandy coastal scrub, often in sandy disturbed areas **Elevation**: 10-135 m **Blooming Period**: April - November	No	Present	Low	Marginally suitable habitat for this species is present within the study area.
Iva hayesiana San Diego marsh-elder	**Federal**:-- **State**:-- **CNPS**: 2B.2	**Life Form**: Perennial herb **Habitat**: Marshes and swamps, wetland areas, and playas **Elevation**: 10-500 m **Blooming Period**: April - October	No	Present	Low	Marginally suitable habitat for this species is present within the study area.
Juglans californica southern California black walnut	**Federal**:-- **State**:-- **CNPS**: 4.2	**Life Form:** Deciduous tree. **Habitat:** Alluvial areas in chaparral, cismontane woodland, and coastal scrub **Elevation:** 50-900 m **Blooming period:** March - August	Yes	Present	Present	This species was detected during surveys.

Appendix H. Potential to Occur -Sensitive Species Table - Flora

Scientific Name Common Name	Special Status Designation[1]	Species Habitat Requirements[2]	Detected On-site (Yes/No)	Specific Habitat Present/Absent	Potential to occur	Rationale
Juncus acutus* ssp. *leopoldii southwestern spiny rush	**Federal**:-- **State**:-- **CNPS**: 4.2	**Life Form:** Perennial rhizomatous herb. **Habitat:** Mesic soils in coastal dunes, alkaline seeps in meadows and seeps, and coastal salt marshes and swamps **Elevation:** 3-900 m **Blooming period:** May - June	Yes	Present	Present	This species was detected during surveys.
Lasthenia glabrata* ssp. *coulteri Coulter's goldfields	**Federal**:-- **State**:-- **CNPS**: 1B.1	**Life Form**: Annual herb **Habitat**: Coastal salt marsh, coastal salt swamps, playas, vernal pools **Elevation**: 1-1220 m **Blooming Period**: February - June	No	Absent	Not Expected	Appropriate habitat for this species does not occur within the study area.
Lepechinia gander Gander's pitcher sage	**Federal**:-- **State**:-- **CNPS**: 1B.3	**Life Form**: Perennial shrub **Habitat**: Gabbroic or metavolcanic soils in closed-cone coniferous forest, chaparral, coastal scrub, and valley and foothill grassland **Elevation**: 305-1005 m **Blooming Period**: June - July	No	Absent	Not Expected	Appropriate habitat for this species does not occur within the study area.
Lepidium virginicum* var. *robinsonii Robinson's pepper-grass	**Federal**:-- **State**:-- **CNPS**: 4.3	**Life Form**: Annual herb **Habitat**: Openings in chaparral and sage scrub **Elevation**: below 885 m **Blooming Period**: January - July	No	Present	Low	Marginally suitable habitat for this species is present within the study area.
Leptosyne maritima sea dahlia	**Federal**:-- **State**:-- **CNPS**: 2B.2	**Life Form**: Perennial herb **Habitat**: Coastal bluff scrub and coastal scrub **Elevation**: 5-150 m **Blooming Period**: March - May	No	Absent	Not Expected	Appropriate habitat for this species does not occur within the study area.
Mobergia calculiformis light gray lichen	**Federal**:-- **State**:-- **CNPS**: 3	**Life Form**: lichen **Habitat**: Abundant on cobbles in right habitat; only known from one site in Baja and one in San Diego area **Elevation**: 0-10 m	No	Absent	Not Expected	Appropriate habitat for this species does not occur within the study area.

Appendix H. Potential to Occur -Sensitive Species Table - Flora

Scientific Name Common Name	Special Status Designation[1]	Species Habitat Requirements[2]	Detected On-site (Yes/No)	Specific Habitat Present/Absent	Potential to occur	Rationale
Monardella hypoleuca* ssp. *lanata felt-leaved monardella	**Federal**:-- **State**:-- **CNPS**: 1B.2	**Life Form**: Rhizomatous herb **Habitat**: Chaparral and cismontane woodland **Elevation**: 300-1575 m **Blooming** Period: June - August	No	Absent	Not Expected	Appropriate habitat for this species does not occur within the study area.
Monardella stoneana Jennifer's monardella	**Federal**:-- **State**:-- **CNPS**: 1B.2	**Life Form**: Perennial herb **Habitat**: Usually in rocky, intermittent streambeds in closed-cone coniferous forest, chaparral, coastal scrub, riparian scrub **Elevation**: 10-790 m **Blooming Period**: June - September	No	Absent	Not Expected	Appropriate habitat for this species does not occur within the study area.
Monardella viminea Willowy monardella	**Federal**: E **State**: E **CNPS**: 1B.1	**Life Form**: Perennial herb **Habitat**: Alluvial ephemeral washes in chaparral, coastal scrub, riparian forests, riparian scrub, and riparian woodlands **Elevation**: 50-225 m **Blooming Period**: June - August	No	Absent	Not Expected	Appropriate habitat for this species does not occur within the study area.
Myosurus minimus* ssp. *apus little mousetail	**Federal**:-- **State**:-- **CNPS**: 3.1	**Life Form**: Annual herb **Habitat**: Valley and foothill grassland, and alkaline vernal pools **Elevation**: 20-640 m **Blooming Period**: March - June	No	Absent	Not Expected	Appropriate habitat for this species does not occur within the study area.
Nama stenocarpum mud nama	**Federal**:-- **State**:-- **CNPS**: 2B.2	**Life Form**: Annual/perennial herb **Habitat**: Marshes and swamps, also riverbanks and lake margins **Elevation**: 5-500 m **Blooming Period**: January - July	No	Absent	Not Expected	Appropriate habitat for this species does not occur within the study area.
Navarretia fossalis spreading navarretia	**Federal**: T **State**:-- **CNPS**: 1B.1	**Life Form**: Annual herb **Habitat**: Chenopod scrub, assorted freshwater marshes and swamps, playas, and vernal pools **Elevation**: 30-655 m **Blooming Period**: April - June	No	Absent	Not Expected	Appropriate habitat for this species does not occur within the study area.
Navarretia prostrata prostrate vernal pool navarretia	**Federal**:-- **State**:-- **CNPS**: 1B.1	**Life Form**: Annual herb **Habitat**: Mesic coastal scrub, meadows and seeps, alkaline valley and foothill grassland, and vernal pools	No	Absent	Not Expected	Appropriate habitat for this species does not occur within the study area.

Appendix H. Potential to Occur -Sensitive Species Table - Flora

Scientific Name Common Name	Special Status Designation[1]	Species Habitat Requirements[2]	Detected On-site (Yes/No)	Specific Habitat Present/Absent	Potential to occur	Rationale
		Elevation: 15-1210 m (49-3968 ft) **Blooming Period**: April - July				
Nemacaulis denudata* var. *denudata coast woolly-heads	**Federal**:-- **State**:-- **CNPS**: 1B.2	**Life Form**: Annual herb **Habitat**: Coastal dunes **Elevation**: 0-100 m **Blooming Period**: April - September	No	Absent	Not Expected	Appropriate habitat for this species does not occur within the study area.
Nemacaulis denudata* var. *gracilis slender cottonheads	**Federal**:-- **State**:-- **CNPS**: 2B.2	**Life Form**: Annual herb **Habitat**: Coastal and desert dunes, and Sonoran desert scrub **Elevation**: -50 – 400 m **Blooming Period**: March - May	No	Absent	Not Expected	Appropriate habitat for this species does not occur within the study area.
Orcuttia californica California Orcutt grass	**Federal**: E **State**: C **CNPS**: 1B.1	**Life Form**: Annual herb **Habitat**: Vernal pools **Elevation**: 15-660 m **Blooming Period**: April - August	No	Absent	Not Expected	Appropriate habitat for this species does not occur within the study area.
Ornithostaphylos oppositifolia Baja California Birdbush	**Federal**:-- **State**: C **CNPS**: 2B.1	**Life Form**: Perennial evergreen shrub **Habitat**: Chaparral **Elevation**: 55-800 m **Blooming Period**: January - April	No	Absent	Not Expected	Appropriate habitat for this species does not occur within the study area.
Orobanche parishii* ssp. *Brachyloba short-lobed broomrape	**Federal**:-- **State**:-- **CNPS**: 4.2	**Life Form**: Parasitic perennial herb **Habitat**: Sandy coastal bluff scrub, coastal dunes, and coastal scrub **Elevation**: 3-305 m **Blooming Period**: April - October	No	Absent	Not Expected	Appropriate habitat for this species does not occur within the study area.
Phacelia stellaris Brand's star phacelia	**Federal**: C **State**:-- **CNPS**: 1B.1	**Life Form**: Annual herb **Habitat**: Coastal dunes, coastal scrub **Elevation**: 1-400 m **Blooming Period**: March - June	No	Absent	Not Expected	Appropriate habitat for this species does not occur within the study area.

Appendix H. Potential to Occur -Sensitive Species Table - Flora

Scientific Name Common Name	Special Status Designation[1]	Species Habitat Requirements[2]	Detected On-site (Yes/No)	Specific Habitat Present/Absent	Potential to occur	Rationale
Pogogyne abramsii San Diego Mesa Mint	**Federal**: E **State**: E **CNPS**: 1B.1	**Life Form**: Annual herb **Habitat**: Vernal pools **Elevation**: 90-200 m **Blooming Period**: March - July	No	Absent	Not Expected	Appropriate habitat for this species does not occur within the study area.
Pogogyne nudiuscula Otay Mesa Mint	**Federal**: E **State**: E **CNPS**: 1B.1	**Life Form**: Annual herb **Habitat**: Vernal pools **Elevation**: 90-250 **Blooming Period**: May - July	No	Absent	Not Expected	Appropriate habitat for this species does not occur within the study area.
Quercus dumosa Nuttall's Scrub Oak	**Federal**:-- **State**:-- **CNPS**: 1B.1	**Life Form**: Perennial evergreen shrub **Habitat**: Sandy or clay loam in closed-cone coniferous forest, chaparral, and coastal scrub **Elevation**: 15-400 m **Blooming Period**: February - August	No	Absent	Not Expected	Appropriate habitat for this species does not occur within the study area.
Ribes viburnifolium Santa Catalina zIsland currant	**Federal**:-- **State**:-- **CNPS**: 1B.2	**Life Form**: Evergreen shrub **Habitat**: Chaparral and cismontane woodland **Elevation**: 30-305 m **Blooming Period**: February - April	No	Absent	Not Expected	Appropriate habitat for this species does not occur within the study area.
Rosa minutifolia small-leaved rose	**Federal**:-- **State**: E **CNPS**: 2B.1	**Life Form**: Deciduous shrub **Habitat**: Chaparral and coastal scrub **Elevation**: 150-160 m **Blooming Period**: January - June	No	Absent	Not Expected	Appropriate habitat for this species does not occur within the study area.
Salvia munzii Munz's Sage	**Federal**:-- **State**:-- **CNPS**: 2B.2	**Life Form**: Evergreen shrub **Habitat**: Chaparral and coastal sage scrub **Elevation**: 120-1065 m **Blooming Period**: February - April	No	Absent	Not Expected	Appropriate habitat for this species does not occur within the study area.
Senecio aphanactis chaparral ragwort	**Federal**:-- **State**:-- **CNPS**: 2B.2	**Life Form**: Annual herb **Habitat**: Chaparral, cismontane woodland, coastal scrub, and alkaline flats **Elevation**: 15-800 m **Blooming Period**: January - April	No	Absent	Not Expected	Appropriate habitat for this species does not occur within the study area.
Sphaerocarpos drewei bottle liverwort	**Federal**:-- **State**:-- **CNPS**: 1B.1	**Life Form**: Bryophytes **Habitat**: Chaparral, coastal scrub **Elevation**: 90-600 m	No	Absent	Not Expected	Appropriate habitat for this species does not occur within the study area.

Appendix H. Potential to Occur -Sensitive Species Table - Flora

Scientific Name Common Name	Special Status Designation[1]	Species Habitat Requirements[2]	Detected On-site (Yes/No)	Specific Habitat Present/Absent	Potential to occur	Rationale
Stemodia durantifolia purple stemodia	**Federal**:-- **State**:-- **CNPS**: 2B.1	**Life Form**: Perennial herb **Habitat**: Along minor creeks and seasonal drainages, often in mesic, sandy soils in Sonoran desert scrub **Elevation**: 180-300 m **Blooming Period**: January - December	No	Absent	Not Expected	Appropriate habitat for this species does not occur within the study area.
Streptanthus bernardinus Laguna Mountains jewel-flower	**Federal**:-- **State**:-- **CNPS**: 4.3	**Life Form**: Perennial herb **Habitat**: Chaparral and lower montane coniferous forest **Elevation**: 670-2500 m **Blooming Period**: May - August	No	Absent	Not Expected	Appropriate habitat for this species does not occur within the study area.
Stylocline citroleum oil neststraw	**Federal**:-- **State**:-- **CNPS**: 1B.1	**Life Form**: Annual herb **Habitat**: Clay soils in chenopod scrub, coastal scrub, and valley and foothill grassland, associated with oilfields **Elevation**: 50-400 m **Blooming Period**: March - April	No	Absent	Not Expected	Appropriate habitat for this species does not occur within the study area.
Suaeda esteroa estuary seablite	**Federal**:-- **State**:-- **CNPS**: 1B.2	**Life Form**: Perennial herb **Habitat**: Coastal salt marshes and swamps **Elevation**: 0-5 m **Blooming Period**: May - January	No	Absent	Not Expected	Appropriate habitat for this species does not occur within the study area.
Tetracoccus dioicus Parry's tetracoccus	**Federal**:-- **State**:-- **CNPS**: 1B.2	**Life Form**: Deciduous shrub **Habitat**: Chaparral and coastal sage scrub **Elevation**: 165-1000 m **Blooming Period**: April - May	No	Absent	Not Expected	Appropriate habitat for this species does not occur within the study area.
Texosporium sancti-jacobi woven-spored lichen	**Federal**:-- **State**:-- **CNPS**: 3	**Life Form**: Lichen **Habitat**: Chaparral open sites; in California with Adenostoma fasciculatum, Eriogonum, Selaginella. At Pinnacles, on small mammal pellets **Elevation**: 290-660 m	No	Absent	Not Expected	Appropriate habitat for this species does not occur within the study area.
Tortula californica California screw moss	**Federal**:-- **State**:-- **CNPS**: 1B.2	**Life Form**: Bryophytes **Habitat**: Chenopod scrub, valley and foothill grassland, on sandy soils. **Elevation**: 10-1460 m **Blooming Period**:	No	Absent	Not Expected	Appropriate habitat for this species does not occur within the study area.

Appendix H. Potential to Occur -Sensitive Species Table - Flora

[1] Sensitivity Status Key
Federal: Federal Endangered Species Act (ESA) Threatened or Endangered
State:California Endangered Species Act (CESA) Threatened or Endangered
CNPS: California Native Plant Society Rare Plant Rank:
1B: Considered rare, threatened, or endangered in California and elsewhere
2: Plants rare, threatened, or endangered in California, but more common elsewhere
3: Plants for which we need more information – review list
4: Plants of limited distribution a watch list
Decimal notations: .1 – Seriously endangered in California, .2 – Fairly endangered in California, .3 – Not very endangered in California
[2] California Native Plant Society (CNPS). 2014. Inventory of Rare and Endangered Plants (online edition, v8-02). California Native Plant Society. Sacramento, CA.

Appendix I

List of Wildlife Species Observed

Appendix I. List of Wildlife Species Observed within the Study Area

Scientific Name	Common Name	Special Status[1]
VERTEBRATES		
Reptiles		
Phrynosomatidae - Spiny Lizard Family		
†*Sceloporus occidentalis*	western fence lizard	
Birds		
Ardeidae - Heron Family		
Ardea herodias	great blue heron	
Cathartidae - New World Vulture Family		
†*Cathartes aura*	turkey vulture	
Accipitridae - Hawk Family		
Accipiter cooperii	Cooper's hawk	
†*Buteo lineatus*	red-shouldered hawk	
Buteo jamaicensis	red-tailed hawk	
Laridae - Gull and Tern Family		
Larus occidentalis	western gull	
Columbidae - Pigeon and Dove Family		
**Columba livia*	rock pigeon	
Zenaida macroura	mourning dove	
Apodidae - Swift Family		
Aeronautes saxatalis	white-throated swift	
Trochilidae - Hummingbird Family		
†*Archilochus alexandri*	black-chinned hummingbird	
Calypte anna	Anna's hummingbird	
Picidae - Woodpecker Family		
Picoides nuttallii	Nuttall's woodpecker American	
Falconidae - Falcon Family		
Falco sparverius	kestrel	
Psittacidae - Parrot Family		
**Amazona viridigenalis*	red-crowned parrot	
Tyrannidae - Tyrant Flycatcher Family		
Contopus sordidulus	western wood-pewee	
Empidonax difficilis	pacific-slope flycatcher	
Sayornis nigricans	black phoebe	
†*Sayornis saya*	Say's phoebe	
Vireonidae - Vireo Family		
Vireo huttoni	Hutton's vireo	
Vireo gilvus	warbling vireo	
Corvidae - Jay and Crow Family		
†*Aphelocoma californica*	western scrub-jay	
Corvus brachyrhynchos	American crow	
Corvus corax	common raven	
Hirundinidae - Swallow Family		
Stelgidopteryx serripennis	northern rough-winged swallow	
Petrochelidon pyrrhonota	cliff swallow	
Aegithalidae - Bushtit Family		
Psaltriparus minimus	bushtit	
Troglodytidae - Wren Family		

Appendix I. List of Wildlife Species Observed within the Study Area

Scientific Name	Common Name	Special Status[1]
Troglodytes aedon	house wren	
Thryomanes bewickii	Bewick's wren	
Mimidae - Thrasher Family		
†*Mimus polyglottos*	northern mockingbird	
Parulidae - Wood-Warbler Family		
†*Oreothypis celata*	orange-crowned warbler	
Geothlypis trichas	common yellowthroat	
Setophaga petechia	yellow warbler	CSC
†*Setophaga coronata*	yellow-rumped warbler	
†*Setophaga nigrescens*	black-throated gray warbler	
†*Setophaga townsendi*	Townsend's warbler	
†*Cardellina pusilla*	Wilson's warbler	
Icteria virens	yellow-breasted chat	CSC
Emberizidae - Sparrow Family		
†*Pipilo maculatus*	spotted towhee	
Melozone crissalis	California towhee	
Melospiza melodia	song sparrow	
Cardinalidae - Cardinals, Grosbeaks and Allies Family		
†*Pheucticus melanocephalus*	black-headed grosbeak	
†*Passerina caerulea*	blue grosbeak	
Icteridae - Blackbird, Cowbird and Oriole Family		
†*Agelaius phoeniceus*	red-winged blackbird	
†*Euphagus cyanocephalus*	Brewer's blackbird brown-	
**Molothrus ater*	headed cowbird hooded	
Icterus cucullatus	oriole	
†*Icterus parisorum*	Scott's oriole	
Fringillidae - Finch Family		
Haemorhous mexicanus	house finch	
Carduelis psaltria	lesser goldfinch	
Carduelis tristis	American goldfinch	
Passeridae - Old World Sparrow Family		
**Passer domesticus*	house sparrow	
Estrilidae - Waxbill and Mannikin Family		
**Lonchura punctulata*	nutmeg mannikin	
Mammals		
Leporidae - Hare and Rabbit Family		
†*Sylvilagus audubonii*	desert cottontail	
Sciuridae - Squirrel Family		
†*Ostospermophilus beecheyi*	California ground squirrel	
Canidae - Canid Family		
**Canis familiaris*	domestic dog	
Felidae - Cat Family		
**Felis catus*	domestic cat	

*Non-native or invasive species

†Detected in 2006 by Gleen Lukos Associates

[1] Special Status:

Federal:

FE = Endangered

Appendix I. List of Wildlife Species Observed within the Study Area

Scientific Name	Common Name	Special Status[1]
FT = Threatened		
State:		
SE = Endangered		
ST =Threatened		
CSC = California Species of Special Concern		
CFP = California Fully Protected Species		

Appendix J

Potential to Occur – Sensitive Species Table: Fauna

Appendix J. Potential to Occur -Sensitive Species Table – Fauna

Scientific Name/ Common Name	Special Status Designation	General Habitat Description	Detected On-site (Yes/No)	Specific Habitat Present/Absent	Potential to Occur	Rationale
Invertebrates						
Branchinecta sandiegonensis San Diego fairy shrimp	**Federal**: E **State**:--	Endemic to vernal pools found in San Diego and Orange County mesas.	No	Absent	Not Expected	No suitable vernal pool habitat occurs within the study area.
Euphydryas editha quino Quino checkerspot butterfly	**Federal**: E **State**:--	Found in sunny openings within chaparral & coastal sage shrublands in parts of Riverside & San Diego counties. Hills & mesas near the coast. need high densities of food plants *Plantago erecta, P. insularis, Orthocarpus purpurescens*	No	Absent	Not Expected	No host plants detected within the study area.
Streptocephalus woottoni Riverside fairy shrimp	**Federal**: E **State**:--	Endemic to W RIV, ORA & SDG counties in areas of tectonic swales/earth slump basins in grassland & coastal sage scrub. Inhabit seasonally astatic pools filled by winter/spring rains. Hatch in warm water later in the season.	No	Absent	Not Expected	No suitable vernal pool habitat occurs within the study area.
Reptiles						
Anaxyrus californicus arroyo toad	**Federal**: E **State**: SSC	Semi-arid regions near washes or intermittent streams, including valley-foothill and desert riparian, desert wash. Rivers with sandy banks, willows, cottonwoods, and sycamores; loose, gravelly areas of streams in drier parts of range.	No	Absent	Low	Study area lacks open sandy habitat and slow-moving water to support breeding.
Anniella pulchra pulchra silvery legless lizard	**Federal**:-- **State**: SSC	Sandy or loose loamy soils under sparse vegetation. Soil moisture is essential. they prefer soils with a high moisture content.	No	Absent	Low	Study area lacks suitable sandy soils.sandy substrate

Appendix J. Potential to Occur -Sensitive Species Table – Fauna

Scientific Name/ Common Name	Special Status Designation	General Habitat Description	Detected On-site (Yes/No)	Specific Habitat Present/Absent	Potential to Occur	Rationale
Aspidoscelis hyperythra orangethroat whiptail	**Federal**:-- **State**: SSC	Inhabits low-elevation coastal scrub, chaparral, and valley-foothill hardwood habitats. Prefers washes & other sandy areas with patches of brush & rocks. Perennial plants necessary for its major food-termites.	No	Absent	Low	Suitable sandy habitat not present within study area.
Chelonia mydas green turtle	**Federal**: T **State**:--	Marine bay. Completely herbivorous; needs adequate supply of seagrasses and algae.	No	Absent	Not Expected	Food source does not occur within study area.
Crotalus ruber red-diamond rattlesnake	**Federal**:-- **State**: SSC	Chaparrral, woodland, grassland, & desert areas from coastal San Diego County to the eastern slopes of the mountains. Occurs in rocky areas & dense vegetation. Needs rodent burrows, cracks in rocks or surface cover objects.	No	Absent	Low	Study area lacks preferred rocky habitats. Majority of Study area is unsuitable woodland and riparian habitat.
Phrynosoma blainvillii coast horned lizard	**Federal**:-- **State**: SSC	Found in a wide variety of vegetation communities, from grasslands and shrublands to woodlands, including coniferous forests. Critical factors are the presence of loose soils with a high sand fraction; an abundance of native ants or other insects, especially harvester ants (Pogonomyrmex spp.); and the availability of both sunny basking spots and dense cover for refuge.	No	Absent	Not Expected	Coastal sage scrub habitat within study area is highly fragmented and disturbed. No harvester ants were observed, which is the food source for the coast horned lizard.

Appendix J. Potential to Occur -Sensitive Species Table – Fauna

Scientific Name/ Common Name	Special Status Designation	General Habitat Description	Detected On-site (Yes/No)	Specific Habitat Present/Absent	Potential to Occur	Rationale
Plestiodon skiltonianus interparietalis Coronado Island skink	**Federal**:-- **State**: SSC	Found in Chaparral, Cismontane woodland, Coastal bluff scrub, Coastal scrub, Desert wash, pinon & juniper habitats. Frequents a wide variety of habitats, most common in lowlands along sandy washes with scattered low bushes. Open areas for sunning, bushes for cover, patches of loose soil for burial, & abundant supply of ants & other insects.	No	Present	Low	Coastal sage scrub habitat within study area is highly fragmented and disturbed.
Salvador hexalepis virgultea coast patch-nosed snake	**Federal**:-- **State**: SSC	Found in brushy or shrubby vegetation in coastal Southern California. Requires small mammal burrows for refuge and overwintering sites.	No	Present	Low	Suitable habitat within study area is highly fragmented and disturbed.
Spea hammondii western spadefoot	**Federal**:-- **State**: SSC	Cismontane woodland | Coastal scrub | Valley & foothill grassland | Vernal pool | Wetland. Occurs primarily in grassland habitats, but can be found in valley-foothill hardwood woodlands.Vernal pools are essential for breeding and egg-laying.	No	Present	Low	Suitable habitat within study area is highly fragmented and disturbed.
Thamnophis hammondii two-striped garter snake	**Federal**:-- **State**: SSC	Endemic to coastal southern California from the Santa Clara River valley south to northern San Diego County. Maximum known elevation is about 2,270 feet. Restricted to marsh and upland habitats near permanent water with good strips of riparian vegetation where adequate prey and refuge can be found.	No	Present	Low	Suitable habitat within study area is highly fragmented and disturbed.
Mammals			No			

Appendix J. Potential to Occur -Sensitive Species Table – Fauna

Scientific Name/ Common Name	Special Status Designation	General Habitat Description	Detected On-site (Yes/No)	Specific Habitat Present/Absent	Potential to Occur	Rationale
Antrozous pallidus pallid bat	**Federal**:-- **State**: SSC	This bat species is widely distributed in the southwestern United States and northern Mexico. They are locally common across most of California except in the far northwest and in higher portions of the Sierra Nevada. Habitats utilized include a wide variety of grasslands, shrublands, woodlands, and forests, including mixed conifer forest. They appear to be most common in open, dry, rocky lowlands. Roosts are in caves, mines, as well as crevices in rocks, buildings and trees. This is a colonial species that forages low over open ground, often picking up beetles and other species of prey off the ground.	No	Present	Roosting – Low Foraging – Low	Suitable roosting and foraging habitat is present within the study area.
Chaetodipus californicus femoralis Dulzura pocket mouse	**Federal**:-- **State**: SSC	Variety of habitats including coastal scrub, chaparral & grassland in San Diego Co. Mainly attracted to grass-chaparral edges.	No	Present	Low	Suitable habitat within study area is highly fragmented and disturbed.
Chaetodipus fallax fallax northwestern San Diego pocket mouse	**Federal**:-- **State**: SSC	Coastal scrub, chaparral, grasslands, sagebrush, etc. in western San Diego Co. Micro habitat is mainly sandy, herbaceous areas, usually in association with rocks or coarse gravel.	No	Present	Low	Suitable habitat within study area is highly fragmented and disturbed.
Choerpnycteris Mexicana Mexican long-tongued bat	**Federal**:-- **State**: SSC	Pinon & juniper woodlands, Riparian scrub, Sonoran thorn woodland. Occasionally found in San Diego Co., which is on the periphery of their range. Feeds on nectar & pollen of night-blooming succulents. Roosts in relatively well-lit caves, & in & around buildings.	No	Present	Roosting – Low Foraging – Low	Suitable habitat for this species does not occur within the study area.
Corynorhinus townsendii Townsend's big-eared bat	**Federal**:-- **State**: T-candidate, SSC	Found throughout California in a wide variety of habitats. Most common in mesic sites. Roosts in the open, hanging from walls & ceilings. Roosting sites limited, as extremely sensitive to human disturbance.	No	Absent	Not Expected	Suitable habitat for this species does not occur within

Appendix J. Potential to Occur -Sensitive Species Table – Fauna

Scientific Name/ Common Name	Special Status Designation	General Habitat Description	Detected On-site (Yes/No)	Specific Habitat Present/Absent	Potential to Occur	Rationale
						the study area.
Euderma maculatum spotted bat	**Federal**:-- **State**: SSC	Occupies a wide variety of habitats from arid deserts and grasslands through mixed conifer forests. Feeds over water and along washes. Feeds almost entirely on moths. Needs rock crevices in cliffs or caves for roosting	No	Absent	Not Expected	Suitable habitat for this species does not occur within the study area.
Eumops perotis californicus western mastiff bat	**Federal**:-- **State**: SSC	Chaparral, Cismontane woodland, Coastal scrub, Valley & foothill grassland. Many open, semi-arid to arid habitats, including conifer & deciduous woodlands, coastal scrub, grasslands. Roosts in crevices in cliff faces, high buildings, trees & tunnels.	No	Present	Roosting – Low Foraging – Low	Suitable habitat within study area is highly fragmented and disturbed.
Lasiurus blossevilli western red bat	**Federal**:-- **State**: SSC	Known from Shasta County, California to Mexico west of the Sierra Nevada/Cascade crest and deserts. Winter range includes lowlands and coastal regions south of San Francisco bay. Known to roost in trees and shrubs (less often) within forest and woodlands from sea level to up to mixed conifer woodlands. Forages over a variety of habitats including grasslands, shrub lands, open woodlands, forests and agricultural lands.	No	Present	Roosting – Low Foraging – Low	Suitable habitat within study area is highly fragmented and disturbed.
Lasiurus xanthinus western yellow bat	**Federal**:-- **State**: SSC	Found in valley foothill riparian, desert riparian, desert wash, and palm oasis habitats. Roosts in trees, particularly palms. Forages over water and among trees.	No	Present	Roosting – Low Foraging – Low	Suitable habitat within study area is highly fragmented and disturbed.
Lepus californicus bennettii San Diego black-tailed jackrabbit	**Federal**:-- **State**: SSC	Found in Intermediate canopy stages of shrub habitats & open shrub / herbaceous & tree / herbaceous edges. Coastal sage scrub habitats in Southern California. Prefers coastal sage scrub habitats in Southern California.	No	Present	Low	Suitable habitat within study area is highly fragmented and disturbed.

Appendix J. Potential to Occur -Sensitive Species Table – Fauna

Scientific Name/ Common Name	Special Status Designation	General Habitat Description	Detected On-site (Yes/No)	Specific Habitat Present/Absent	Potential to Occur	Rationale
Neotoma lepida intermedia San Diego woodrat	**Federal**:-- **State**: SSC	Occurs in two disjunct areas in California. It is found in northeastern California from eastern Modoc County to southeastern Lassen County and inhabits most of southern California from Mono County south through the Mojave desert and from northern Tulare County soouth to the San Bernardino Mountains. Occurs in a variety of shrub and desert habitats, typically with rock outcrops, boulders, cacti and/or areas of dense undergrowth.	No	Present	Low	Suitable habitat within study area is highly fragmented and disturbed.
Nyctinomops femorosaccus pocketed free-tailed bat	**Federal**:-- **State**: SSC	Found in a variety of arid areas in Southern California; pine-juniper woodlands, desert scrub, palm oasis, desert wash, desert riparian, and prefers rocky areas with high cliffs.	No	Present	Roosting – Low Foraging – Low	Suitable habitat within study area is highly fragmented and disturbed.
Nyctinomops macrotis big free-tailed bat	**Federal**:-- **State**: SSC	Found in low-lying arid areas in Southern California. Need high cliffs or rocky outcrops for roosting sites. Feeds principally on large moths.	No	Absent	Not Expected	Suitable habitat for this species does not occur within the study area.
Perognathus longimembris pacificus Pacific pocket mouse	**Federal**: E **State**: SSC	Inhabits the narrow coastal plains from the Mexican border north to El Segundo, Los Angeles Co. Seems to prefer soils of fine alluvial sands near the ocean, but much remains to be learned.	No	Absent	Not Expected	Suitable habitat for this species does not occur within the study area.
Taxidea taxus American badger	**Federal**:-- **State**: SSC	Most abundant in drier open stages of most shrub, forest, and herbaceous habitats, with friable soils. Needs sufficient food, friable soils & open, uncultivated ground. Preys on burrowing rodents. Digs burrows.	No	Absent	Not Expected	Suitable habitat for this species does not occur within the study area.

Appendix J. Potential to Occur -Sensitive Species Table – Fauna

Scientific Name/ Common Name	Special Status Designation	General Habitat Description	Detected On-site (Yes/No)	Specific Habitat Present/Absent	Potential to Occur	Rationale
Birds						
Agelaius tricolor tricolored blackbird	**Federal**:-- **State**: SSC	Range is restricted to the Central Valley and surrounding foothills, throughout coastal and some inland localities in southern California, and scattered sites in Oregon, western Nevada, central Washington, and western coastal Baja California. Breed in dense colonies and may travel several kilometers to secure food for their nestlings; males defend small territories within colonies and mate with 1 to 4 females. They are itinerant breeders, nesting more than once at different locations during the breeding season.	No	Present	Breeding: Low Foraging Low	Suitable habitat within study area is highly fragmented and disturbed.
Ammodramus savannarum grasshopper sparrow	**Federal**:-- **State**: SSC	Dense grasslands on rolling hills, lowland plains, in valleys & on hillsides on lower mountain slopes. Favors native grasslands with a mix of grasses, forbs & scattered shrubs. Loosely colonial when nesting.	No	Present	Breeding: Low Foraging Low	Suitable habitat within study area is highly fragmented and disturbed.
Athene cuncicularia burrowing owl	**Federal**:-- **State**: SSC	Found in Coastal prairie, Coastal scrub, Great Basin grassland, Great Basin scrub, Mojavean desert scrub. Typically in open dry annual or perennial grasslands, deserts & scrublands characterized by low-growing vegetation. Subterranean nester, dependent upon burrowing mammals, most notably, the California ground squirrel.	No	Present	Breeding: Low Foraging Low	Suitable habitat within study area is highly fragmented and disturbed.
Buteo swainsoni Swainson's hawk	**Federal**:-- **State**: T	Great Basin grassland | Riparian forest | Riparian woodland | Valley & foothill grassland. Breeds in grasslands with scattered trees, juniper-sage flats, riparian areas, savannahs, & agricultural or ranch lands with groves or lines of trees. Requires adjacent suitable foraging areas such as grasslands, or alfalfa or grain fields supporting rodent populations.	No	Present	Breeding: Low Foraging: Low	Suitable habitat within study area is highly fragmented and disturbed.

Appendix J. Potential to Occur -Sensitive Species Table – Fauna

Scientific Name/ Common Name	Special Status Designation	General Habitat Description	Detected On-site (Yes/No)	Specific Habitat Present/Absent	Potential to Occur	Rationale
Campylorhynchus brunneicapillus sandiegensis coastal cactus wren	**Federal**:-- **State**: SSC	Southern California coastal sage scrub. Wrens require tall opuntia cactus for nesting and roosting.	No	Absent	Not Expected	Suitable habitat for this species does not occur within the study area.
Circus cyaneus northern harrier	**Federal**:-- **State**: SSC	Found in coastal salt & fresh-water marsh. Nest & forage in grasslands, from salt grass in desert sink to mountain cienagas. Nests on ground in shrubby vegetation, usually at marsh edge; nest built of a large mound of sticks in wet areas.	No	Present	Breeding: Low Foraging Low	Suitable habitat within study area is highly fragmented and disturbed.
Coccyzus americanus occidentalis western yellow-billed cuckoo	**Federal**: T **State**: E	Riparian forest nester, along the broad, lower flood-bottoms of larger river systems. Nests in riparian jungles of willow, often mixed with cottonwoods, w/ lower story of blackberry, nettles, or wild grape.	No	Present	Breeding: Low Foraging: Low	Suitable habitat within study area is highly fragmented and disturbed.
Empidonax traillii extimus southwestern willow flycatcher	**Federal**: E **State**: E	Riparian woodlands in Southern California.	No	Present	Breeding: Moderate Foraging: Moderate	Focused protocol surveys were conducted within suitable habit for this species.
Falco peregrinus anatum American peregrine falcon	**Federal**:-- **State**: FP	Near wetlands, lakes, rivers, or other water; on cliffs, banks, dunes, mounds; also, human-made structures. Nest consists of a scrape or a depression or ledge in an open site.	No	Absent	Not Expected	Suitable habitat for this species does not occur within the study area.
Icteria virens yellow-breasted chat	**Federal**:-- **State**: SSC	Summer resident; inhabits riparian thickets of willow & other brushy tangles near watercourses. Nests in low, dense riparian, consisting of willow, blackberry, wild grape; forages and nests within 10 ft of ground.	Yes	Present	Present	Species was observed within study area

Appendix J. Potential to Occur -Sensitive Species Table – Fauna

Scientific Name/ Common Name	Special Status Designation	General Habitat Description	Detected On-site (Yes/No)	Specific Habitat Present/Absent	Potential to Occur	Rationale
Ixobrychus exillis least bittern	**Federal**:-- **State**: SSC	Colonial nester in marshlands and borders of ponds and reservoirs which provide ample cover. Nests usually placed low in tules, over waters of ponds and reservoirs which provide ample cover.	No	Absent	Not Expected	Suitable habitat for this species does not occur within the study area.
Laterallus jamaicensis coturniculus California black rail	**Federal**:-- **State**: T	Inhabits freshwater marshes, wet meadows & shallow margins of saltwater marshes bordering larger bays. Needs water depths of about 1 inch that do not fluctuate during the year & dense vegetation for nesting habitat.	No	Absent	Not Expected	Suitable habitat for this species does not occur within the study area.
Passerculus sandwichensis beldingi Belding's savannah sparrow	**Federal**:-- **State**: E	Inhabits coastal salt marshes, from Santa Barbara south through San Diego County. Nests in Salicornia on and about margins of tidal flats.	No	Absent	Not Expected	Suitable habitat for this species does not occur within the study area.
Pelecanus occidentalis californicus California brown pelican	**Federal**:-- **State**: FP	A colonial nester on coastal islands just outside the surf line. Nests on coastal islands of small to moderate size which afford immunity from attack by ground-dwelling predators. Roosts communally.	No	Absent	Not Expected	Suitable habitat for this species does not occur within the study area.
Polioptila californica californica coastal California gnatcatcher	**Federal**: T **State**: SSC	Obligate, permanent resident of coastal sage scrub below 2500 ft in Southern California. Low, coastal sage scrub in arid washes, on mesas & slopes. Not all areas classified as coastal sage scrub are occupied.	No	Present	Breeding: Moderate Foraging: Moderate	Focused protocol surveys were conducted within suitable habit for this species.

Appendix J. Potential to Occur -Sensitive Species Table – Fauna

Scientific Name/ Common Name	Special Status Designation	General Habitat Description	Detected On-site (Yes/No)	Specific Habitat Present/Absent	Potential to Occur	Rationale
Rallus longirostris levipes light-footed clapper rail	**Federal**: E **State**: E	Found in salt marshes traversed by tidal sloughs, where cordgrass and pickleweed are the dominant. Requires dense growth of either pickleweed or cordgrass for nesting or escape cover; feeds on molluscs and crustaceans.	No	Absent	Not Expected	Suitable habitat for this species does not occur within the study area.
Setophaga petechial yellow warbler	**Federal**:-- **State**: SSC	Found in riparian plant associations in close proximity to water. Also nests in montane shrubbery in open conifer forests in Cascades and Sierra Nevada. Frequently found nesting and foraging in willow shrubs and thickets, and in other riparian plants including cottonwoods, sycamores, ash, and alders.	Yes	Present	Present	Species was observed within study area
Sternula antillarum browni California least tern	**Federal**: E **State**: E	Found in alkali playas and wetlands. Nests along the coast from San Francisco Bay south to northern Baja California. Colonial breeder on bare or sparsely vegetated, flat substrates: sand beaches, alkali flats, landfills, or paved areas.	No	Absent	Not Expected	Suitable habitat for this species does not occur within the study area.
Vireo bellii pusillus least Bell's vireo	**Federal**: E **State**: E	Summer resident of Southern California in low riparian in vicinity of water or in dry river bottoms; below 2000 ft. Nests placed along margins of bushes or on twigs projecting into pathways, usually willow, Baccharis, mesquite.	No	Present	Breeding: Moderate Foraging: Moderate	Focused protocol surveys were conducted within suitable habit for this species.

U.S. Fish and Wildlife Service	California Department of Fish and Wildlife	
FE – Federal Endangered FT – Federal Threatened PE – Proposed for Listing	SE – State Endangered ST – State Threatened SR – State Rare SSC- Species of Special Concern FP- Fully Protected	

Appendix K
Focused Survey Report for Light-footed Ridgway's Rail

Konecny Biological Services
Biological Consulting, Research, Conservation

June 27, 2017

ICF
525 B Street, Suite 1700
San Diego, CA 92101

Attn: Ms. Lanika Cervantes

Re: Results of a Focused Survey for the Light-footed Ridgway's Rail at the Proposed CarMax Site, City of National City, California, 2017.

Dear Ms. Cervantes:

This letter report presents the results of a focused survey for the light-footed Ridgway's rail (*Rallus obsoletus levipes*; LFRR) (formerly light-footed clapper rail, *Rallus longirostris levipes*), for the proposed CarMax site within the City of National City, San Diego County, California. The LFRR is listed as an endangered species by the U.S. Fish and Wildlife Service (USFWS) and the California Department of Fish and Wildlife (CDFW). This coastal southern California subspecies is one of three subspecies of federally endangered *R. obsoletus*, which was formerly *R. longirostris* but recently has been taxonomically reclassified by the American Ornithologist Union because of genetic studies (Chesser *et al* 2014).

Surveys for the LFRR were conducted by wildlife biologist John Konecny. The surveys were conducted in accordance with the recommendations provided to the USFWS by the Clapper Rail Study Team (2009). This activity is authorized by John Konecny's USFWS Section 10(a)(1)(A) permit number TE-837308-6, and a CDFW Memorandum of Understanding. One pair of LFRR's were detected in the CarMax project area in 2017.

INTRODUCTION

The LFRR is a slender, tawny-breasted bird with grayish edges on brown centered back feathers, olive wing coverts, vertical white bars on the flanks, a white stripe over the eye, and a partially orange bill. LFRR occurred historically along the coast of southern California from Carpinteria Marsh in Santa Barbara County south to San Quintín, Baja California, Mexico (Grinnell and Miller 1944, USFWS 1994).

The LFRR is a permanent resident of coastal salt marsh traversed by tidal sloughs, usually characterized by cordgrass (*Spartina foliosa*) and pickleweed (*Salicornia* spp.) (Grinnell and Miller 1944, USFWS 1994). LFRRs have also nested in freshwater marsh characterized by cattails (*Typha* sp.) and bulrush (*Scirpus* sp.) at Buena Vista, Agua Hedionda, Batiquitos, San Elijo, and San Dieguito Lagoons in San Diego County (Zembal *et al* 2016); and in spiny rush (*Juncus acutus*) at Naval Air Station (NAS) Point Mugu.

LFRRs forage primarily on crustaceans when present. They will also feed on mollusks, small fish, aquatic insects, grasshoppers, small vertebrates, and in some cases, seeds (Eddleman and Conway 1998). LFRRs forage within emergent vegetation or along the ecotone between mudflats and marsh (Zembal and Fancher 1988), and in the central drains of tidal creeks at low tide. Surface gleaning and shallow probing compose approximately 90 percent of foraging time, while they very irregularly probe deep into the substrate (Zembal and Fancher 1988).

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Populations of LFRRs have undergone decline in the United States due to the rail's limited distribution and destruction and degradation of coastal salt marsh habitat. The statewide LFRR population in 2016 was reported to be 654 pairs in 18 marshes (Zembal *et al.* 2016), which represents the highest count since the statewide census began in 1980. The 2016 total is 21 pairs greater than the 2015 count of 633 pairs. Fifty percent of these pairs were found in two coastal salt marsh complexes at Upper Newport Bay and the Tijuana Marsh National Wildlife Refuge (NWR). Five other marshes–NAS Point Mugu, Batiquitos Lagoon, San Elijo Lagoon, Seal Beach NWR, and Kendall-Frost Marsh in Mission Bay–had between 16 and 70 pairs each, representing an additional 45 percent of the state total. The remaining 11 marshes had between one and 14 pairs, representing five percent of the state population.

Zembal and Massey (1986) have shown that paired LFRR can be detected "clappering" throughout the year, but have a bimodal peak in vocalizing during mid-February to mid-April and again in September through October. The initial peak in "clappering" vocalizing corresponds to the onset of breeding season and the second peak is thought to function in pair formation in the fall (Zembal and Massey 1986). In contrast to "clappering", single male and female "kekking" is highly seasonal, almost exclusively occurring between February and June.

PROJECT LOCATION

The proposed CarMax site is located just south of State Route (SR) 54 and east of Interstate (I) 805, and west of Plaza Bonita Road in the City of National City, south-coastal San Diego County, California (Figure 1). The LFRR survey area is located on the north side of the Sweetwater River, between the River and the bicycle path. Specifically, the Sweetwater River light-footed clapper rail survey area is located within Township 8 South, Range 2 West, and in an un-sectioned portion of the U.S. Geological Survey National City, Ca. 7.5-minute quadrangle.

PROJECT SITE DESCRIPTION

Much of the Sweetwater River in the area of the intersection of I-805 and SR-54 is southern willow scrub and mule-fat scrub characterized by arroyo willow (*Salix lasiolepis*), black willow (*S. gooddingii*), sandbar willow (*S. exigua* var. *hindsiana*) and mule-fat (*Baccharis salicifolia*), with scattered cottonwood (*Populus fremontii*), sycamore (*Platanus racemosa*), tamarisk (*Tamarix* sp.), and giant reed (*Arundo donax*). It is especially lush in the eastern end of the survey area. Patches of cattail and bulrush dominated freshwater marsh are scattered in a mosaic throughout, becoming more prominent in the downstream portion of the survey area.

Most of the proposed CarMax site is an upland mosaic of disturbed habitat, Eucalyptus trees, with embedded thickets of arroyo willow, and patches of giant reed. A small patch (less than one acre) of southern freshwater marsh, comprised of cat tail is present on the western border of the site, and is separated from the rest of the site by a bicycle path (Figure 2). The southern freshwater marsh patch is bordered by red willow (*S. laevigata*) woodland on the west and southeast. Elevation of the Sweetwater River at the survey area is approximately 20 feet (6 meters) above mean sea level.

METHODS

Six focused LFRR survey events were conducted at least seven days apart in the freshwater marsh area of the CarMax site between April 10th and May 22nd, 2017. Dawn surveys were conducted on April 10th, 18th, and 27th. Dusk surveys were conducted on May 8th, 15th, and 22nd. Each survey lasted approximately one hour. The surveys were conducted in accordance with the recommendations provided to the USFWS by the Clapper Rail Study Team (2009). A summary of the environmental conditions on the six survey dates is provided in Table 1 below.

Table 1. Summary of Weather Conditions During Six Light-footed Ridgway's Rail Surveys for the Proposed CarMax Site, City of National City, California, 2017.

Survey #	Date	Surveyor (Species)*	Time	Weather Conditions
1	04/10/2017	JK (LFRR)	0625-0728	100% overcast, 49-52^{o}F, wind 3-5 mph
2	04/18/2017	JK (LFRR)	0630-0730	75% overcast, 65-53^{o}F, wind1-3 mph
3	04/26/2017	JK, (LFRR)	0620-0725	75% overcast, 66-63^{o}F, wind 1-3 mph
4	05/08/2017	JK (LFRR)	1655-1800	100% overcast, 70-651^{o}F, wind 1-3 mph
5	05/15/2017	JK (LFRR)	1700-1800	70% overcast, 60-57^{o}F, wind 1-3 mph
6	05/22/2017	JK (LFRR)	1705-1800	70% overcast, 68-65^{o}F, wind 1-3 mph

* JK-John Konecny; LFRR-Light-footed Ridgway's Rail

The surveys were conducted by walking the bicycle path through the CarMax site, and River crossing path and stopping and listening for vocalizing light-footed Ridgway's rails. If rails were not detected passively, a digital call-prompt of the light-footed clapper rail "dueting" was played with an iPod and amplified speakers at 30-second intervals. A response was listened for approximately ten minutes before proceeding to the next survey station.

RESULTS and DISCUSSION

One pair of LFRR's were detected in the patch of southern fresh water marsh on April 18 (Figure 3). The pair responded to the call prompt. The pair was again heard passively vocalizing in the same area on May 8 and 15. The pair likely uses the entire fresh water marsh patch.

Described as "formerly common in all coastal marshes" by Grinnell and Miller (1944), the light-footed Ridgway's rail has never been a common bird species at the Sweetwater Marsh over the past twenty years (Zembal *et al* 2016). Eight pairs were present in 1996; one pair in 2003; four pairs in 2012, 2013, and 2014; and seven pairs in 2016 (Zembal *et al* 2016).

Konecny Biological Services has surveyed the reach of the Sweetwater River between the CarMax marsh site and I-5 for the past eleven years. Three pairs were present in 2012, two pairs and a single male were present in 2011, one pair and an advertising female were present in 2007, with one pair in 2008, two pairs in 2009, and one pair and one advertising male in 2010 (Konecny 2016). Except for 2013 2015, and 2016, one pair has consistently been detected in the CarMax fresh water marsh patch by the existing bike path (Konecny 2016).

2016, 2015 and 2013 were the the first three years since 1993 that LFRRs have not been detected at the CarMax fresh water marsh site in this reach of the River. The reason for this is unknown. The LFRRs found in the area in previous years may have been predated, there may have been an issue with the food source due to the recent drought in southern California, or they may have just been missed. It is possible that offspring from the four pairs at Sweetwater Marsh dispersed upstream and repopulated the area in 2014, and then blinked out again in 2015 and 2016. Given the fact that there were seven pairs present in the Sweetwater Marsh in 2016, it is likely that two of their offspring repopulated this patch of marsh in 2017.

CERTIFICATION

I certify that the information in this survey report and attached exhibits fully and accurately represent my work. The results of focused surveys for listed species are typically considered valid for one year by the USFWS and CDFW. If you have any questions or require additional information, please call me at (760) 390-8959.

Sincerely,

John K. Konecny
Wildlife Biologist
TE837308-6

REFERENCES CITED

Chesser R.T., Richard C. Banks, Carla Cicero, Jon L. Dunn, Andrew W. Kratter, Irby J. Lovette, Adolfo G. Navarro-Sigüenza, Pamela C. Rasmussen, J. V. Remsen, Jr., James D. Rising, Douglas F. Stotz, and Kevin Winker (*2014*) Fifty-Fifth Supplement to the American Ornithologists' Union *Check-list of North American Birds*. The Auk: October 2014, Vol. 131, No. 4, pp. CSi-CSxv.

Clapper Rail Study Team. 2009. Survey Guidelines to Determine Presence/Absence of the Light-footed Clapper Rail in Southern California; Recommendations of the Clapper Rail Study Team (John Konecny, Richard Zembal, Susan Hoffman). Draft Recommendations Provided to the Fish and Wildlife Service. 2pp.

Grinnell, J., and A.H. Miller. 1944. The Distribution of the Birds of California. Cooper Ornithological Club. Berkeley, California.

Konecny, J.K. 2016. Results of a Focused Status Survey for the Light-footed Clapper Rail on the Lower Sweetwater River, San Diego County, California, 2015. Report Prepared for Amec Foster Wheeler. 6pp.

U.S. Fish and Wildlife Service. 1994. Light-footed Clapper Rail. Unpublished two-page pamphlet, prepared by R. Zembal.

Zembal, R., S. Hoffman, and J. Konecny. 2016. Status and Distribution of the Light-footed Ridgway's Rail in California, 2016 Season. Report to California Department of Fish and Wildlife, for the Clapper Rail Recovery Fund. 20pp.

Zembal, R. and B. W. Massey. 1986. Seasonality of Vocalizations by Light-footed Clapper Rails. J. Field Ornithol., 58(1):41-48.

Figure 1. Location (Google earth photo) of the Proposed CarMax Site (within red line), City of National City, San Diego County, California, 2017.

Figure 2. Location(Google Earth photo) of the Light-footed Ridgway's Rail Survey Area (inside yellow polygon) adjacent to the Proposed CarMax Site, City of National City, San Diego County, California, 2017.

Figure 3. Location (Google Earth photo) of the Light-footed Ridgway's Rail Pair Detected (yellow X) adjacent to the Proposed CarMax Site, City of National City, San Diego County, California, 2017.