NATURAL ENVIRONMENT STUDY
INTERSTATE 710 CORRIDOR PROJECT BETWEEN OCEAN BOULEVARD AND THE STATE ROUTE 60 INTERCHANGE
07-LA-710-PM 4.9/24.9 EA 249900

WBS ID 165.15.20

Prepared for

Metro

Los Angeles County
Metropolitan Transportation Authority

June 2012

Prepared by:

LSA

20 Executive Park, Suite 200
Irvine, CA 92614

This page intentionally left blank

Natural Environment Study

Interstate 710 Corridor Project

Between Ocean Boulevard and the State Route 60 Interchange

Los Angeles County, California

District 7 – Los Angeles County

07-LA-710

PM 4.9/24.9

EA 249900

June 2012

STATE OF CALIFORNIA
Department of Transportation
COOPERATING AGENCIES: Environmental Protection Agency and
United States Army Corps of Engineers

Prepared By: Art Homrighausen for Date: 6/25/12
Senior Biologist: Elizabeth Hohertz
Phone Number: (951) 781-9310
LSA Associates, Inc.

Recommended for
Approval By: Paul Caron Date: 6/25/12
Caltrans District Biologist: Paul Caron
Phone Number: (213) 897-0610
Office Name: Division of Environmental Planning
District/Region: 7

Approval By: Ronald Kosinski Date: 6/25/12
Caltrans Deputy District Director of Environmental Planning: Ron Kosinski
Phone Number: (213) 897-0703
Office Name: Division of Environmental Planning
District/Region: 7

This page intentionally left blank

TABLE OF CONTENTS

SECTION **PAGE**

Metro

Metro

LIST OF FIGURES

LIST OF TABLES

APPENDICES

LIST OF ABBREVIATED TERMS

ac	acres
ACOE	United States Army Corps of Engineers
ADA	Americans with Disabilities Act
APE	Area of Potential Effects
BA	Biological Assessment
BMPs	best management practices
BNSF/UP	Burlington Northern Santa Fe/Union Pacific Railroad
BSA	Biological Study Area
BUOW	burrowing owl
Cal-IPC	California Invasive Plant Council
Caltrans	California Department of Transportation
CCA	California Coastal Act
CCC	California Coastal Commission
CDFG	California Department of Fish and Game
CDP	Coastal Development Permit
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CFP	California Fully Protected
CFR	Code of Federal Regulations
CLT	California Least Tern
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CNPSEI	CNPS Online Electronic Inventory of Rare and Endangered Vascular Plants of California
CSS	coastal sage scrub
CWA	Clean Water Act
CZMA	Coastal Zone Management Act
dB	decibels
DEIR	Draft Environmental Impact Report
DWP	Los Angeles County Department of Water and Power
EA	Expenditure Authorization
EB	Eastbound
EFH	Essential Fish Habitat
EO	Executive Order
ESA	Environmentally Sensitive Area
ESHA	Environmentally Sensitive Habitat Area
FESA	Federal Endangered Species Act
FHWA	Federal Highway Administration
ft	feet
GCCOG	Gateway Cities Council of Governments
GIS	Geographic Information System
GP	general-purpose (lane)
GPS	global positioning system
HMMP	Habitat Mitigation and Monitoring Plan

I-5	Interstate 5
I-5 JPA	Interstate 5 Joint Powers Authority
I-10	Interstate 10
I-105	Interstate 105
I-405	Interstate 405
I-710	Interstate 710
IHA	Incidental Harassment Authorization
IP	Individual Permit
ITS	Intelligent Transportation Systems
JPA	Joint Powers Authority
LACDPW	Los Angeles County Department of Public Works
LCP	Local Coastal Program
LOP	Letter of Permission
LPS	Locally Preferred Strategy
m	meters
MBTA	Migratory Bird Treaty Act
MCS	Major Corridor Study
Metro	Los Angeles County Metropolitan Transportation Authority
mi	miles
MLPA	Marine Life Protection Act
MMPA	Marine Mammal Protection Act
MMPP	Marine Mammal Protection Plan
MPA	Marine Protected Area
MSA	Magnuson-Stevens Fishery Conservation and Management Act
NB	Northbound
NCCP	Natural Communities Conservation Plan
NEPA	National Environmental Policy Act
NES	Natural Environment Study
NMFS	National Marine Fisheries Service
NOP	Notice of Preparation
OHWM	ordinary high water mark
PM	Post Mile
POLA	Port of Los Angeles
POLB	Port of Long Beach
Porter-Cologne Act	Porter-Cologne Water Quality Control Act
RHA	Rivers and Harbors Act
RTIP	Regional Transportation Improvement Program
RWQCB	Regional Water Quality Control Board
SAA	Streambed Alteration Agreement
SAFETE-LU	Safe, Accountable, Flexible, and Efficient Transportation Equality Act: A Legacy of Users
SAN	Streambed Alteration Notification
SB	Southbound
SCAG	Southern California Association of Governments
SCE	Southern California Edison
SEL	Sound Exposure Level
SMCA	State Marine Conservation Area
SMP	State Marine Park

SMR	State Marine Preserve
SR-60	State Route 60
SR-91	State Route 91
SWPPP	Storm Water Pollution Prevention Plan
THL	Temporary Hearing Loss
TL	Transmission Loss
TNW	traditional navigable water
TSM/TDM	Transportation Systems/Transportation Demand Management
TTS	Temporary Threshold Shift
USC	United States Code
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
WB	Westbound

This page intentionally left blank

EXECUTIVE SUMMARY

INTRODUCTION

The Los Angeles County Metropolitan Transportation Authority (Metro), in cooperation with the California Department of Transportation (Caltrans) District 7, the Gateway Cities Council of Governments (GCCOG), the Port of Los Angeles (POLA), the Port of Long Beach (POLB), the Southern California Association of Governments (SCAG), and the Interstate 5 Joint Powers Authority (I-5 JPA), proposes to improve Interstate 710 (I-710) in Los Angeles County from Ocean Blvd. in the City of Long Beach to State Route 60 (SR-60) in East Los Angeles. The proposed improvements are intended to improve air quality, improve traffic safety, address existing design deficiencies of I-710, and accommodate projected traffic volumes forecast for 2035. The entire study area is located in Los Angeles County. Caltrans is the Lead Agency for compliance with the California Environmental Quality Act (CEQA) and with the National Environmental Policy Act (NEPA) pursuant to Section 6005 of the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) (23 United States Code [USC] 327). Metro is the local agency sponsor and a Responsible Agency under CEQA.

In addition to a No Build Alternative, four Build Alternatives have been proposed. The alternatives are Alternative 1 (No Build Alternative), Alternative 5A (Freeway Widening up to 10 General-Purpose [GP] Lanes), Alternative 6A (10 GP Lanes plus a Four-Lane Freight Corridor), Alternative 6B (10 GP Lanes plus a Zero-Emissions Four-Lane Freight Corridor), and Alternative 6C (10 GP Lanes plus a Zero-Emissions Four-Lane Freight Corridor with toll roads).

This document is intended to provide information on potential project effects on the natural environment, and document project compliance with applicable laws and regulations. It is also intended to discuss impacts to biological resources and provide avoidance and minimization measures.

BIOLOGICAL STUDY AREA

The biological study area (BSA) is approximately 18 linear miles along the I-710 Corridor, from Ocean Blvd. to SR-60. The BSA also includes a portion of major transportation corridors connecting to I-710, including Interstate 405 (I-405), State Route (SR-91), Interstate 105 (I-105), and Interstate 5 (I-5), to accommodate for proposed interchange improvements. From south to north, the BSA is located on the United States Geological Survey (USGS) *Long Beach, South Gate,* and *Los Angeles, California* 7.5-minute series topographical quadrangles.

The entire BSA is located within the Los Angeles River Watershed, which has an overall size of 834 square miles (Los Angeles County Department of Public Works [LACDPW] 2009). The upper portion of the watershed is covered by forest or open space, while the remaining watershed, including the BSA, is highly developed with commercial, industrial, or residential uses. The confluences of two of the eight major tributaries to the Los Angeles River, the Rio Hondo River and Compton Creek, occur within the study area. The Rio Hondo River joins the Los Angeles River in the City of South Gate from the east and Compton Creek joins the Los Angeles River in the City of Long Beach from the northwest. The 2.5 miles of Compton Creek closest to its confluence with the Los Angeles River are soft-bottom. South of Compton Creek, the river flows within a concrete or rock-lined channel into the estuary in Long Beach. The last three miles of the Los Angeles River are soft-bottom, with sides lined with rock riprap.

The average annual rainfall for the lower Los Angeles watershed area is 9.9 inches.[1] During the 2010–2011 rainy season, the area received approximately 14.41 inches of rainfall.[2] Prior to 1960, 80 percent of the rain water in the Los Angeles River percolated into the ground. Today, that figure is closer to 8 percent, with the rest draining into the ocean (The River Project 2009).

BIOLOGICAL CONDITIONS

Vegetation communities located within the BSA are mostly developed (developed/ ornamental/ruderal). Waters of the Los Angeles River have been identified based on freshwater and tidal waters. Fragments of riparian scrub and freshwater emergent marsh habitats have been identified within the BSA within the Los Angeles River itself, or within tributary drainages. Table ES.1 lists the total acreage and impact acreage of each of the vegetation communities present within the BSA.

SURVEYS/SURVEY RESULTS

In 2009, reconnaissance-level biological resource surveys, habitat assessments, focused plant and wildlife surveys, and a Jurisdictional Delineation were performed to document the existing conditions of biological resources within the BSA. The BSA included areas of undeveloped land within Caltrans right-of-way that are dominated by ruderal and ornamental vegetation. Additional reconnaissance-level biological resource surveys were performed in August 2011 upon refinement of project alternatives.

The western burrowing owl (BUOW) was observed during focused surveys. California least tern (CLT) occasionally forages within the BSA. A combination of avoidance and minimization measures and compensatory mitigation would reduce the overall adverse effects to biological

[1] http://ladpw.org/wrd/precip/alert_rain/normal.cfm.

[2] http://ladpw.org/wrd/precip/alert_rain/index.cfm?cont=season.cfm, August 22, 2011.

Table ES.1: Project Effects to Natural Communities of Special Concern Occurring within the Biological Study Area

Vegetation Community	Total Acres within BSA	Permanent (Direct)		Permanent (Indirect)		Temporary		Total	
		Alt 5A	Alts 6A/B/C	Alt 5A	Alts 6A/B/C	Alt 5A	Alts 6A/B/C	Alt 5A	Alts 6A/B/C
Estuarine Habitat									
Earthen-bottom Intertidal portions of the Los Angeles River	10.33	0.10	0.10	2.18	2.18	8.05	8.05	10.33	10.33
Riparian/Riverine Habitats									
Dominguez Gap Wetlands west basin	8.57	0.00	2.81	0.00	0.00	0.00	5.76	0.00	8.57
Concrete-lined Freshwater portions of the Los Angeles River and Associated Drainages	53.91	0.67	0.88	10.57	12.88	28.59	31.46	40.09	45.48
Marsh	0.93	0.00	0.02	0.28	0.44	0.32	0.36	0.60	0.82
Riparian Scrub	2.88	0.02	0.12	0.43	0.71	2.98	2.05	3.43	2.88
Total Riparian/ Riverine Habitats	**66.29**	**0.69**	**3.83**	**11.28**	**14.03**	**32.89**	**39.63**	**44.12**	**57.49**

Source: *Natural Environment Study,* 2012.
Alt/Alts = Alternative/s
BSA= Biological Study Area

resources. Invasive species would be removed from the project work area and controlled during construction to ensure compliance with Executive Order (EO) 13112.

WETLANDS AND OTHER JURISDICTIONAL AREAS

A formal Jurisdictional Delineation survey determined that there are jurisdictional features within the BSA, including wetland areas, subject to the jurisdiction of the United States Army Corps of Engineers (ACOE), California Department of Fish and Game (CDFG), and the Regional Water Quality Control Board (RWQCB). Therefore, the I-710 Corridor Project would require permits from regulatory agencies, including the ACOE (pursuant to Section 404 of the Clean Water Act [CWA]), the CDFG (pursuant to Section 1602 of the California Fish and Game Code), and the RWQCB (pursuant to Section 401 of the CWA). There are no wetland areas subject to jurisdiction by the California Coastal Commission (CCC). Project effects to potentially jurisdictional and nonjurisdictional areas are presented in Table ES.2.

Metro

Table ES.2: Project Effects to Potentially Jurisdictional and Nonjurisdictional Areas

Jurisdictional Areas	Permanent (acres)		Temporary (acres)
	Direct	Indirect	
ACOE Jurisdictional Areas			
Alternative 5A	0.68	13.97	38.19
Alternatives 6A/B/C	0.83	17.48	59.19
ACOE Nonjurisdictional Areas			
Alternative 5A	0.77	0.00	1.41
Alternatives 6A/B/C	3.52	0.58	7.06
RWQCB Jurisdictional Areas			
Alternative 5A	0.68	13.97	38.19
Alternatives 6A/B/C	3.62	17.56	65.26
RWQCB Nonjurisdictional Areas			
Alternative 5A	0.77	0.00	1.41
Alternatives 6A/B/C	0.73	0.5	0.99
CDFG			
Alternative 5A	0.87	19.43	52.37
Alternatives 6A/B/C	5.64	24.96	84.81

ACOE = United States Army Corps of Engineers
CDFG = California Department of Fish and Game
RWQCB = Regional Water Quality Control Board

The following agencies have regulatory authority over resources within the BSA.

- A permit and/or a Letter of Permission (LOP) would be necessary from the ACOE for effects to jurisdictional wetlands pursuant to Section 404 of the CWA and Section 10 of the Rivers and Harbors Act, respectively.

- A Lake or Streambed Alteration Agreement (SAA) would be necessary from CDFG for impacts to riparian and streambed areas under the jurisdiction of Section 1602 of the Fish and Game Code.

- A Water Quality Certification would be necessary from RWQCB for effects to jurisdictional wetlands pursuant to Section 401 of the CWA.

- A Habitat Mitigation and Monitoring Plan (HMMP) that is acceptable to ACOE, CDFG, and RWQCB would be a necessary component of the permit application packages to each agency.

- Concurrence from the United States Fish and Wildlife Service (USFWS) would be necessary through informal consultation with Caltrans on behalf of the Federal Highway Administration (FHWA) pursuant to the Federal Endangered Species Act (FESA). A "may affect but not likely to adversely affect" determination is anticipated regarding the federally listed as threatened green turtle and federally and State listed as endangered CLT. Concurrence with the USFWS would be achieved prior to completion of the final environmental document.

- Authorization from the National Marine Fisheries Service (NMFS) would be necessary through informal consultation with Caltrans on behalf of FHWA pursuant to FESA. A "may affect but not likely to adversely affect" determination is anticipated regarding effects to Essential Fish Habitat (EFH). A Fisheries Management Plan would be required as part of this effort and would be prepared prior to final design. Effects on marine mammals from the I-710 Corridor Project would also be addressed under this consultation. An Incidental Harassment Authorization (IHA) and the associated marine mammal protection plan (MMPP) are not anticipated to be necessary. Concurrence with NMFS would be achieved prior to completion of the final environmental document.

- Concurrence from the CDFG would be necessary with regard to State-listed wildlife species. It is anticipated that the CDFG would make the determination that the I-710 Corridor Project would not likely result in "take" of state-listed species. Foraging habitat (not nesting habitat) for California brown pelican (California fully protected), CLT (California Endangered and California fully protected), American peregrine falcon (California fully protected), and white-tailed kite (California fully protected) may be affected by the I-710 Corridor Project.

A combination of avoidance, minimization measures, and compensatory mitigation would reduce the overall adverse effects of the I-710 Corridor Project to biological resources. To offset effects to jurisdictional areas, a compensatory mitigation program would be developed. Compensatory mitigation may involve habitat restoration within or adjacent to the BSA or at an agency-approved off-site location. The final compensatory mitigation program is expected to fully offset project-related jurisdictional effects by providing "no net loss" of estuarine wetland (tidal waters of the lower Los Angeles River) and riparian/riverine habitats.

This page intentionally left blank

1.0 INTRODUCTION

The Interstate 710 (I-710) Corridor Project study area includes the portion of I-710 (6 or 8 lanes) from Ocean Blvd. in Long Beach to State Route 60 (SR-60), a distance of approximately 18 miles (see Figure 1). At the freeway-to-freeway interchanges, the study area extends one mile east and west of I-710 for the Interstate 405 (I-405), State Route 91 (SR-91), Interstate 105 (I-105), and Interstate 5 (I-5) interchanges. The I-710 Corridor Project traverses portions of the Cities of Bell, Bell Gardens, Carson, Commerce, Compton, Cudahy, Downey, Huntington Park, Lakewood, Long Beach, Los Angeles, Lynwood, Maywood, Paramount, Signal Hill, South Gate, and Vernon, and unincorporated portions of Los Angeles County, all within Los Angeles County, California.

I-710 (also known as the Long Beach Freeway) is a major north/south interstate freeway connecting the City of Long Beach to central Los Angeles. Within the I-710 Corridor Project study area, the freeway serves as the principal transportation connection for goods movement between the Port of Los Angeles (POLA)/Port of Long Beach (POLB) shipping terminals and the Burlington Northern Santa Fe (BNSF)/Union Pacific Railroad (UP) railyards in the Cities of Commerce and Vernon and destinations along I-710 as well as destinations north and east of I-710.

The I-710 Major Corridor Study (MCS), undertaken to address the mobility and safety needs of the I-710 Corridor and to explore possible solutions for transportation improvements, was completed in March 2005 and identified a community-based Locally Preferred Strategy (LPS) consisting of 10 general purpose (GP) lanes next to four separated freight movement lanes. The Los Angeles County Metropolitan Transportation Authority (Metro), the California Department of Transportation (Caltrans), the Gateway Cities Council of Governments (GCCOG), the Southern California Association of Governments (SCAG), POLA, POLB, and the Interstate 5 Joint Powers Authority (I-5 JPA) are collectively known as the I-710 Funding Partners. Through a cooperative agreement, these agencies are funding the preparation of preliminary engineering and environmental documentation for the I-710 Corridor Project to evaluate improvements identified in the Major Corridor Study along the I-710 Corridor from Ocean Blvd. in the City of Long Beach to SR-60. The I-710 Funding Partners have continued this engineering and environmental study effort within the same broad, continuous community participation framework that was used for the MCS.

The environmental impacts of the I-710 Corridor Project will be assessed and disclosed in compliance with both the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA). Caltrans is the Lead Agency for CEQA compliance and the lead agency for NEPA compliance pursuant to Section 6005 of the Safe, Accountable, Flexible,

This page intentionally left blank

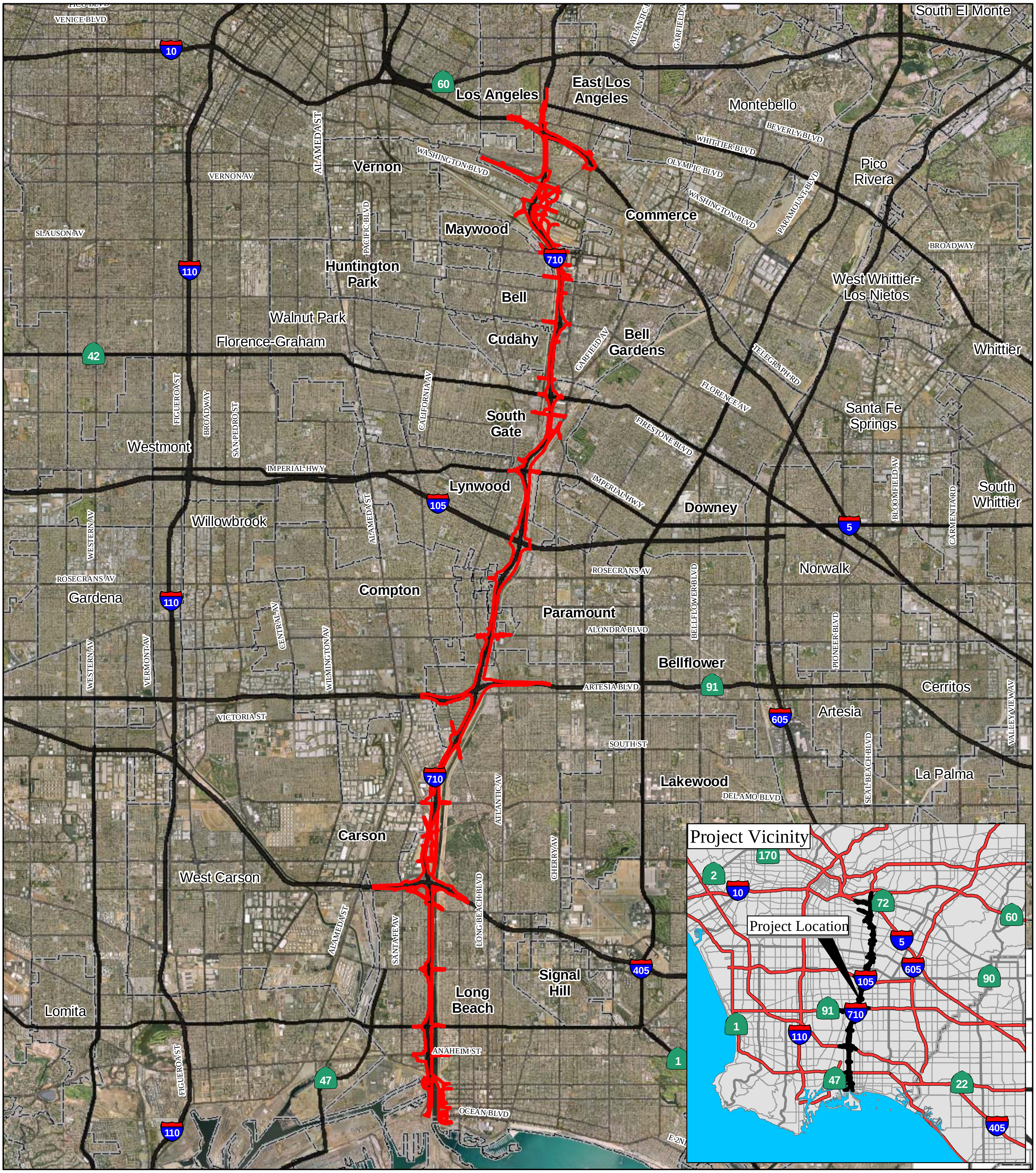


FIGURE 1

LEGEND

Limits of the Biological Study Area

N

0 6250 12500

FEET

SOURCE: AirPhotoUSA (2007); TBM (2007)

I-710 Corridor Project

Regional Location Map

I:\URS0801\GIS\NES\Regional_Loc_Map.mxd (10/7/09)

This page intentionally left blank

and Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) (23 United States Code [USC] 327).

The need for the I-710 Corridor Project is as follows:

- I-710 experiences high heavy-duty truck volumes, resulting in high concentrations of diesel particulate emissions within the I-710 Corridor.
- I-710 experiences accident rates, especially truck-related, that are well above the statewide average for freeways of this type.
- At many locations along I-710, the on-ramps and off-ramps do not meet current design standards and weaving sections within and between interchanges are of insufficient lengths.
- High volumes of trucks and cars have led to severe traffic congestion throughout most of the day (6:00 a.m. to 7:00 p.m.) on I-710 as well as on the connecting freeways. This is projected to worsen over the next 25 years.
- Increases in population, employment, and goods movement between now and 2035 will lead to more traffic demand on I-710 and on the streets and roadways within the I-710 Corridor as a whole.

The purpose of the I-710 Corridor Project is to achieve the following within the I-710 Corridor (2035 time frame):

- Improve air quality and public health;
- Improve traffic safety;
- Provide modern design for the I-710 mainline;
- Address projected traffic volumes; and
- Address projected growth in population, employment, and activities related to goods movement (based on SCAG population projections and projected container volume increases at the two ports).

This page intentionally left blank

2.0 ALTERNATIVES DESCRIPTION

This section describes the alternatives based on the Major Corridor Study that were developed by a multidisciplinary technical team to achieve the I-710 Corridor Project purpose and subsequently were reviewed and concurred upon by the various committees involved in the I-710 Corridor Project community participation framework. Alternatives 2, 3, and 4 were considered but withdrawn from further environmental study as stand-alone alternatives but elements of these alternatives have been included in Build Alternatives 5A, 6A, 6B, and 6C. The alternatives are Alternative 1 (No Build Alternative), Alternative 5A (I-710 Widening up to 10 General Purpose [GP] Lanes), Alternative 6A (10 GP Lanes plus a Four-Lane Freight Corridor), Alternative 6B (10 GP Lanes plus a Zero-Emissions Four-Lane Freight Corridor), and Alternative 6C (10 GP Lanes plus a Four-Lane Freight Corridor Tolled).

2.1 ALTERNATIVE 1 – NO BUILD ALTERNATIVE

The No Build Alternative does not include any improvements within the I-710 Corridor other than those projects that are already planned and committed to be constructed by or before the planning horizon year of 2035. The projects included in this alternative are based on Southern California Association of Governments (SCAG's) 2008 Regional Transportation Improvement Program (RTIP) project list, including freeway, arterial, and transit improvements within the SCAG region. This alternative also assumes that goods movement to and from the ports make maximum utilization of existing and planned railroad capacity within the I-710 Corridor. Alternative 1 is the baseline against which the Build Alternatives proposed for the I-710 Corridor Project will be assessed. The existing I-710 mainline generally consists of eight GP lanes north of I-405 and six GP lanes south of I-405.

2.2 ALTERNATIVE 5A – FREEWAY WIDENING UP TO 10 GP LANES

Alternative 5A proposes to widen the I-710 mainline to up to ten GP lanes (northbound [NB] I-710 and southbound [SB] I-710). This alternative will:

- Provide an updated design at the I-405 and State Route 91 (SR-91) interchanges (no improvements to the I-710/Interstate 5 [I-5] interchange are proposed under Alternative 5A).

- Reconfigure all local arterial interchanges within the project limits that may include realignment of on- and off-ramps, widening of on- and off-ramps, and reconfiguration of interchange geometry.

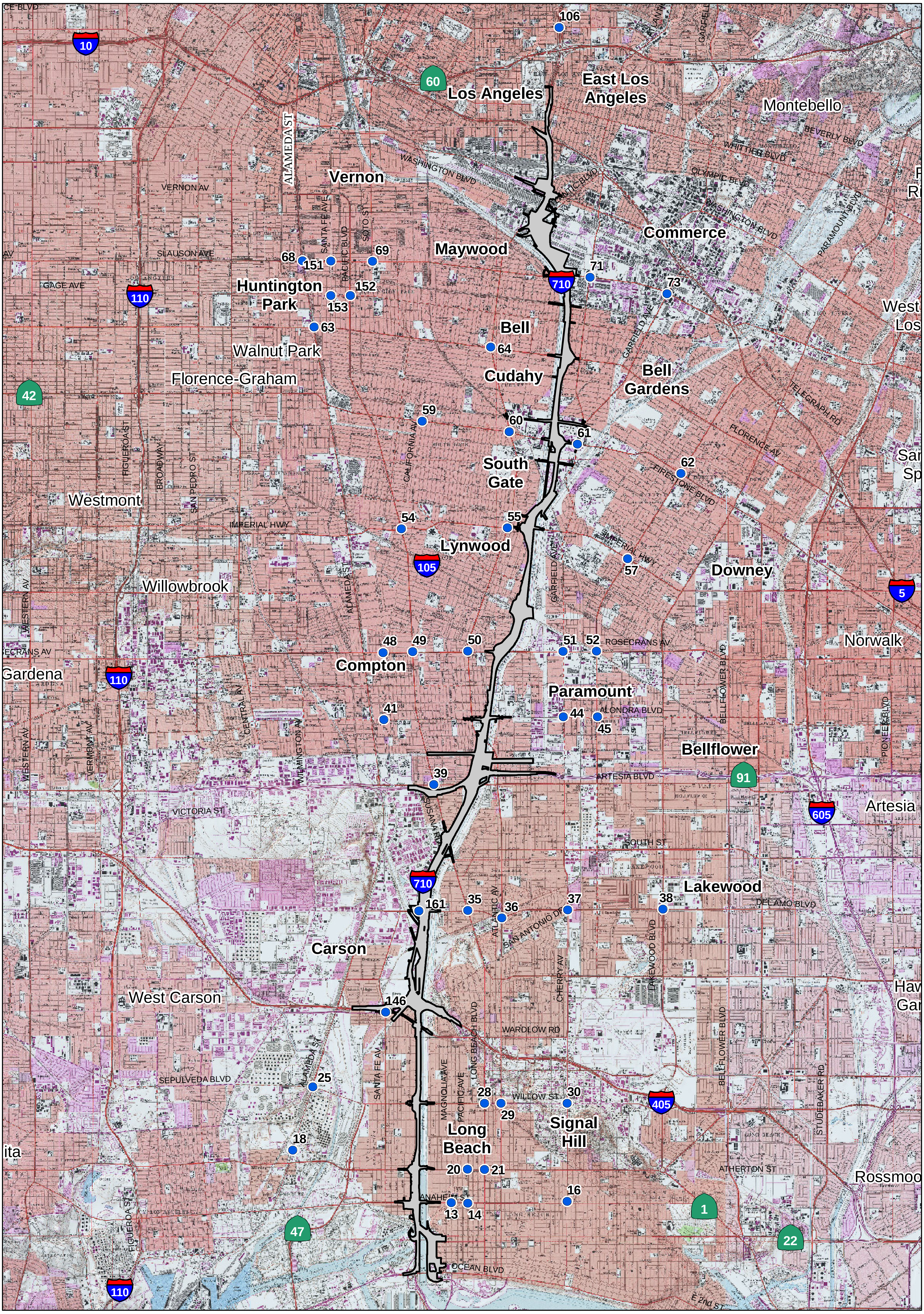
Metro

- Eliminate I ramp connections over I-710 (9th to 6th St. and 7th to 10th St.) in the City of Long Beach.
- Eliminate a local interchange at Wardlow Ave. in the City of Long Beach.
- Add a local street connection under I-710 to Thunderbird Villas at Miller Blvd. in the City of South Gate.
- Add a local connection (bridge) over I-710 at Southern Ave. in the City of South Gate.
- Add a local arterial interchange at NB and SB I-710/Slauson Ave. in the City of Maywood.
- Shift the I-710 centerline at several locations to reduce right-of-way requirements.

Additionally, various structures such as freeway connectors, ramps, and local arterial overcrossings, structures over the Los Angeles River and structures over the two railyards throughout the project limits will be replaced, widened, or added as part of Alternative 5A.

In addition to improvements to the I-710 mainline and the interchanges, Alternative 5A also includes Transportation Systems/Transportation Demand Management (TSM/TDM), Transit, and Intelligent Transportation Systems (ITS) improvements. TSM improvements include provision of or future provision of ramp metering at all locations and the addition of improved arterial signage for access to I-710. Parking restrictions during peak periods (7:00 a.m.–9:00 a.m.; 4:00 p.m.–7:00 p.m.) will be implemented on four arterial roadways: Atlantic Blvd. between Pacific Coast Hwy. and SR-60; Cherry Ave./Garfield Ave. between Pacific Coast Hwy. and SR-60; Eastern Ave. between Cherry Ave. and Atlantic Blvd.; and Long Beach Blvd. between San Antonio Dr. and Firestone Blvd. Transit improvements that will be provided as part of the I-710 Corridor Project include increased service on all Metro Rapid routes and local bus routes in the study area. ITS improvements include updated fiber-optic communications to interconnect traffic signals along major arterial streets to provide for continuous, real-time adjustment of signal timing to improve traffic flow as well as other technology improvements.

Alternative 5A also includes improvements to 42 local arterial intersections within the I-710 Corridor Project study area (see Figure 2). These improvements generally consist of lane restriping or minimal widening to provide additional intersection turn lanes that will reduce traffic delay and improve intersection operations for those intersections with projected Level of Service (LOS) F.



LEGEND

Biological Study Area

Arterial Intersection Improvements

0 3600 7200
Feet

SOURCE: USGS 7.5' Quad. LONG BEACH ('78), SOUTH GATE ('81), LOS ANGELES ('94)

I:\URS0801A\GIS\BIO\ProjLocation.mxd (12/14/11)

FIGURE 2

I-710 Corridor Project

Project Location

07-LA-710- PM 4.9/24.9
EA 249900

This page intentionally left blank

In addition to the transportation system improvements described above, Alternative 5A also includes:

- Aesthetic Enhancements: Landscaping and irrigation systems would be provided within the corridor where feasible. Urban design and aesthetic treatment concepts for community enhancement will be integrated into the design of the I-710 Corridor Project. These concepts will highlight unique community identities within a unified overall corridor theme; strengthen physical connections and access/mobility within and between communities; and implement new technologies and best practices to ensure maximum respect for the environment and natural resources. They will continue to evolve and be refined through future phases of project development.

- Drainage/Water Quality Features: Alternative 5A includes modifications to the Los Angeles River levee; new, extended, replacement, and additional bents and pier walls in the Los Angeles River; additional and extended bents and pier walls in the Compton Channel; modifications to existing pump stations or provision of additional pump stations; and detention basins and bioswales that will provide for treatment of surface water runoff prior to discharge into the storm drain system.

2.3 ALTERNATIVE 6A – 10 GP LANES PLUS A FOUR-LANE FREIGHT CORRIDOR

Alternative 6A includes all the components of Alternatives 1 and 5A described above. (The alignment of the GP lanes in Alternative 6A will be slightly different than Alternative 5A in a few locations.) In addition, this alternative includes a separated four-lane freight corridor (FC) from Ocean Blvd. northerly to its terminus near the UP and BNSF railyards in the City of Commerce. The FC would be built to Caltrans highway design standards and would be restricted to the exclusive use of heavy-duty trucks (5+ axles). In Alternative 6A, these trucks are assumed to be conventional" trucks (conventional trucks are defined to be newer [post-2007] diesel/fossil-fueled trucks [new or retrofitted engines required per new regulations and standards].

The FC would be both at-grade and on elevated structure with two lanes in each direction. There are exclusive, truck only ingress and egress ramps to and/or from the FC at the following locations:

- Harbor Scenic Dr. (NB ingress only);
- Ocean Blvd. (NB ingress only);
- Pico Ave. (NB ingress and SB egress only);
- Anaheim St. (NB ingress and SB egress only);

- SB I-710 GP lanes just south of Pacific Coast Hwy. (SB egress only);
- NB I-710 GP lanes north of I-405 at 208th St. (NB ingress only);
- SB I-710 GP lanes north of I-405 at 208th St. (SB egress only);
- Eastbound (EB) SR-91 (NB egress only);
- Westbound (WB) SR-91 (SB ingress only);
- Patata St. (NB egress and SB ingress only);
- SB I-710 GP lanes at Bandini Blvd. (SB ingress only)~~;~~
- NB I-710 GP lanes at Bandini Blvd. (NB egress only);
- Washington Blvd. – (NB egress ~~only~~ and SB ingress only) (Design Options 1 and 2);
- Washington Blvd. (NB egress and SB ingress via Indiana Ave.) (Design Option 3); and
- Sheila St. – (NB egress only) (Design Option 3).

In addition to the FC feature, Alternative 6A includes:

- Partial modification to the I-5 interchange, notably the replacement of the NB I-710 to NB I-5 connector (right-side ramp replacement of left-side ramp) and a realigned SB I-5 to SB I-710 connector and 5 SB GP lanes from SR-60 to Washington Blvd.
- 3 NB GP lanes from I-5 to SR-60.
- Retention of and modification to the I-710 SB on- and off-ramps at Eastern Ave. to slightly realign them.
- A local connection over I-710 at Patata St. in the Cities of South Gate and Bell Gardens.

As with Alternative 5A, Alternative 6A will include additional aesthetic enhancements, and drainage/water quality features as follows:

- Aesthetic Enhancements: In addition to the aesthetic enhancements described above for Alternative 5A, specific aesthetic treatments will be developed for the FC, including use of screen walls and masonry treatments on the FC structures (including soundwalls).

- Drainage/water quality features: Alternative 6A includes features to capture and treat the additional surface water runoff from the FC, as well as some modifications to the Los Angeles River levees in order to accommodate electrical transmission line relocations.

2.4 ALTERNATIVE 6B – 10 GP LANES PLUS A ZERO-EMISSIONS FOUR-LANE FREIGHT CORRIDOR

Alternative 6B includes all the components of Alternative 6A as described above, but would restrict the use of the FC to zero-emission trucks rather than conventional trucks. This proposed zero emission truck technology is assumed to consist of trucks powered by electric motors in lieu of internal combustion engines and producing zero tailpipe emissions while traveling on the freight corridor. The specific type of electric motor is not defined, but feasible options include linear induction motors, linear synchronous motors or battery technology. The power systems for these electric propulsion trucks could include, but is not limited to, hybrid with dual-mode operation (ZEV Mode), Range Extender EV (Fuel Cell or Turbine with ZEV mode), Full EV (with fast charging or infrastructure power), road-connected power (e.g., overhead catenary electric power distribution system), alternative fuel hybrids, zero NO_X dedicated fuel engines (CNG, RNG, H2 ICE), and range extender EV (turbine). For purposes of the I-710 environmental studies, the zero-emission electric trucks are assumed to receive electric power while traveling along the FC via an overhead catenary electric power distribution system (road-connected power).

Alternative 6B also includes the assumption that all trucks using the FC will have an automated control system that will steer, brake, and accelerate the trucks under computer control while traveling on the FC. This will safely allow for trucks to travel in “platoons” (e.g., groups of 6–8 trucks) and increase the capacity of the FC from a nominal 2,350 passenger car equivalents per lane per hour (PCEs/ln/hr) (as defined in Alternative 6A) to 3,000 PCEs/ln/hr in Alternative 6B.

The design of the FC will also allow for possible future conversion, or be initially constructed, as feasible (which may require additional environmental analysis and approval), of a fixed-track guideway family of alternative freight transport technologies (e.g., Maglev). However, this fixed-track family of technologies has been screened out of this analysis for now, as they have been determined to be inferior to electric trucks in terms of cost and ability to readily serve the multitude of freight origins and destinations served by trucks using the I-710 corridor.

2.5 ALTERNATIVE 6C – 10 GP LANES PLUS A FOUR-LANE FREIGHT CORRIDOR WITH TOLLS

Alternative 6C includes all the components of Alternative 6B as described above, but would toll trucks using the FC. Although tolling trucks in the FC could be done under either Alternative 6A or 6B; for analytical purposes, tolling has only been evaluated for Alternative 6B as this alternative provides for higher FC capacity than Alternative 6A due to the automated guidance feature of Alternative 6B.

Tolls would be collected using electronic transponders, which would require overhead sign bridges and transponder readers like the SR-91 toll lanes currently operating in Orange County, where no cash toll lanes are provided. The toll pricing structure would provide for collection of higher tolls during peak travel periods.

2.6 DESIGN OPTIONS

For Alternatives 6A, 6B, and 6C, three design options for the portion of I-710 between the I-710/Slauson Ave. interchange to just south of the I-710/I-5 interchange are under consideration. These configurations will be fully analyzed so that they can be considered in the future selection of a Preferred Alternative for the project. These options are as follows:

2.6.1 DESIGN OPTION 1

Design Option 1 applies to Alternatives 6A, 6B, and 6C and provides access to Washington Blvd. using three ramp intersections at Washington Blvd.

2.6.2 DESIGN OPTION 2

Design Option 2 applies to Alternatives 6A, 6B, and 6C and provides access to Washington Blvd. using two ramp intersections at Washington Blvd.

2.6.3 DESIGN OPTION 3

Design Option 3 applies only to Alternative 6B[1] and removes access to Washington Blvd. at its current location. The ramps at the I-710/Washington Blvd. interchange would be removed to accommodate the proposed FC ramps in and out of the railyards. The SB off-ramp and NB on-ramp access would be accommodated by Alternative 6B in the vicinity of the existing interchange by the proposed new SB off-ramp and NB on-ramp at Oak St. and Indiana St. These two ramps are proposed as mixed-flow ramps (freight connector ramps that would also allow automobile traffic). However, the SB on-ramp and NB off-ramp traffic that previously used the Washington Blvd. interchange would be required to access the Atlantic Blvd./Bandini Blvd. interchange located south of the existing Washington Blvd. interchange to ultimately reach I-710.

[1] Design Option 3 only applies to Alternative 6B because it was not included in the travel demand modeling for either Alternative 6A or 6C.

This page intentionally left blank

3.0 STUDY METHODS

3.1 REGULATORY REQUIREMENTS

3.1.1 REVIEW OF JURISDICTION SUBJECT TO SECTION 404 OF THE CLEAN WATER ACT AND SECTION 10 OF THE RIVERS AND HARBORS ACT

The ACOE regulates discharges of dredged or fill material into waters of the United States. These waters include wetland and nonwetland bodies of water that meet specific criteria. The ACOE regulatory jurisdiction, pursuant to Section 10 of the Rivers and Harbors Act (RHA) of 1899 (33 USC 403), regulates almost all work in, over, and under waters listed as “navigable waters of the United States.”

Under Section 10 of the RHA, ACOE jurisdiction over tidal waters of the United States extends from the ordinary low tide line seaward three nautical miles. ACOE jurisdiction shoreward extends to the line on the shore reached by the mean high water. This jurisdiction extends to this edge even though portions of the water body may be extremely shallow and are thus considered “navigable in law,” although they may not be navigable in fact (33 Code of Federal Regulations [CFR] 329.12).

Pursuant to Section 404 of the CWA, the ACOE regulates the discharge of dredged and/or fill material into waters of the United States. The term “waters of the United States” is defined in 33 CFR Part 328 and currently includes: (1) all navigable waters (including all waters subject to the ebb and flow of the tide), (2) all interstate waters and wetlands, (3) all impoundments of waters mentioned above, (4) all tributaries to waters mentioned above, (5) the territorial seas, and (6) all wetlands adjacent to waters mentioned above.

The discharge of dredged or fill material (temporarily or permanently) into waters of the United States (including wetlands) requires authorization from the ACOE pursuant to Section 404 and Section 10 of the CWA. Based on a jurisdictional decision (concurrence) from the ACOE, a Section 404 permit and a Section 10 Letter of Permission (LOP) are expected to be required for the I-710 Corridor Project.

3.1.2 REVIEW OF JURISDICTION SUBJECT TO THE CALIFORNIA COASTAL ACT

The CCC oversees implementation of the California Coastal Act (CCA) and the federal Coastal Zone Management Act (CZMA). The CCC, through provisions of the CCA, is empowered to issue a Coastal Development Permit (CDP) for many projects located within the Coastal Zone. (The Coastal Zone is generally defined as the distance from the ocean shoreline to 1,000 yards inland or more in some locations.) In areas where a local entity has a certified Local Coastal Program (LCP), the local entity (i.e., City of Long Beach) can issue a CDP only if it is consistent with the LCP. The CCC, however, has appeal authority for portions of LCPs and retains jurisdiction over certain public trust lands and in areas without an LCP. Since a portion of the I-710 Corridor Project is located within an area where a local entity has a certified LCP, the local entity (i.e., City of Long Beach) can issue a CDP only if it is consistent with the LCP.

The CCC's definition of wetlands, as defined in Section 30121 of the Coastal Act and Title 14 §13577 of the CCC's regulations, is distinctly different from the Corps definition of wetlands. According to the CCC's regulations, wetlands are defined as "land where the water table is at, near, or above the land surface long enough to promote the formation of hydric soils or to support the growth of hydrophytes." Both definitions focus on three fundamental wetland characteristics: hydrology, soils, and vegetation. However, while the Corps definition requires the existence of all three wetland characteristics for an area to be considered a wetland, the CCC's definition of wetlands is based on the existence of only two characteristics: wetland hydrology sufficient to either support a prevalence of hydrophytic vegetation or promote the formation of hydric soils. (Exceptions include certain areas that lack wetland soils and vegetation.) It is noted that, under certain circumstances, reliable indicators of all required characteristics are not necessarily apparent, and areas may be delineated as wetlands by the Corps on the basis of indicators of only two of the three characteristics. The CCC routinely makes jurisdictional wetlands determinations based on the presence of one characteristic indicator (i.e., wetland soils or vegetation) unless there is substantial evidence that this indicator is not valid. Nevertheless, the presence of wetland hydrology during some portion of most years is fundamental to the existence of any wetland. However, the CCC will typically assume the presence of wetland hydrology when there is insufficient evidence to conclusively refute the presence of wetland hydrology and when there is a prevalence of hydrophytic vegetation or the formation of hydric soils.

Because the BSA is located in the coastal zone, a CDP would be required for the I-710 Corridor Project. However, there are no wetlands, as defined by the CCC, within the Coastal Zone. The portion of the BSA south of Ocean Blvd. and east of the Los Angeles River is within the City of Long Beach Local Coastal Program (LCP) and is within the Downtown Shoreline Planning Area. The portion of the BSA south of Anaheim St. and west of the Los Angeles River is not within an area for which an LCP has been prepared. Areas within the Coastal Zone satisfying the ACOE jurisdictional criteria for wetlands would also be subject to CCC jurisdiction as wetlands pursuant to the CCA. However, there are no ACOE wetlands within the Coastal Zone portion of the BSA. Additionally, there are no other areas where hydrophytic vegetation or hydric soils indicators or wetland hydrology occur in the Coastal Zone. Therefore, there are no CCC jurisdictional wetlands within the BSA.

The limits of the areas within the Coastal Zone and the LCP are shown in Appendix A of the Jurisdictional Report (Appendix E).

Areas within the BSA that are under the jurisdiction of the LCP are limited to developed/ornamental/ruderal areas. No potential CCC defined wetlands were identified within areas under the jurisdiction of the LCP. However, because a part of the project is located in the LCP, a coastal development permit is expected to be required for the I-710 Corridor Project.

3.1.3 REVIEW OF JURISDICTION SUBJECT TO SECTION 1600 OF THE CALIFORNIA FISH AND GAME CODE

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

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

A CDFG Streambed Alteration Notification (SAN) is required for all activities resulting in effects to streambeds and their associated riparian habitats, and a Lake or Streambed Alteration Agreement (SAA) may be needed. An SAA is expected to be required for the I-710 Corridor Project.

3.1.4 REVIEW OF JURISDICTION SUBJECT TO SECTION 401 OF THE CLEAN WATER ACT

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

Upon a jurisdictional determination (concurrence) from the ACOE, a Section 401 Water Quality Certification from the RWQCB is expected to be required for the I-710 Corridor Project, which will be required prior to obtaining a Section 404 permit from ACOE.

3.1.5 FEDERAL ENDANGERED SPECIES ACT

Under provisions of Section 7(a)(2) of the Federal Endangered Species Act (FESA), a federal agency that permits, licenses, funds, or otherwise authorizes a project activity must consult with the United States Fish and Wildlife Service (USFWS) to ensure that its actions would not jeopardize the continued existence of any listed species or destroy or adversely modify critical habitat that may be affected by the I-710 Corridor Project. Chapter 5 of this NES provides details on the I-710 Corridor Project's effects on federally listed plant and wildlife species.

While formal Section 7 consultation is not expected to be required, informal consultation between Caltrans and the USFWS would be necessary to attain concurrence that the I-710 Corridor Project is not likely to adversely affect green turtle and California least tern (CLT). Delisting of the California brown pelican occurred on November 17, 2009; therefore, Section 7 consultation is no longer required for this species (USFWS 2009).

3.1.6 CALIFORNIA ENDANGERED SPECIES ACT

The California Endangered Species Act (CESA) is administered by CDFG and prohibits the take of plant and animal species identified as either threatened or endangered in the State of California by the Fish and Game Commission (Fish and Game Code Section 2050–2089). "Take" means hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill. Sections 2081 and 2080.1 of the CESA allow CDFG to authorize exceptions to the prohibition of take of the State-listed threatened or endangered plant and animal species for purposes such as public and private development. Chapter 5 of this NES provides details on the I-710 Corridor Project's effects to State-listed plant and wildlife species.

Concurrence from the CDFG that the I-710 Corridor Project is not likely to result in take of any endangered, threatened, or candidate species would be necessary for CLT. Delisting of the American peregrine falcon occurred on November 4, 2009, and delisting of the California brown pelican occurred on June 3, 2009; therefore, concurrence is no longer required for these species.

3.1.7 MIGRATORY BIRD TREATY ACT

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

3.1.8 INVASIVE SPECIES

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

A total of 31 exotic plant species occurring on the California Invasive Plant Council (Cal-IPC) California Invasive Plant Inventory were identified in the BSA using lists identified by the California Invasive Plant Inventory (Cal-IPC 2011). In compliance with EO 13112, weed abatement measures would be incorporated into the Storm Water Pollution Prevention Plan (SWPPP) to be completed for the I-710 Corridor Project to minimize the importation of nonnative plant material during and after construction.

3.1.9 MARINE LIFE PROTECTION ACT

The Marine Life Protection Act (MLPA) of 1999 (Fish and Game Code Sections 2850-2863) directs the state to reevaluate and redesign California's system of marine protected areas (MPAs) to: increase coherence and effectiveness in protecting the state's marine life and habitats, marine ecosystems, and marine natural heritage, as well as to improve recreational, educational, and study opportunities provided by marine ecosystems subject to minimal human disturbance. The MLPA also requires that the best readily available science be used in the redesign process, as well as the advice and assistance of scientists, resource managers, experts, stakeholders, and members of the public.

MPAs are separate geographic marine or estuarine areas designed to protect or conserve marine life and habitat. There are three types of MPAs designated (or recognized) in California: State Marine Reserve (SMR), State Marine Park (SMP), and State Marine Conservation Area (SMCA). The BSA contains no areas with any of these MPA designations.

3.1.10 MAGNUSON-STEVENS FISHERY CONSERVATION AND MANAGEMENT ACT

The Magnuson-Stevens Fishery Conservation and Management Act (MSA) was authorized in 1996 and requires the National Marine Fisheries Service (NMFS) to identify, conserve, and enhance Essential Fish Habitat (EFH) for those species regulated under a federal Fisheries Management Plan. EFH is defined as the waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity. Specifically, the MSA requires: (1) federal agencies to consult with NMFS on all actions or proposed actions authorized, funded, or undertaken by the agency that could adversely affect EFH; (2) NMFS to provide conservation recommendations for any federal or State action that could adversely affect EFH; and (3) federal agencies to provide a detailed response in writing to NMFS within 30 days of receiving EFH conservation recommendations.

The I-710 Corridor Project is located within an area designated as EFH for the northern anchovy, which is a Coastal Pelagic Species. No species listed under the Pacific Coast Groundfish Fisheries Management Plan are expected within the BSA. However, the Los

Angeles River flows into Queensway Bay within a mile of the BSA's southern limits, which provides EFH for a number of species listed as Coastal Pelagic Species and Pacific Coast Groundfish Species. Consultation with NMFS regarding impacts to EFH would be required since the project is anticipated to result in a "may affect, but not likely to adversely affect" determination regarding EFH.

3.1.11 MARINE MAMMAL PROTECTION ACT

The NMFS is also the federal agency with jurisdiction over marine mammals that are protected under the Marine Mammal Protection Act (MMPA). This act protects marine mammals such as harbor seals and California sea lions from take. Take under the MMPA is defined as "harass, hunt, capture, kill, or attempt to harass, hunt, capture, or kill a marine mammal." It is necessary for federal lead agencies (such as the FHWA) to consult with NMFS regarding possible take of marine mammals during otherwise legal activities.

Citizens of the United States engaged in otherwise lawful activity (other than commercial fishing) may request authorization for incidental harassment of small numbers of marine mammals within a specified geographic region. The MMPA defines two levels of "harassment" as:

Any act of pursuit, torment, or annoyance that (1) has the potential to injure a marine mammal or marine mammal stock in the wild (Level A harassment); or (2) has the potential to disturb a marine mammal or marine mammal stock in the wild by causing disruption of behavioral patterns, including, but not limited to, migration, breathing, nursing, breeding, feeding, or sheltering (Level B harassment).

If a given otherwise lawful activity could result in harassment (as defined above) to marine mammals, an incidental harassment authorization (IHA) from NMFS would be required before the commencement of the activity.

Marine mammals, although present in the Long Beach/Los Angeles Harbor complex, are not expected to be found in the Los Angeles River, with the exception of incidental occurrences of California sea lions within the lower Los Angeles River south of the Willow St. crossing. Potential effects of the project on marine mammals would be addressed during consultation with the NMFS for impacts to EFH, although the I-710 Corridor Project is not expected to require an IHA or the associated MMPA (Deangeles, personal communication, December 15, 2009).

3.1.12 TREE ORDINANCES

The County of Los Angeles has provided regulations for the protection and preservation of specific species of native trees as required in the *Los Angeles County Oak Tree Ordinance* (County Ordinance Section 22.56.2050). The County ordinance requires mitigation for impacts to native oak trees, none of which were identified within the limits of the BSA. With the exception of the City of Long Beach and the City of Los Angeles, it is not anticipated that a tree removal permit would be required for ornamental trees removed in the BSA.

Municipal codes of all cities within the BSA were searched in order to determine which (if any) had tree ordinances or guidelines. With the exception of the cities of Long Beach and Los Angeles, no other cities along the corridor have tree maintenance policies (such as encroachment permits or replacement requirements). The City of Long Beach requires that the Director of Public Works and his/her designee to make the determination that the removal is required to accommodate a City-approved infrastructure improvement (City of Long Beach 2006). The City of Los Angeles has guidelines for acquiring a tree removal permit for structure construction, including (1) replacement at a 2:1 ratio, (2) posting of trees to allow for public comment when three or more trees require removal, and (3) that native trees protected by the City of Los Angeles Ordinance (native oaks, Southern California black walnut, Western sycamore, and California bay) require special consideration (City of Los Angeles 2009).

The southernmost portion of the BSA southwest of Anaheim St. is located within the Coastal Zone and is under the jurisdiction of the City of Long Beach's certified LCP. The LCP states that tree trimming and removal shall be prohibited during the breeding and nesting season (February 15–September 1) unless it is determined that the tree causes danger to the public health and safety (CCC 2008). Should tree trimming or removal activities not be feasible during the nonbreeding season, a qualified biologist shall conduct preconstruction surveys within 300 ft of the work areas within one week of activities. Should a tree be determined to support nesting or breeding, complete avoidance is required until the nestlings have fledged. Additionally, a replacement ratio of 1:1 would be required if this tree must be removed after the breeding season is over.

Furthermore, right-of-way that becomes part of I-710 will be State right-of-way, thus, local ordinances would not apply. Right-of-way will be acquired before any trees are removed; thus, when they are removed, they will be on State property. Local ordinances would apply only on portions of the project that are wholly within a local agency's jurisdiction (e.g., an arterial intersection improvement).

3.2 STUDIES REQUIRED

3.2.1 DEFINITION OF BIOLOGICAL STUDY AREA

The BSA was determined by incorporating electronic data provided by the design engineer into a geographic information system (GIS) layout, which included areas of potential direct and indirect effect. In general, this provided for a survey area that was equal in size to the area of potential direct effect. The BSA was then used as the study limit boundaries for all biological studies conducted during 2009 and 2011, but field studies were limited in areas where permits to access was not granted. Where access was available, the BSA was surveyed on foot. Where access was not available (e.g., no permission granted by property owner), areas were analyzed from nearby accessible property boundaries with the aid of binoculars.

3.2.2 General Surveys and Habitat Assessments

Prior to conducting the field surveys, existing documentation relevant to the BSA was reviewed. Database records and websites reviewed included:

- California Natural Diversity Database (CNDDB) information (Version 3.1.0), which is administered by the CDFG (this database covers sensitive plant and animal species as well as sensitive natural communities that occur within California) (California Native Plant Society [CNPS] 2011)
- CNPS Online Electronic Inventory of Rare and Endangered Vascular Plants of California (CNPSEI 2011)
- CalFlora website (CalFlora 2009)
- CalPhotos website (CalPhotos 2009)
- California Consortium of Herbaria website (Consortium of California Herbaria 2008)
- CalHerps website (CalHerps 2009)
- Cornell All About Birds website (Cornell 2009)
- Mammal Society website (Mammal Society 2009)
- USFWS regional list (USFWS 2009) (Appendix A)

Searches of these databases were conducted for the quadrangles containing and surrounding the BSA (i.e., the *San Pedro, Torrance, Inglewood, Hollywood, Los Alamitos, Seal Beach, Burbank, Pasadena, Mount Wilson, El Monte, Whittier, South Gate, Long Beach,* and *Los Angeles, California* United States Geological Survey [USGS] 7.5-minute quadrangles). Other sensitive species known to occur in the general area were also considered.

The special-status species lists obtained from the CNDDB, CNPS, and USFWS were reviewed to determine which species could occur within the vicinity of the BSA. From these lists, a site-specific list was compiled that included the numerous species that potentially occur in the BSA due to the presence of suitable habitat. Special-status species lists include each species' protection status, habitat information, potential for occurrence in the BSA, and supporting comments as necessary. The determination of whether a species potentially occurs within the BSA was based on the availability of suitable habitat within the species' known range. Species requiring specific habitat not present in the vicinity of the I-710 Corridor Project (e.g., vernal pools) were eliminated as potentially occurring and are not discussed further. Those species that could occur in the BSA from a habitat suitability standpoint are discussed in Section 4.2. The reconnaissance-level survey and habitat mapping was conducted on April 23, May 7, August 11, 12, 17, 18, 28 and September 23, 2009, by consulting biologists Stan Spencer, Sarah Barrera, Kristen Yee, Wendy Fisher, and Crystahl Taylor. Additional surveys were conducted on August 3 and 8, 2011, by Stan Spencer, Sarah Barrera, and Elizabeth Hohertz.

Plant communities and subcommunities were determined in general accordance with categories set forth in *Preliminary Descriptions of the Terrestrial Natural Communities of California* (Holland 1986). Vegetation communities were mapped on an orthographically corrected one inch = 300 ft aerial photograph. Habitat areas that were considered too small to map separately were included in nearby habitat types determined to be the most appropriate based on species composition.

To adequately identify habitat types (i.e., plant communities) within the BSA, survey methods included accessing frontage roads leading to necessary access points. At the access points, the consultant biologist investigated the roadside areas on foot or with the aid of binoculars if access permission was not granted or foot access was not possible.

3.2.3 SPECIAL-STATUS PLANT SURVEYS

The focused surveys within the BSA were conducted on August 11, 12, and 28; September 4, 8, 9, 10, and 23; and November 11, 2009, by consulting biologists Stan Spencer, Robert Steers, and Sarah Barrera. To adequately search for special-interest plant species, survey methods included an examination of Caltrans and local right-of-way, as well as accessing frontage roads leading to necessary access points. At the access points, each biologist investigated the roadside areas on foot or with the aid of binoculars if access permission was not granted or foot access was not possible. Additional reconnaissance-level biological resource surveys were performed on August 3, 2011, upon refinement of project alternatives.

The flowering season for native plant species varies and is dependent on the frequency, duration, and seasonal timing of rainfall events, moisture availability, and soil and air temperatures. The potential for detection of plant species is variable from month to month and year to year. Therefore, the timing of the survey was selected to correspond with the optimal time for detecting special-interest plants in the BSA. Surveys were timed in the summer to focus on species with suitable habitat within the BSA. A survey earlier in the year was not conducted due to suitable habitat not being present for the species with earlier blooming periods.

The surveys were floristic in nature, and all vascular plant species (not just special-interest plants) encountered in the BSA were identified using *The Jepson Manual, Higher Plants of California* (Hickman 1993) and an online database (Calphotos 2009). All vascular plant species observed during the surveys were noted and are included in Appendix B.

3.2.4 WILDLIFE SURVEYS

3.2.4.1 BURROWING OWL SURVEYS

Phase I, Phase II, and Phase III surveys for burrows and owls were conducted in accordance with accepted protocol ("Burrowing Owl Survey Protocol and Mitigation Guidelines," The California Burrowing Owl Consortium, April 1993). A Phase I Habitat Assessment was conducted by consulting biologists Leo Simone and Richard Erickson on September 4, 2009, to assess the presence of burrowing owl (BUOW) habitat within the BSA. Suitable habitat was identified by the presence of low vegetation cover, potential burrows, perch sites, and/or BUOW sign such as scat, tracks, or feathers. The Phase II Burrow Survey was conducted by consulting biologists Leo Simone and Corey Knips from September 9–11, 2009, and by consulting biologists Leo Simone and Erin Saverio-Seibert on October 5 and 6, 2009. A Phase III survey was conducted in December of 2009 by Leo Simone, Richard Erickson, Corey Knips, and Erin Saverio-Seibert.

Focused surveys were conducted for accessible properties with suitable habitat by consulting biologists Leo Simone and Corey Knips on September 8, 9, and 10 and on October 13, 2009, Leo Simone conducted a follow-up site visit to photodocument burrows identified as potentially suitable for BUOW in order to determine locations of fossorial mammal burrows and/or burrows with BUOW sign (e.g., individuals, feathers, pellets, whitewash, and prey remnants) or other nonnatural structures with the potential for the owl(s) to inhabit (e.g., drainage pipes, concrete refuse piles, debris piles, and detention basins) within suitable habitat areas.

The Phase II Burrow Survey provided 100 percent coverage within the BSA by walking transects throughout suitable habitat. Within the BSA, transects approximately 50 ft apart were walked within areas of suitable habitat. Areas of dense vegetation where vegetation height was greater than three ft, areas with active homeless encampments, and areas with roaming dogs were excluded from the survey. The survey did not include the 150-meter (m) zone of influence transects, as suggested by the Protocol, due to the lack of authorization to enter adjacent properties.

Phase III Wintering BUOW Surveys were conducted by Leo Simone, Richard Erickson, Corey Knips, and Erin Saverio-Seibert on December 1, 2, 3, and 4, 2009. The Burrowing Owl Survey Report is included in Appendix C.

No additional BUOW surveys were conducted in 2011.

3.2.4.2 BAT HABITAT SUITABILITY ASSESSMENT

Bat habitat suitability assessment and nighttime emergence surveys were conducted by consulting biologists Jill Carpenter, Corey Knips, Aga Napiatek, Hunter Doughty, Sara Louwsma, Logan Freeberg, Ingri Quon, Meenaxi Panakkal, Kelly Czechowski, Karl Lund, and Daniel Ewers between June 4 and July 6, 2009, to ascertain the potential for bat foraging and roosting activity within the BSA. Potential foraging habitat was assessed throughout the BSA on the basis of vegetation composition, existence of adjacent habitat, and accessibility. Potential roosting sites were identified through the examination of bridges and culvert structure outcrops for suitable crevices and roosting habitat. A copy of the bat survey is included in Appendix D. All wildlife species observed during the general and focused surveys were noted and are included in Appendix B.

3.2.4.3 JURISDICTIONAL DELINEATION

The fieldwork for this evaluation was conducted by biologists Elizabeth Hohertz (formerly Delk), Stan Spencer, Kristen Yee, Maria Lum, and Sarah Barrera on August 11, 17, 18, 26, 27, 28, and 31 and September 4, 2009. Additional fieldwork for this evaluation was performed on August 3 and 8, 2011, upon refinement of project alternatives.

Areas of potential jurisdiction were evaluated according to ACOE, CDFG, CCC, and RWQCB criteria. The boundaries of the potential jurisdictional areas were observed in the field and mapped on a series of aerial photographs (for each scale, one inch = approximately 200 ft), which together show the entire BSA. Measurements of federal and State jurisdictional areas mapped during the course of the field investigation were determined by a combination of direct measurements taken in the field and measurements taken from the aerial photographs.

Areas supporting species of plant life potentially indicative of wetlands were evaluated according to routine wetland delineation procedures described in the Regional Supplement to the ACOE Wetland Delineation Manual: Arid West Region (Regional Supplement) (ACOE 2008) and the ACOE 1987 Wetland Delineation Manual (1987 Manual) (Environmental Laboratory 1987). Representative sample plots were selected and examined in the field in those areas where wetland jurisdiction was in question or needed to be confirmed. At each sample plot, the dominant and subdominant plant species were identified and their wetland indicator status noted (Reed 1988). When possible, a small sample pit (approximately 24 inches deep) was dug at each plot in order to examine soil characteristics and composition. Soil matrix colors were classified according to the Munsell Soil Color Charts (Munsell 2000). Hydrological conditions, including any surface inundation, saturated soils, groundwater levels, and/or other wetland hydrology indicators, were noted. General site characteristics were also noted.

A copy of the Jurisdictional Delineation Report is included in Appendix E (LSA 2012).

3.2.5 ESTUARINE RESOURCES

An Estuarine Resources Environmental Assessment was prepared focusing on the estuarine communities of the Los Angeles River between Willow St. and Queensway Bay and the potential effects of structural modifications, relocation, and/or replacement of four bridges that span the Los Angeles River at 7th St., Anaheim St., Pacific Coast Hwy., and Willow St. within the City of Long Beach, California.

A copy of the Estuarine Resources Environmental Assessment is included in Appendix F (LSA 2010).

3.3 PERSONNEL AND SURVEY DATES

Table 3.1 lists the surveys completed and the personnel utilized for the surveys.

3.4 AGENCY COORDINATION AND PROFESSIONAL CONTACTS

On September 29, 2008, the USFWS issued a response letter to the *Notice of Preparation (NOP) to Prepare a Draft Environmental Impact Report (DEIR) for the I-710 Corridor Project, Los Angeles County, California – FWS-LA-08B0786-08TA0998*. The letter discusses USFWS concerns regarding the I-710 Corridor Project's potential impacts to migratory birds, least Bell's vireo, habitat creation areas, and four federally listed or candidate plant species. Additional concerns addressed in the letter include a thorough analysis of all practicable alternatives and cumulative impacts (USFWS 2008a). A copy of this letter can be found as Appendix G, USFWS Correspondence.

On September 29, 2008, the USFWS declined Caltrans invitation to become a cooperating agency for the I-710 Corridor Project due to workload constraints. The USFWS agreed to provide technical assistance as a participating agency (USFWS 2008b).

Coordination meetings with ACOE occurred on January 27, 2009, and June 30, 2009. The primary purpose of the meetings was to discuss project design and ACOE operational issues; environmental analysis and ACOE regulatory issues were also discussed.

On April 16, 2009, the USFWS provided a list of federally listed endangered, threatened, proposed, and candidate species that may occur in the vicinity of the I-710 Corridor Project (Appendix A) (USFWS 2009).

Metro

Table 3.1: Survey Dates and Personnel

Date	Personnel	Purpose of Survey
April 23, 2009	Stan Spencer, Sarah Barrera, Kristen Yee	Vegetation Habitat Mapping
May 7, 2009	Wendy Fisher, Crystahl Taylor, Kristen Yee	Reconnaissance Biological Survey
June 4–5, 2009	Jill Carpenter, Daniel Ewers	Daytime Bat Habitat Assessment
June 11–12, 2009	Jill Carpenter, Daniel Ewers	Daytime Bat Habitat Assessment
June 15–16, 2009	Jill Carpenter, Daniel Ewers	Daytime Bat Habitat Assessment
June 18–19, 2009	Jill Carpenter, Daniel Ewers	Daytime Bat Habitat Assessment
June 23, 2009	Jill Carpenter, Daniel Ewers	Daytime Bat Habitat Assessment
June 29, 2009	Jill Carpenter, Corey Knips, Aga Napiatek	Nighttime Bat Emergence Survey
July 1, 2009	Jill Carpenter, Hunter Doughty, Sara Louwsma, Logan Freeberg, Ingri Quon, Meenaxi Panakkal	Nighttime Bat Emergence Survey
July 2, 2009	Jill Carpenter, Hunter Doughty, Sara Louwsma, Logan Freeberg, Kelly Czechowski, Karl Lund	Nighttime Bat Emergence Survey
July 6, 2009	Jill Carpenter, Hunter Doughty, Sara Louwsma, Logan Freeberg, Karl Lund	Nighttime Bat Emergence Survey
August 11, 2009	Stan Spencer	Special-Status Plant Survey; Jurisdictional Delineation
August 12, 2009	Stan Spencer	Special-Status Plant Survey
August 17–18, 2009	Stan Spencer, Kristen Yee, Sarah Barrera, Elizabeth Hohertz (formerly Delk)	Jurisdictional Delineation
August 26–27, 2009	Maria Lum	Jurisdictional Delineation
August 28, 2009	Stan Spencer, Robert Steers	Special-Status Plant Survey, Vegetation Mapping, Jurisdictional Delineation
August 31, 2009	Maria Lum	Jurisdictional Delineation

Table 3.1: Survey Dates and Personnel

Date	Personnel	Purpose of Survey
September 4, 2009	Robert Steers, Sarah Barrera	Special-Status Plant Survey, Jurisdictional Delineation
September 4, 2009	Richard Erickson, Leo Simone	Reconnaissance Wildlife Survey and Burrowing Owl Habitat Analysis
September 8–10, 2009	Leo Simone, Corey Knips	Burrowing Owl and Special-Status Plant Surveys
September 23, 2009	Stan Spencer	Special-Status Plant Survey
October 1, 2009	Rick Ware, Richard Erickson	Reconnaissance Estuarine Resources Environmental Assessment Survey
October 5–6, 2009	Leo Simone, Erin Saverio-Seibert	Burrowing Owl Survey
October 13, 2009	Leo Simone	Burrowing Owl Survey
November 11, 2009	Stan Spencer	Special-Status Plant Survey
December 1–4, 2009	Leo Simone, Richard Erickson, Corey Knips, Erin Saverio-Seibert	Burrowing Owl Survey
August 3, 2011	Stan Spencer, Sarah Barrera	Special-Status Plant Survey and Jurisdictional Delineation
August 8, 2011	Sarah Barrera, Elizabeth Hohertz	Jurisdictional Delineation

On September 24, 2009, the consulting biologist had a phone discussion with Sally Brown (Biologist) of the USFWS Carlsbad office regarding concerns for the I-710 Corridor Project. USFWS concerns include the potential for the project to stir up contaminated sediments during pile driving and bridge demolition, to cause contamination of aquatic resources with lead-based paint during bridge demolition, and to result in bird strikes from the new bridges.

On December 14 and 15, 2009, the consulting biologist discussed project effects on EFH and marine mammals with NMFS biologists Bryant Chesney and Monica Deangeles.

Caltrans Senior District Biologist Paul Caron was consulted on numerous occasions.

On June 5, 2010, and December 21, 2010, meetings with the ACOE regarding project design occurred.

On February 8, 2011, a letter was sent to the ACOE with a copy of the draft jurisdictional delineation report, requesting a determination on the jurisdictional status of waters in the BSA.

On March 24, 2011, the consulting biologist had an informal consultation phone call with Sally Brown (Biologist) of the USFWS Carlsbad office regarding the Biological Assessment and surveys for the Brand's star phacelia.

Metro

On June 28, 2011, a SAFETEA-LU 6002 Interagency Coordination Meeting was held to discuss the project's purpose and need, technical report methodologies, and alternatives description.

Between July 7, 2011 and May 30, 2012, several emails and phone messages were exchanged between consultant team and the ACOE (Melanie Stalder, Stephanie Hall, and Susan Meyer), regarding status updates on the jurisdictional determination.

On June 8, 2012, ACOE issued an Approved Jurisdictional Determination Regarding Presence/Absence of Geographic Jurisdiction to Paul Caron for the project (Appendix K).

3.5 LIMITATIONS THAT MAY INFLUENCE RESULTS

The collection of biological field data is normally subject to environmental factors that cannot be controlled or reliably predicted. Consequently, the interpretation of field data must be conservative and consider the uncertainties and limitations necessarily imposed by the environment. However, due to the experience and qualifications of the consultant biologists involved in the surveys, this limitation is not expected to severely influence the results or substantially alter the findings.

In addition, the results of the biological resource surveys are limited where access was not safe or authorized. For example, active homeless encampments and areas with roaming dogs were excluded from the surveys. In addition, some property owners did not grant permission to enter their properties for the purposes of the biological surveys. When possible, binoculars were used where access was unavailable. See Appendix D, Bat Habitat Suitability Assessment Memorandum, and Appendix E, Copy of Jurisdictional Delineation Report, for further discussion of limitations.

4.0 RESULTS: ENVIRONMENTAL SETTING

4.1 DESCRIPTION OF THE EXISTING BIOLOGICAL AND PHYSICAL CONDITIONS

As described in The Jepson Manual (Hickman, J.C., ed. 1993), the I-710 Corridor Project area is located within the South Coast subregion of the Southwestern California region of the California Floristic Province. The South Coast subregion is characterized by valleys and small hills extending from the coast inland to the foothills of the Transverse and Peninsular Mountain Ranges. Much of the area is intensively developed for urban, suburban, and agricultural uses. The natural vegetation of the subregion consists primarily of chaparral, coastal sage scrub (CSS), annual grasslands, and some riparian scrub and woodland. Much of the natural vegetation in the subregion occurs in scattered, often fragmented patches on hills or in other areas not easily developed. Specifically, the I-710 Corridor Project is located in Los Angeles County along the I-710 Corridor, which is highly developed.

4.1.1 STUDY AREA

The study area is referred to as the Biological Study Area (BSA), which is the area assessed for biological resources. The BSA is approximately 18 linear miles and includes a portion of major transportation corridors connecting to I-710, including I-405, SR-91, I-105, I-5, SR-60 and I-10 to accommodate for proposed interchange improvements. See Appendix H for the detailed limits of the BSA. The BSA is located on the USGS *Long Beach, South Gate,* and *Los Angeles, California* 7.5-minute series topographical quadrangles (Figure 2). The BSA spans the cities of Bell, Bell Gardens, Carson, Commerce, Compton, Cudahy, Downey, Huntington Park, Lakewood, Long Beach, Los Angeles, Lynwood, Maywood, Paramount, Signal Hill, South Gate, and Vernon in Los Angeles County. The I-710 Corridor Project alternatives pass through mostly urban settings consisting of utility corridors, residential areas, industrial uses, and commercial businesses.

A prominent feature within the BSA is the Los Angeles River and two of its tributaries (Rio Hondo and Compton Creek). The Los Angeles County Department of Public Works and other entities have joined in an effort to develop and maintain the Los Angeles River. The Los Angeles River Master Plan was adopted by the Los Angeles County Board of Supervisors in 1996, providing a multi-objective program for the Los Angeles River while recognizing its primary purpose for flood protection. The Los Angeles River Master Plan includes goals and objectives for environmental restoration. Existing restoration areas in the vicinity of the BSA include Golden Shore Marine Preserve, Dominguez Gap Wetland Project, DeForest Park Restoration Project, and Compton Creek Improvement Project. An additional restoration area (the South Gate Riparian Habitat Restoration Project) is proposed adjacent to I-710, north of I-105. Figure 3 shows the approximate locations of these restoration areas.

This page intentionally left blank

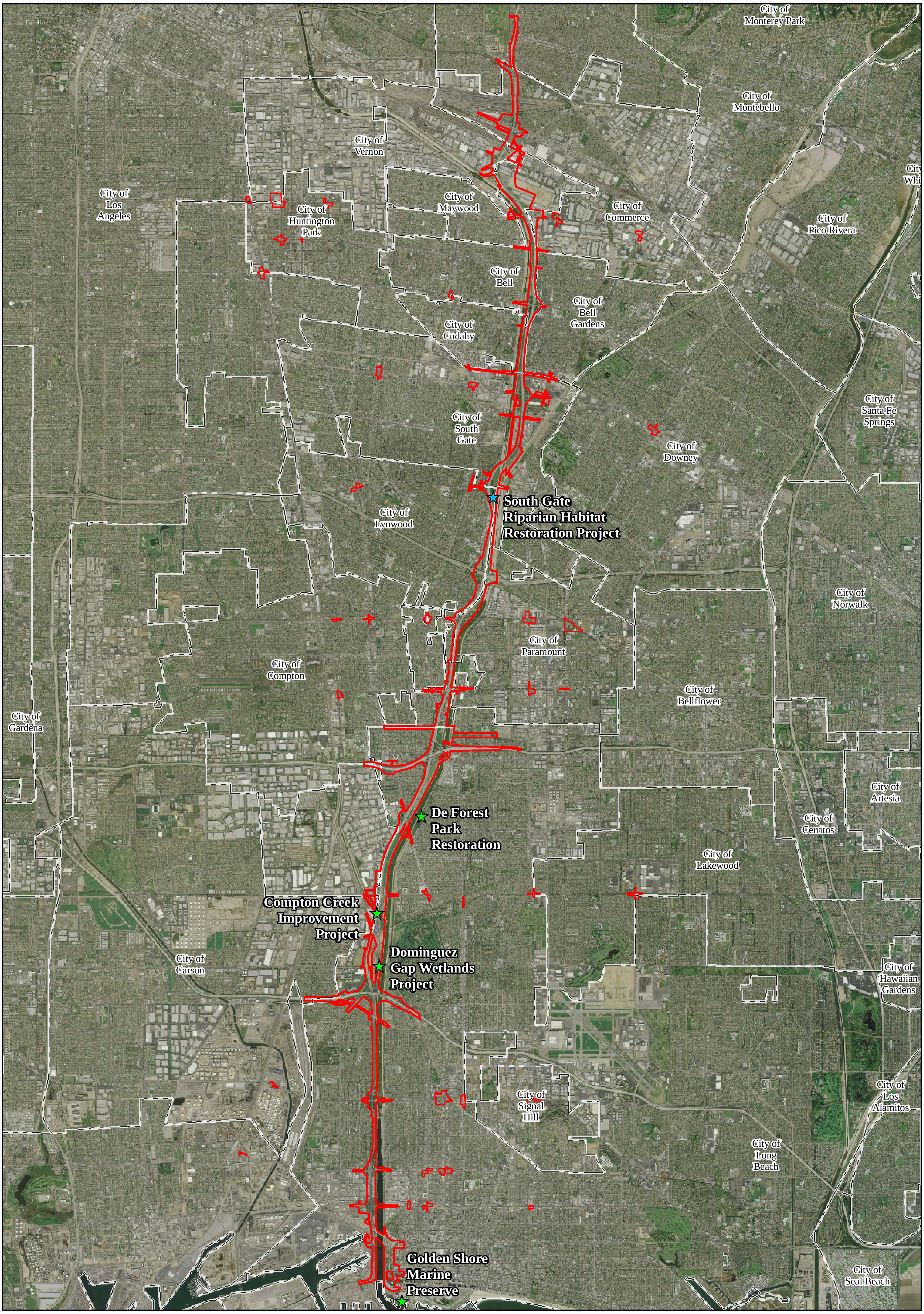


FIGURE 3

LEGEND

Limits of the Biological Study Area

Existing Restoration Areas

Proposed Restoration Areas

N

0 3375 6750

FEET

SOURCE: DigitalGlobe (4/08); LACDPW (2004); TBM (2008)

I-710 Corridor Project

Restoration Areas
in the Vicinity of the BSA

07-LA-710- PM 4.9/24.9
EA 249900

I:\URS0801A\GIS\BIO\RestorationAreas.mxd (1/4/12)

This page intentionally left blank

Information was gathered within the entire BSA. The I-710 Corridor Project effects discussed in this report are based on the direct and indirect effects to the sensitive resources based on the limits of effect from the project footprint of the various alternatives and design variations, not on the entire BSA.

4.1.2 PHYSICAL CONDITIONS

Elevations within the BSA range from 0 ft elevation at sea level at the Port of Long Beach and low-lying areas along the Los Angeles River to 220 ft in elevation at the northern part of the BSA at I-710/Whittier Blvd. undercrossing. The topography is relatively flat throughout the length of the BSA. Gentle undulations occur in ruderal areas along the banks of the drainages and the Los Angeles River.

Soils identified within the BSA are shown on Figure 4 (Los Angeles County Department of Public Works [LACDPW] 2004) and include Chino silt loam, Hanford fine sandy loam, Ramona loam, Ramona sandy loam, Tujunga fine sandy loam, and Yolo loam.

4.1.3 BIOLOGICAL CONDITIONS IN THE BIOLOGICAL STUDY AREA

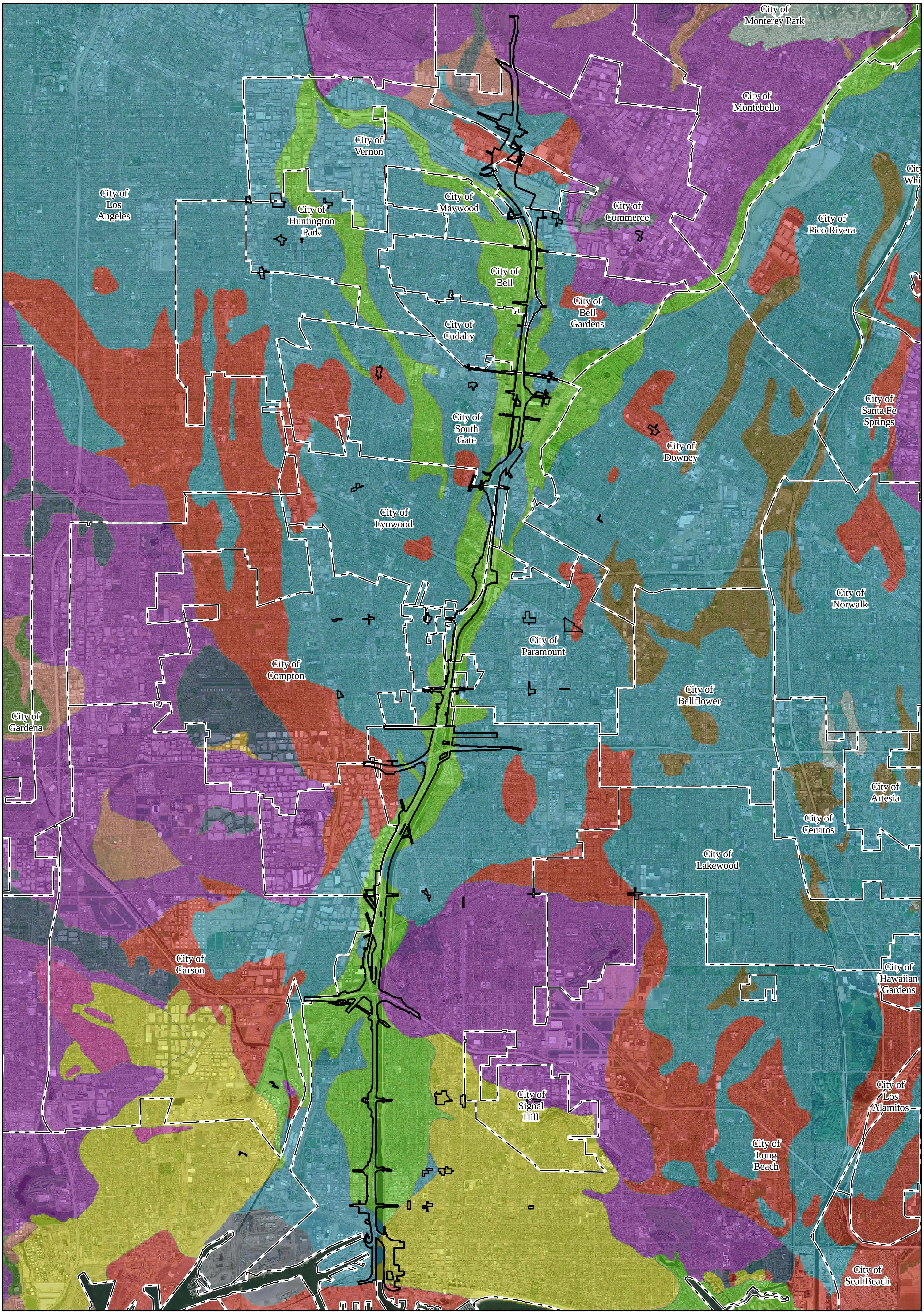
Vegetation communities located within the BSA are mostly developed (developed/ornamental/ ruderal). Waters of the Los Angeles River have been identified based on freshwater and tidal waters. Fragments of riparian scrub and freshwater emergent marsh habitats have been identified within the BSA within the Los Angeles River itself, or within tributary drainages. Table 4.1 lists the acreage of each of the vegetation communities present within the BSA. Vegetation communities and associated drainage boxes[1] identified within the BSA are illustrated in Appendix H.

4.1.3.1 DEVELOPED/ORNAMENTAL/RUDERAL

This vegetation community consists of developed areas such as existing buildings, paved roads, ornamental vegetation, and commercial and residential properties. These upland disturbed areas are grouped together in the land cover mapping because of their generally low habitat value for native plant and wildlife species.

[1] The delineation of drainage boxes identifies the locations of drainage features on the figures. Numbering of drainage boxes was initiated during preparation of the Jurisdictional Delineation. The Los Angeles River and some areas with riparian scrub habitat were not assigned a drainage box number.

This page intentionally left blank



LEGEND

- Limits of the Biological Study Area
- CHINO SILT LOAM
- HANFORD FINE SANDY LOAM
- RAMONA LOAM
- RAMONA SANDY LOAM
- TUJUNGA FINE SANDY LOAM
- YOLO LOAM

N

0 3375 6750
FEET

SOURCE: DigitalGlobe (4/08); LACDPW (2004); TBM (2008)

FIGURE 4

I-710 Corridor Project

Soils in the Vicinity of the BSA

07-LA-710- PM 4.9/24.9
EA 249900

I:\URS0801A\GIS\BIO\Soils.mxd (1/4/12)

This page intentionally left blank

Table 4.1: Acreages of Vegetation Communities Occurring within the Biological Study Area

Vegetation Community	Total Acres	Drainage Box
Developed/Ornamental/Ruderal	1,920.23	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18,19 and 20
Estuarine Habitat		
Earthen-Bottom Tidal Waters of the Los Angeles River	10.33	Los Angeles River, south of Willow St.
Riparian/Riverine Habitats		
Concrete-Lined Freshwater Waters of the Los Angeles River and Associated Drainages	53.65	1, 2, 4, 12, 13, , and 20 Los Angeles River, north of Willow St.
Riparian Scrub	4.34	Portions of the Los Angeles River, 3 and 6
Freshwater Emergent Marsh	0.93	Portions of 3 and 6
Total	**1,989.48**	**--**

Source: I-710 Corridor Project NES, 2012; and I-710 Corridor Project Jurisdictional Delineation Report, May 2012.
Alt/Alts = Alternative/s
BSA= Biological Study Area

Humanmade roadside drainage ditches (concrete v-ditches with absent or marginal OHWMs, isolated freeway drainages, and isolated earthen swales/erosional features) are constructed in upland areas and are likely not jurisdictional. Twelve of the 20 drainage features (5, 7, 8, 9, 10, 11, 14, 15, 16, 17, 18, and 19) identified within the BSA are classified under this vegetation community and described further in the Jurisdictional Delineation prepared for the project (LSA 2012). A copy of the Jurisdictional Delineation Report is provided in Appendix E. The locations of these likely nonjurisdictional drainage features are also shown in Appendices H, I, and J.

Some of the areas mapped under this vegetation community consisted predominantly of unmaintained or escaped ornamental vegetation. Dozens of ornamental and fruit trees occur in yards and landscaping. Plant species within this habitat type include Mexican fan palm (*Washingtonia robusta*), tocalote (*Centauria melitensis*), bull thistle (*Cirsium vulgare*), telegraph weed (*Heterotheca californica*), perennial sow-thistle (*Sonchus arvensis*), black mustard (*Brassica nigra*), shortpod mustard (*Hirschfeldia incana*), Bermuda grass (*Cynodon dactylon*), common wild oat (*Avena fatua*), and foxtail chess (*Bromus madritensis* ssp. *rubens*).

Portions of the developed areas that were not paved or landscaped contained naturalized vegetation dominated by ruderal species. Some of the species most often encountered included ripgut brome (*Bromus diandrus*), London rocket (*Sisymbrium irio*), musky stork's bill (*Erodium moschatum*), Bermuda grass, Hottentot-fig (*Carpobrotus edulis*), five-hook bassia (*Bassia hyssopifolia*), white sweet-clover (*Melilotus albus*), horseweed (*Conyza* spp.), shortpod mustard, annual bur-sage (*Ambrosia acanthicarpa*), rough cocklebur (*Xanthium strumarium*), common knotweed (*Polygonum arenastrum*), and spearscale (*Atriplex triangularis*). Many of these areas had been mowed prior to the surveys in 2009. Botta's pocket gopher (*Thomomys bottae*) and California ground squirrel (*Spermophilus beecheyi*) burrows were occasionally observed within ruderal grassland areas. The locations of burrows suitable to provide habitat for BUOW are shown in Figure 3 of Appendix C.

4.1.3.2 CONCRETE-LINED FRESHWATER WATERS OF THE LOS ANGELES RIVER AND ASSOCIATED DRAINAGES

These humanmade jurisdictional areas were identified within the Los Angeles River north of the Willow St. crossing and within unvegetated v-ditches or rectangular channels adjacent to the Los Angeles River. These areas typically were unvegetated due to the concrete lining. Islands of sand, rock, or silt are occasionally found upstream of Willow St. and can be colonized by riparian plants that are covered during flood periods. These islands either shift position or are washed away during high flow events. They connect with a navigable water (the Pacific Ocean) and are therefore considered jurisdictional. Along with the freshwater portion of the Los Angeles River, these areas identified as Drainage Boxes 1, 2, 4, 12, 13, and 20 in Appendix H are included in this designation.

4.1.3.3 EARTHEN-BOTTOM TIDAL WATERS OF THE LOS ANGELES RIVER

Tidal influence on the Los Angeles River extends north from Queensway Bay to the Willow St. bridge over the Los Angeles River (MBC Applied Environmental Sciences 1994). Intertidal portions of the shoreline extend from the extreme low to the extreme high water mark, while subtidal areas lie below the extreme low tide zone and are never exposed. The Los Angeles River estuary at this location consists of a natural soft bottom composed of sands and muds. Between Anaheim St. and the 7th St. Bridge, protective riprap cover lines the margins of the river. The halophytic (salt-loving) vegetation found in the estuarine wetland provides valuable function to the overall wetland system by anchoring soils and controlling erosion. During surveys conducted in October 2009, intertidal areas of riprap consisted of relatively low species diversity and included barnacles (*Balanus amphitrite* and *B. glandula*), mussels (*Mytilus galloprovincialis* and *Geukensia demissa*), a green algae (*Ulva* sp.), and a filamentous red algae turf. Barnacles exist at the bridge abutments. No rooted eelgrass or kelp forests were observed in the BSA.

Humanmade structures (dikes and weirs) and boulders provide roosting habitat for shorebirds, seabirds, and waterfowl during low-flow periods. The rocky tidal portion of the BSA is not considered a sensitive habitat because of the highly variable salinity and temperature regimes and the presence of river-borne sediments that silt over the low-lying riprap. The Estuarine Resources Environmental Assessment that has been completed for the I-710 Corridor Project further describes habitat characteristics and lists additional species observed in the tidal waters of the Los Angeles River (Appendix F) (LSA 2009b).

4.1.3.4 RIPARIAN SCRUB

Riparian scrub habitat is sporadic within the BSA and located along the margins of Compton Creek, within vegetated areas of the Los Angeles River margins south of Willow St., and northeast of the I-710/Rosecrans Ave. interchange (see sheet 9 of Appendix H). Riparian scrub lines the shoreline primarily between Willow St. and Pacific Coast Hwy. Between Anaheim St. and 7th St., the riparian margins of the river decreased and protective rip rap cover lined the margins of the river. This habitat was disturbed by litter and human intrusion and was cleared annually (at a minimum) for flood control purposes. Dominant species in riparian scrub include mulefat (*Baccharis salicifolia*), poison hemlock (*Conium maculatum*), broad-leaved peppergrass (*Lepidium latifolium*), Goodding's willow (*Salix gooddingii*), narrowleaf willow (*Salix exigua*), western goldenrod (*Euthamia occidentalis*), and Fremont's cottonwood (*Populus fremontii*). Weedy species commonly observed included giant reed (*Arundo donax*) and common sunflower (*Helianthus annuus*) and small stands of marsh species such as common bulrush and cattails.

4.1.3.5 FRESHWATER EMERGENT MARSH

This habitat has been highly affected by the human environment, much like the riparian scrub habitat described above. Freshwater marsh habitat has been identified in the bed of Compton Creek (identified as Drainage Box 6 in the Jurisdictional Delineation) and in an area surrounding riparian scrub habitat associated with the vegetated basin (identified as Drainage Box 3 in the Jurisdictional Delineation). Regular maintenance associated with flood control generally prevents the vegetation from becoming mature. Dominant species found in freshwater marsh habitat include California bulrush (*Schoenoplectus californicus*), swamp smartweed (*Persicaria hydropiperoides*), cattail (*Typha* sp.), and primrose-willow (*Ludwigia* sp.).

4.1.4 WILDLIFE USAGE WITHIN VEGETATION COMMUNITIES IN THE BSA

4.1.4.1 DESCRIPTIONS OF COMMON ANIMAL SPECIES

The commonly occurring wildlife of the lower Los Angeles River area and species observed are discussed below.

4.1.4.2 INVERTEBRATES

Invertebrates are abundant within the BSA, although few species are evident to the human eye. A rich fauna is associated with estuarine habitats such as those at the south end of the BSA. Some are found on the hard substrate of the river bank and in-water structures, while most live in the riverine sediments. Common types of benthic organisms in those situations include flatworms, amphipod crustaceans (e.g., *Corophium insidiosum* and *C. acherusicum*), crabs, snails, clams (e.g., *Theora lubrica* and *Tagelus californiensis*), polychaete worms (capitellids, spionids, cirratulids, and ophelliids), oligochaete worms, brittle stars, mussels (e.g., *Mytilus galloprovincialis* and *Geukensia demissa*), barnacles (e.g., *Balanus amphitrite* and *B. glandula*), and sponges (Coney 1993). The diversity and abundance of marine and estuarine species decreases with increasing distance away from Queensway Bay, and the diversity and abundance of brackish water and freshwater invertebrates increases with increasing freshwater influence. Numbers and richness of oligochaete worms, insect larvae, and freshwater clams likely increase in upstream reaches of the Los Angeles River, where freshwater influence is more consistent. Coney (1993) discussed 15 species of freshwater mollusks known from the Los Angeles River, most of them believed to be extirpated. Only one, the native *Physa virgata*, was common at the time of Coney's study.

Terrestrial invertebrates are also abundant, but appear to be even more poorly known than aquatic ones. Only species of the conspicuous dragonflies and butterflies were noted during the surveys. Most common among these were the blue-eyed (*Rhionaeschna multicolor*) and common green (*Anax junius*) darners, gulf fritillary (*Agraulis vanillae*), and the nonnative cabbage white (*Pieris rapae*).

4.1.4.3 FISH

Within the BSA, fish are primarily restricted to the bridge crossings of the Los Angeles River. The lowermost portion of the Los Angeles River provides a semiprotected habitat for small and juvenile fish such as gobies (Gobiidae), northern anchovy (*Engraulis mordax*), and white croakers (*Genyonemus lineatus*). Other marine species collected in the river include spotted turbot (*Pleuronichthys ritteri*), hornyhead turbot (*P. verticalis*), California lizard fish (*Synodus lucioceps*), and California tonguefish (*Symphurus atriacaudus*). Other species that have been found at the Golden Shore Marine Preserve at the mouth of the Los Angeles River include shallow-water species such as topsmelt (*Atherinops affinis*), cheekspot goby (*Illypnus gilberti*), arrow goby (*Clevelandia ios*), and diamond turbot (*Hypsopsetta guttulata*) (Appendix F: Estuarine Resources Environmental Assessment).

Bay and estuarine fish would be found within the lower reach of the Los Angeles River based on the degree and interaction of both tidal and freshwater influence. Since tidal influence extends to approximately Willow St., some members of the estuarine fish community and the demersal and pelagic fish community are expected to be present, but the diversity and abundance of these groups are expected to be low compared to Queensway Bay.

The freshwater fish community makeup in the Glendale Narrows area of the Los Angeles River was found by FOLAR (2008) to include eight species of fishes, all nonnative: fathead minnow (*Pimephales promelas*), carp (*Cyprinus carpio*), black bullhead (*Ameiurus melas*), Amazon sailfin catfish (*Pteroplichthys pardalis*), mosquitofish (*Gambusia affinis*), green sunfish (*Lepomis cyanellus*), largemouth bass (*Micropterus salmoides*), and tilapia (*Oreochromis* sp.). Earlier, Swift and Seigel (1993) discussed freshwater fish of the Los Angeles River, also primarily upstream of the BSA. Seven native species originally occurred in the Los Angeles River but only two remained, and both were restricted to areas well north of the BSA. Four nonnative species were found in the river (north of the BSA) at that time: the fathead minnow, goldfish (*Carassius auratus*), mosquitofish, and tilapia. Some of these species have a potential to be present in the BSA during and following periods when the lower Los Angeles River is under the influence of heavy runoff.

4.1.4.4 AMPHIBIANS

No amphibians were observed during the 2009 biological surveys. Nonetheless, Bezy et al. (1993) discussed 10 native and four nonnative species recorded within the lower reaches of the Los Angeles River basin. Of the 10 natives, only the garden slender salamander (*Batrachoseps major*), western toad (*Anaxyrus boreas*), and Baja California treefrog (*Pseudacris hypochondriaca*) are believed to be extant on the lower portions of the Los Angeles River.

4.1.4.5 REPTILES

Bezy et al. (1993) also discussed reptiles in the Los Angeles River basin, 33 native and five nonnative species. Most of these are now restricted to more intact habitats in foothill and mountain areas. Three species were observed during 2009 biological surveys: the western fence lizard (*Sceloporus occidentalis*); common side-blotched lizard (*Uta stansburiana*); and a nonnative turtle, the pond slider (*Trachemys scripta*). Among the other terrestrial species still believed present along the lower Los Angeles River are the southern alligator lizard (*Elgaria multicarinata*), California legless lizard (*Anniella pulchra*), ring-necked snake (*Diadophis punctatus*), and gopher snake (*Pituophis catenifer*).

4.1.4.6 BIRDS

The Los Angeles River concentrates great numbers of waterbirds within the channel, including ducks, herons, shorebirds, gulls, and the American coot (*Fulica americana*). Garrett (1993) summarized the birds of the Los Angeles River basin, at that time noting that "Of the 455 bird species recorded within Los Angeles County…all but about 27 have been recorded within the…drainage and adjacent offshore waters." As documented by Garrett (1993), many species that historically occurred within the BSA no longer do so, primarily due to changes in habitat.

Common terrestrial species within the BSA include the resident American crow (*Corvus brachyrhynchos*) and house finch (*Carpodacus mexicanus*). Common seasonal visitors include the cliff swallow (*Petrochelidon pyrrhonota*) in summer and yellow-rumped warbler (*Dendroica coronata*) and white-crowned sparrow (*Zonotrichia leucophrys*) in winter. Exotic species are also well represented within the BSA, with the rock pigeon (*Columba livia*) and European starling (*Sturnus vulgaris*) especially common. A total of 71 avian species were observed during 2009 biological surveys (see Appendix B).

4.1.4.7 MAMMALS

Barkley (1993) documented the mammal fauna of the Los Angeles River based primarily upon the scientific literature and specimens housed at the Natural History Museum of Los Angeles County and California State University, Long Beach. Barkley noted a considerable reduction in species diversity following widespread human development of the basin. One marine mammal (California sea lion, *Zalophus californianus*) and 11 terrestrial mammals were recorded during 2009 biological surveys. Numerous burrows of two fossorial species—Botta's pocket gopher

(*Thomomys bottae*) and California ground squirrel (*Spermophilus beecheyi*)—suggested that those were among the most common species. Also observed were five species of bats, including Brazilian free-tailed bat (*Tadarida brasiliensis*), big brown bat (*Eptesicus fuscus*), silver-haired bat (*Lasionycteris noctivagans*), California myotis (*Myotis californica*), yuma myotis (*Myotis yumanensis*); Audubon's cottontail (*Sylvilagus audubonii*), coyote (*Canis latrans*), the nonnative Virginia opossum (*Didelphis virginiana*), and the house mouse (*Mus musculus*).

4.1.4.8 FISH AND WILDLIFE MOVEMENT IN THE BIOLOGICAL STUDY AREA

Wildlife movement is greatly affected by roads. The adverse effects of I-710 on wildlife movement have been in place since the freeway was constructed in the 1950s and 1960s. Nevertheless, the Los Angeles River and adjacent parks, wetlands, and vacant lands do provide a long linear stretch of area suitable for wildlife movement, including many species of water birds and medium-sized mammals such as coyotes.

4.2 REGIONAL SPECIES AND HABITATS OF CONCERN

The Los Angeles River is the heart of an 834-square-mile watershed, which encompasses the Santa Susanna Mountains to the west, the San Gabriel Mountains to the north and east, and the Santa Monica Mountains and Los Angeles coastal plain to the south. Channelization started in 1914 as an effort to control devastating floods that periodically swept through the City of Los Angeles. Subsequent lining of the channel with concrete removed most of the river's vegetation, wetlands, wildlife, and ecological richness. Prior to 1960, 80 percent of rainwater in the Los Angeles River watershed would percolate into the ground. Today that figure is estimated to be eight percent, with the remainder draining out into the ocean. Of the 51 miles of the Los Angeles River, 13 miles retain their natural riverbed. The only portion of the Los Angeles River with a natural bottom adjacent to the BSA is the southernmost three miles north of entering San Pedro Bay southeast of Long Beach. Though lined with riprap, it is a favorite spot for shorebirds. Exotic vegetation dominates the river corridor, with rapid spread of giant reed, castor bean, fountain grass, star thistle, fan palm, shamel ash, and mustard having displaced the native vegetation.

Information based on the literature review for the sensitive species within the BSA is presented below. Species that require additional surveys and analysis are addressed in Chapter 5.

4.2.1 PLANTS

The BSA supports suitable habitat for a few special-status plant species that are tolerable of conditions within or adjacent to an urban environment. After a thorough literature review, it was determined that a total of 52 special-status plant species have the potential to occur on or within the vicinity of the BSA. Fourteen of these special-status plant species are federally and/or State-listed endangered, threatened, candidate, or fully protected species. Further information on these species, including status, habitat requirements, and potential for occurrence, is summarized in Table 4.2. Species that were observed or have habitat present within the BSA are discussed further in Chapter 5. Locations of special-status plant species documented within the vicinity of the BSA are shown in Figure 5. In addition, specific locations of populations of southern tarplant (*Centromadia parryi* ssp. *australis*) mapped during 2009 surveys for special-status plants are also shown on Figure 5.

4.2.2 WILDLIFE

The BSA supports suitable habitat for a variety of special-status wildlife species. Areas along the Los Angeles River south of the I-710/Willow St. interchange provide the most valuable habitat for shorebirds in the BSA. After a thorough literature review, it was determined that 123 special-status wildlife species have the potential to occur within the vicinity of the BSA. A total of 27 of these species are listed as federally and/or State-listed endangered or threatened, or proposed or delisted endangered or threatened, or are considered California Fully Protected (CFP) species by the State. Further information on these species, including status, habitat requirements, and potential for occurrence, is summarized in Table 4.3. Species that were observed or have suitable habitat present within the BSA are discussed further in Chapter 5. Locations of selected special-status animal species observed within the vicinity of the BSA at some point are shown in Figure 6. Special-status bat species (Yuma myotis [*Myotis yumanensis*] and silver-haired bat [*Lasionycteris noctivagans*]) and the individual BUOW observed during 2009 surveys for special-status animals are also shown on Figure 6.

This page intentionally left blank

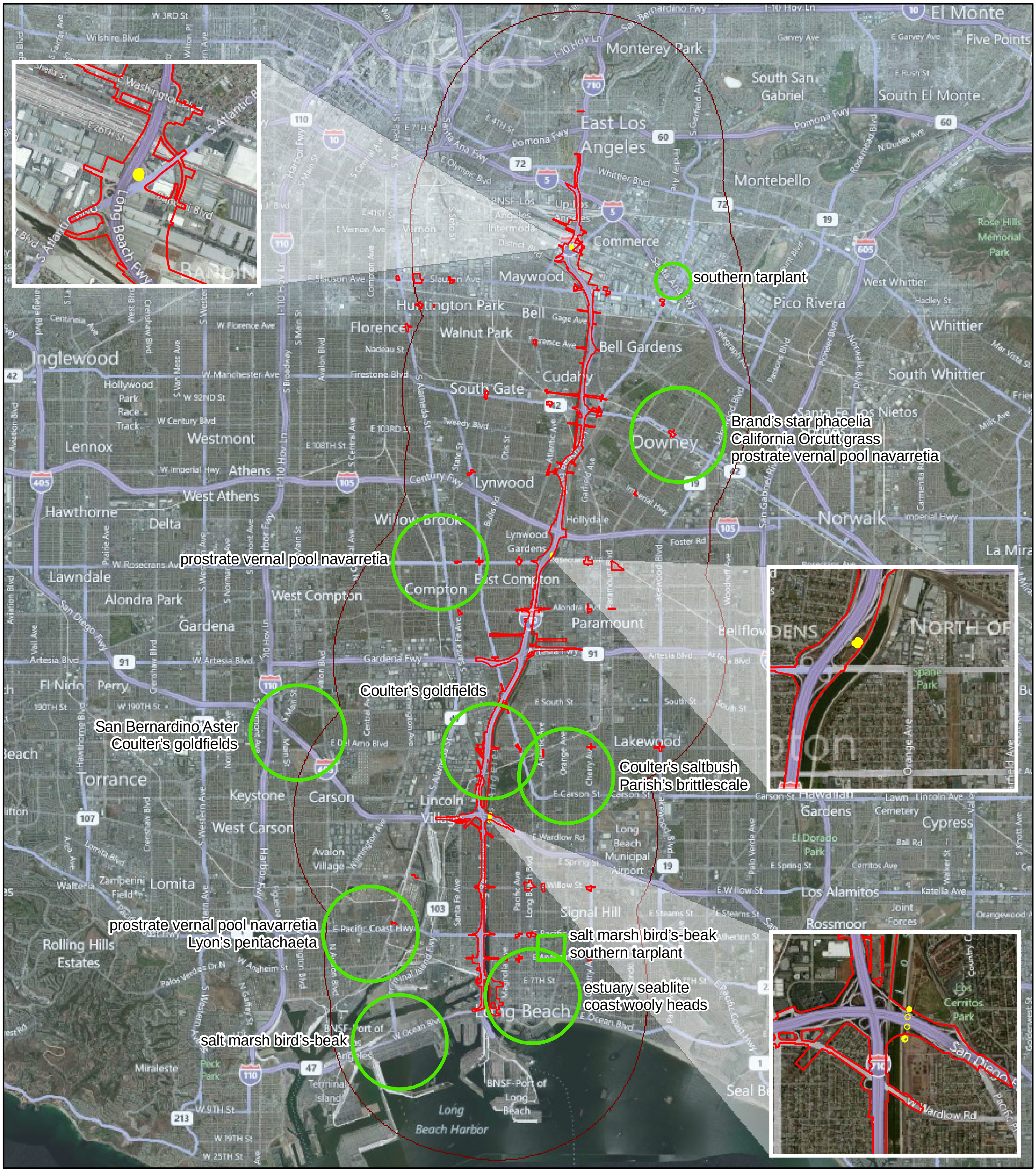


FIGURE 5

LEGEND

- Biological Study Area
- Occurrences by Others Reported to CDFG (CNDDB, 2011)
- Specific Occurrences of Southern Tarplant (LSA, 2009)
- 3 Mile Buffer

N

0 7500 15000
FEET

I-710 Corridor Project

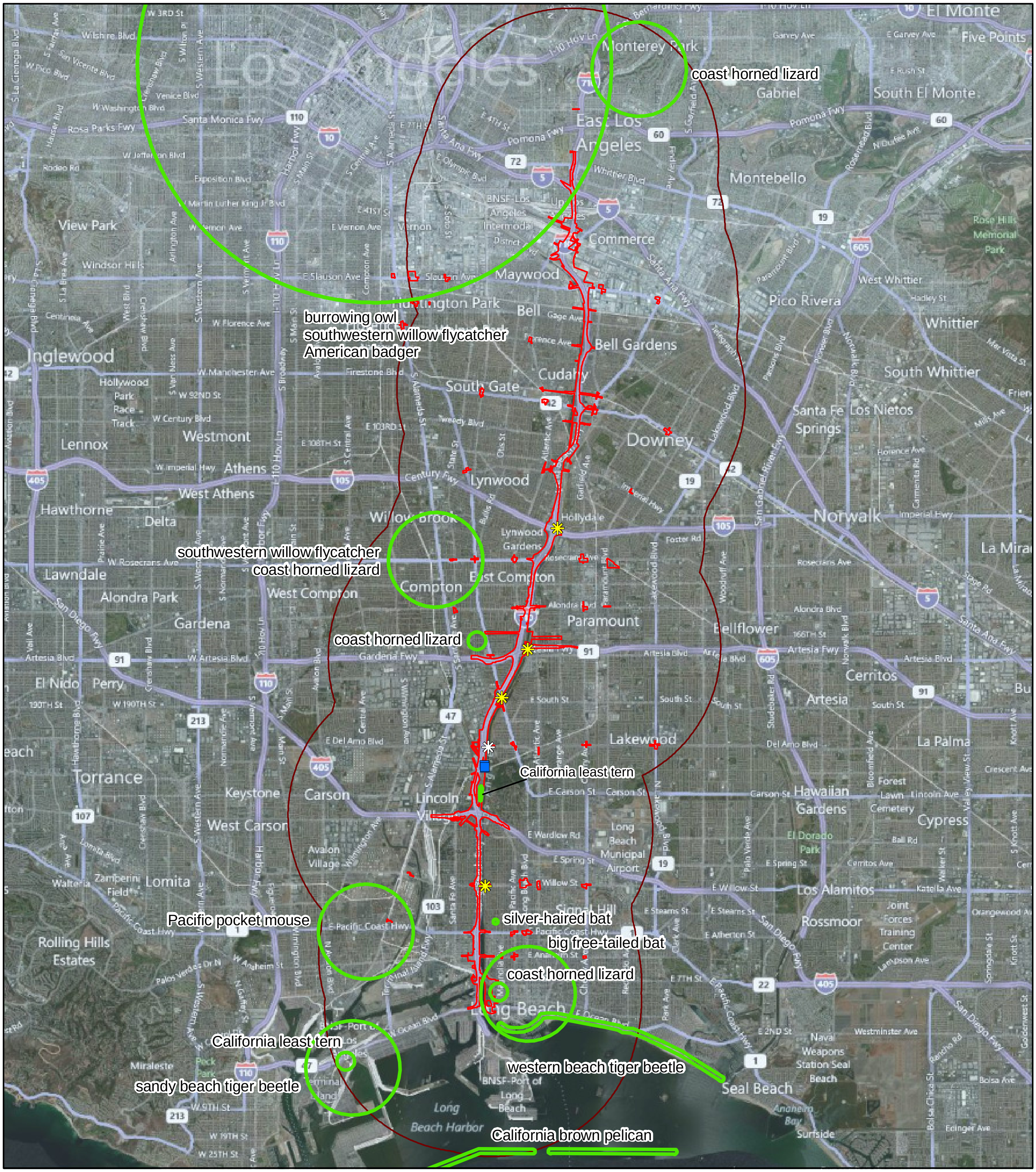
Special-status Plant Species
in Vicinity of the Biological Study Area

PM 4.9/24.9
EA 249900

SOURCE: Bing (2008)

I:\URS0801A\GIS\BIO\CNDDB_Plants.mxd (1/4/12)

This page intentionally left blank



LEGEND

Biological Study Area

Occurrences by Others Reported to CDFG (CNDDB, 2011)

Burrowing Owl Sighting (LSA, 2009)

Specific occurence of silver-haired bat

Yuma myotis

3 Mile Buffer

N

0 7500 15000

FEET

SOURCE: Bing (2008)

FIGURE 6

I-710 Corridor Project

Special-status Animal Species
in Vicinity of the Biological Study Area

PM 4.9/24.9
EA 249900

I:\URS0801A\GIS\BIO\CNDDB_Animals.mxd (12/14/11)

This page intentionally left blank

Table 4.2: Special-Status Plant Species Potentially Occurring or Known to Occur in the Biological Study Area

Common Name	Scientific Name	Status Federal/ State/ CNPS Status	General Habitat Description	Habitat Present or Absent/ Species Observed	Rationale
Aphanisma	*Aphanisma blitoides*	–/–/1B	Sandy or clay soils on slopes or bluffs near the ocean, usually in coastal bluff scrub, coastal dunes, or coastal scrub, below 305 m (1,000 ft) elevation. Known in California from Ventura, Santa Barbara, Los Angeles, Orange, and San Diego Counties. Also occurs in Mexico. Blooms March–June.	A	No sand or clay soils occur within the BSA.
Marsh sandwort	*Arenaria paludicola*	FE/CE/1B	Found in freshwater marshes from 3 to 170 m (10 to 560 ft) elevation, where it grows up through dense mats of *Typha*, *Juncus*, *Scirpus*, etc. Known to presently occur only in San Luis Obispo County. Believed extirpated from Los Angeles, San Francisco, Santa Cruz, Riverside, and San Bernardino Counties, and from the state of Washington. The last known record of this species in Riverside, San Bernardino, or Los Angeles Counties is from 1900. Blooms May–August.	A	Believed extirpated in Los Angeles County. Last record was 1900. Not observed in marsh habitat within the BSA during special-status plant surveys in 2009.
Braunton's milk-vetch	*Astragalus brauntonii*	FE/–/1B	Considered a limestone endemic and dependent on fire. Usually on sandstone with carbonate layers following fire but may follow other disturbance and occur on stiff gravelly clay soils over granite. Typically associated with the fire-dependent chaparral habitat on limestone and on down-wash sites below 640 m (2,100 ft) elevation. Known only from Los Angeles, Orange, Riverside, and Ventura Counties. Blooms January–August.	A	No carbonates, stiff gravelly clay, or chaparral occur within the BSA.
Ventura marsh-milk vetch	*Astragalus pycnostachyus* var. *lanosissimus*	FE/SE/1B	Coastal salt marsh within reach of high tide or protected by barrier beaches, or more rarely near seeps on sandy bluffs, below 1 to 35 m (120 ft) elevation. Known only from Santa Barbara and Ventura Counties. Believed extirpated from Los Angeles and Orange Counties.	A	No salt marsh or suitable habitat occurs within the BSA.

Metro

Table 4.2: Special-Status Plant Species Potentially Occurring or Known to Occur in the Biological Study Area

Common Name	Scientific Name	Status Federal/ State/ CNPS Status	General Habitat Description	Habitat Present or Absent/ Species Observed	Rationale
Coastal dunes milk-vetch	*Astragalus tener* var. *titi*	FE/CE/1B	Moist, sandy depressions of coastal dunes and bluffs, or clay terrace, below 50 m (160 ft) elevation. Known to occur only in Los Angeles County. Believed extirpated from Los Angeles County. May also be extirpated from San Diego County. Blooms March–May.	A	No coastal dunes, bluffs, or clay terraces occur within the BSA. Believed extirpated in Los Angeles County.
Coulter's saltbush	*Atriplex coulteri*	–/CFP/1B	Alkaline or clay soils in ocean bluffs and ridgetops and alkaline low places in coastal bluff scrub, coastal dunes, coastal sage scrub, and valley and foothill grasslands below 460 m (1,500 ft) elevation. In California, known only from Los Angeles, Orange, Santa Barbara, San Bernardino, San Luis Obispo, Ventura, and San Diego Counties. Also occurs in Mexico. This species has been documented northeast of the I-710/405 interchange. Blooms March–October.	A	No alkaline or clay soils or suitable habitat occurs within the BSA. Not observed during surveys of area nearest to suitable habitat.
South Coast saltscale	*Atriplex pacifica*	–/–/1B	Alkali soils in coastal sage scrub, playas, coastal bluff scrub, coastal dunes, and chenopod scrub below 200 m (600 ft) elevation, and perhaps formerly up to about 430 m (1,400 ft) in Los Angeles County. In California, known from the Channel Islands and mainland Los Angeles, San Diego and Orange Counties. Also occurs in Mexico. Believed extirpated from Ventura County. Blooms March–October.	A	No alkaline soils or other suitable habitat occurs within the BSA. Not observed during surveys of area nearest to suitable habitat.
Parish's brittlescale	*Atriplex parishii*	–/–/1B	Alkali meadows, vernal pools, chenopod scrub, and playas. Usually on drying alkali flats with fine soils. In California, known from Riverside, San Diego, and Orange Counties. Also occurs in Mexico. Believed extirpated from Los Angeles and San Bernardino Counties. This species has been documented northeast of the I-710/405 interchange. Blooms June–October.	A	No alkaline soils or other suitable habitat occurs within the BSA. Not observed during surveys of area nearest to suitable habitat.

Metro

Table 4.2: Special-Status Plant Species Potentially Occurring or Known to Occur in the Biological Study Area

Common Name	Scientific Name	Status Federal/ State/ CNPS Status	General Habitat Description	Habitat Present or Absent/ Species Observed	Rationale
Davidson's saltscale	*Atriplex serenana* var. *davidsonii*	–/–/1B	Alkaline soils in scrub and herbaceous communities from 10 to 460 m (30 to 1,500 ft) elevation. In California, known only from Los Angeles(?), Orange, Riverside, San Diego, San Luis Obispo, and Ventura Counties. Believed extirpated from Santa Barbara and perhaps Los Angeles Counties. Also occurs in Mexico. Blooms April–October.	A	No alkaline soils or other suitable habitat occurs within the BSA. Not observed during surveys of area nearest to suitable habitat.
Nevin's barberry	*Berberis nevinii*	FE/SE/1B	Gravelly wash margins in alluvial scrub, or coarse soils and rocky slopes in chaparral; typically 275 to 825 m (900 to 2,700 ft) elevation; Los Angeles, San Bernardino, Riverside, and San Diego Counties. Blooms March through June (evergreen shrub, survey year-round). Blooms March through June (evergreen shrub, survey year-round).	A	No alluvial scrub or chaparral within BSA. BSA is outside expected range of species.
Round-leaved filaree	*California macrophylla*	–/–/1B	Clay soils in woodland, scrub, and grassland communities from 15 to 1,200 m (50 to 4,000 ft) elevation. Known from central and south coastal areas and the Central Valley in California. Also occurs in Oregon and Mexico. Blooms March–May.	A	No clay soils occur within the BSA.
Slender mariposa lily	*Calochortus clavatus* var. *gracilis*	–/–/1B	Shaded foothill canyons in areas of chaparral; typically 360 to 1,000 m (1,200 to 3,300 ft) elevation; known only from San Gabriel Mountains of Los Angeles and San Bernardino Counties. Blooms March.	A	No chaparral or foothill canyons within BSA. BSA is outside range of species.
Plummer's mariposa-lily	*Calochortus plummerae*	–/–/1B	Sandy or rocky sites of (usually) granitic or alluvial material in valley and foothill grassland, coastal scrub, chaparral, cismontane woodland, and lower montane coniferous forest at 100 to 1,700 m (300 to 5,600 ft) elevation. Known from the Santa Monica Mountains to San Jacinto Mountains in Riverside, San Bernardino, Orange, Los Angeles, and Ventura Counties. Blooms May–July.	A	No sandy or rocky soils occur within the BSA.

Metro

Table 4.2: Special-Status Plant Species Potentially Occurring or Known to Occur in the Biological Study Area

Common Name	Scientific Name	Status Federal/ State/ CNPS Status	General Habitat Description	Habitat Present or Absent/ Species Observed	Rationale
Intermediate mariposa lily	*Calochortus weedii* var. *intermedius*	–/–/1B	Generally rocky areas in hills with annual grassland and coastal sage scrub. 180 to 855 m (600 to 2,800 ft) elevation. Los Angeles, Orange, and Riverside Counties. Blooms June through July.	A	No rocky, hilly areas within BSA. BSA is outside elevational and geographic range of species.
Santa Barbara morning-glory	*Calystegia sepium* ssp. *binghamiae*	–/–/1A, * (presumed extinct in CA)	Coastal marshes below 30 m (80 ft) elevation. Probably extinct. Formerly known from Los Angeles, Orange, Ventura, and Santa Barbara Counties. Blooms April–May.	A	Believed extirpated from Los Angeles County. Known only from historical records. Not observed during surveys of marsh habitat within the BSA.
Lewis's evening primrose	*Camissonia lewisii*	–/–/3	Sandy or clay areas in coastal scrub, grassland, and woodland below 300 m (1,000 ft) elevation. In California known only from Los Angeles and San Diego Counties. Believed extirpated from Orange County. Also occurs in Mexico.	A	No sandy or clay habitat occurs within the BSA.
Southern tarplant	*Centromadia parryi* ssp. *australis*	–/–/1B	In vernally wet areas such as edges of marshes and vernal pools, at edges of roads and trails, and in other areas of compacted, poorly drained, or alkaline soils where competition from other plants is limited, often due to disturbance, below 425 m (1,400 ft) elevation. In California, known only from Santa Barbara, Ventura, Los Angeles, Orange, and San Diego Counties. Also occurs in Mexico. Blooms May–November.	P, O	Observed in three locations during 2009 surveys. The largest population was approximately 9,000 plants near the I-710/ Rosecrans interchange.
San Fernando Valley spineflower	*Chorizanthe parryi* var. *fernandina*	FC/SE/1B	Sandy soils in coastal scrub, primarily in northeastern Western Transverse Ranges and San Gabriel Mountains at 3 to 1,220 m (10 to 4,000 ft) elevation. Known only from Los Angeles and Ventura Counties. Presumed extirpated from Orange County and the Los Angeles Basin. Blooms April through June (annual herb).	A	No sandy areas or coastal scrub within BSA. BSA is outside range of species.

Metro

Table 4.2: Special-Status Plant Species Potentially Occurring or Known to Occur in the Biological Study Area

Common Name	Scientific Name	Status Federal/ State/ CNPS Status	General Habitat Description	Habitat Present or Absent/ Species Observed	Rationale
Parry's spineflower	*Chorizanthe parryi* var. *parryi*	–/–/1B	Sandy or rocky soils in chaparral, coastal scrub, or woodlands at 40 to 1,705 m (100 to 5,600 ft) elevation. Known only from Los Angeles, Riverside, and San Bernardino Counties. Blooms April through June (annual herb).	A	No sandy or rocky soils within BSA. No chaparral, coastal scrub, or woodlands within BSA.
California saw-grass	*Cladium californicum*	–/–/2	Marshes and seeps below 600 m (2,000 ft) elevation. In California, known from Inyo, Riverside, Santa Barbara, San Bernardino, and San Luis Obispo Counties. Believed to be extirpated from Los Angeles and perhaps San Bernardino Counties. Also occurs in Arizona, New Mexico, Nevada, Texas, Utah, and Mexico. Blooms June through September.	A	BSA is outside known range of species (believed extirpated from Los Angeles County). Not observed during surveys of most likely habitat.
Salt marsh bird's-beak	*Cordylanthus maritimus* ssp. *maritimus*	FE/CE/1B	Coastal dunes and salt marshes below 30 m (100 ft) elevation. In California, known from Los Angeles, Orange, Santa Barbara, San Diego, San Luis Obispo, and Ventura Counties. Historical collections referred to this taxon from alkaline meadow in vicinity of San Bernardino Valley are intermediate to *C. maritimus* ssp. *canescens*. This species has been documented from approximately 2 miles west and east of the right-of-way north of the Long Beach Harbor. Also occurs in Mexico. Blooms May–October.	A	No dunes or salt marshes occur within the BSA.
Catalina crossosoma	*Crossosoma californicum*	–/–/1B	On rocky sea bluffs, in wooded canyons, and dry, open sunny spots on rocky clay, below 500 m (1,600 ft) elevation. Known only from the Channel Islands and mainland Los Angeles County. Blooms February–May.	A	No rocky bluffs, canyons, or clay habitats occur within the BSA.
Many-stemmed dudleya	*Dudleya multicaulis*	–/–/1B	Heavy, often clay soils or around granitic outcrops in chaparral, coastal sage scrub, and grassland below 790 m (2,600 ft) elevation. Known only from Los Angeles, Orange, Riverside, San Bernardino, and San Diego Counties. Blooms April–July.	A	No clay, granitic outcrops, or similar habitat occurs within the BSA.

Metro

Table 4.2: Special-Status Plant Species Potentially Occurring or Known to Occur in the Biological Study Area

Common Name	Scientific Name	Status Federal/ State/ CNPS Status	General Habitat Description	Habitat Present or Absent/ Species Observed	Rationale
Island green dudleya	*Dudleya virens* ssp. *insularis*	–/–/1B	Rocky areas in coastal scrub and coastal bluff scrub below 300 m (1,000 ft) elevation. Known only from the Channel Islands and mainland Los Angeles and Ventura Counties. Blooms April–June.	A	No rocky habitat occurs within the BSA.
San Gabriel bedstraw	*Galium grande*	–/–/1B	Rocky slopes in chaparral, woodland, and forest at 425 to 1,500 m (1,400 to 4,900 ft) elevation. Known only from Los Angeles County. Blooms January through July (deciduous shrub)	A	No rocky slopes, chaparral, woodland, or forest within BSA. BSA is outside range of species
Los Angeles sunflower	*Helianthus nuttallii* ssp*. parishii*	–/–/1A, * (presumed extinct in CA)	Marshes and swamps (coastal salt and freshwater) at 10 to 500 m (30 to 1,600 ft) elevation. This species is historically known from Los Angeles, Orange, and San Bernardino Counties, California. Last seen in 1937. Presumed extinct. Plants found in 2002 at Castaic Spring along the Santa Clara River in Los Angeles County were initially reported as possibly this taxon, but instead appear to be hybrids or evolutionary intermediates between *H. nuttallii* and *H. californicus*, based on chromosome counts and pollen morphology (*A Quantitative Analysis of Pollen Variation in Two Southern California Perennial* Helianthus [*Heliantheae: Asteraceae*], J.M. Porter and N. Fraga, 2004). Blooms August–October.	A	Believed extirpated from Los Angeles County. Known only from historical records. Not observed during surveys of marsh habitat within the BSA.
Vernal barley	*Hordeum intercedens*	–/CP/3	Vernal pools and saline flats and depressions below 1,000 m (3,300 ft) elevation. Known from many California Counties. Also occurs in Mexico.	A	No vernal pools, saline flats, or depressions occur within the BSA. Not observed in nearest to suitable habitat.
Mesa horkelia	*Horkelia cuneata* ssp*. puberula*	–/–/1B	Sandy or gravelly soils in chaparral, or rarely in cismontane woodland or coastal scrub at 70 to 825 m (200 to 2,700 ft) elevation. Occurs in San Luis Obispo, Santa Barbara, Ventura, Los Angeles, Orange, and San Bernardino Counties. Believed extirpated from Riverside and San Diego Counties. Blooms February–July (September).	A	No gravelly or sandy habitat occurs within the BSA.

Table 4.2: Special-Status Plant Species Potentially Occurring or Known to Occur in the Biological Study Area

Common Name	Scientific Name	Status Federal/ State/ CNPS Status	General Habitat Description	Habitat Present or Absent/ Species Observed	Rationale
Coulter's goldfields	*Lasthenia glabrata* ssp*. coulteri*	–/–/1B	Usually alkaline soils in marshes, playas, vernal pools, and valley and foothill grassland below 1,400 m (4,600 ft) elevation. Known from Colusa, Merced, Tulare(?), Orange, Riverside, Santa Barbara, San Diego, San Luis Obispo, and Ventura Counties. Believed extirpated from Kern, Los Angeles, and San Bernardino Counties. Also occurs in Mexico. Blooms February–June.	A	Believed extirpated from Los Angeles County. No alkaline soils or other suitable habitat occurs within the BSA. Not observed in habitats that are most nearly suitable.
Robinson's pepper-grass	*Lepidium virginicum* var. *robinsonii*	–/–/1B	Dry soils in coastal sage scrub and chaparral, typically below 500 m (1,600 ft) elevation. In California, known only from Los Angeles, Orange, Riverside, Santa Barbara, San Bernardino, and San Diego Counties. Blooms January through July	A	No coastal scrub or chaparral within BSA.
San Gabriel linanthus	*Linanthus concinnus*	–/–/1B	Lower and upper montane coniferous forest; found on dry rocky slopes, often in Jeffrey pine/canyon oak forest; 1,675 to 2,800 m (5,500 to 9,200 ft) elevation; known only from Los Angeles and San Bernardino Counties. Blooms May through July (annual herb).	A	No coniferous forest within BSA. BSA is outside range of species.
Orcutt's linanthus	*Linanthus orcuttii*	–/–/1B	Openings (often gravelly) in chaparral, pinyon and juniper woodland, and coniferous forest at 915 to 2,145 m (3,000 to 7,000 ft) elevation. In California, known only from Los Angeles (believed extirpated), Riverside, San Bernardino, and San Diego Counties. Also occurs in Mexico. Blooms May–July.	A	No chaparral or coniferous habitats occur within the BSA.
Santa Catalina Island desert-thorn	*Lycium brevipes* var. *hassei*	–/–/1B	Deciduous shrub of coastal bluffs and slopes in coastal bluff scrub and coastal scrub at 10 to 300 m (30 to 1,000 ft) elevation. Known only from the Channel Islands (extirpated), one location on the Palos Verdes Peninsula in Los Angeles County, and one location in Orange County. Blooms June.	A	No coastal bluff or coastal sage scrub occurs within the BSA.

Metro

Table 4.2: Special-Status Plant Species Potentially Occurring or Known to Occur in the Biological Study Area

Common Name	Scientific Name	Status Federal/ State/ CNPS Status	General Habitat Description	Habitat Present or Absent/ Species Observed	Rationale
Davidson's bush-mallow	*Malacothanmus davidsonii*	–/–/1B	Sandy washes in coastal scrub, riparian woodland, and chaparral at 180 to 855 m (600 to 2,800 ft) elevation. Known only from Los Angeles, Monterey, Santa Clara, San Luis Obispo, and San Mateo Counties, California. Blooms June through January (deciduous shrub).	A	No sandy washes, coastal scrub, riparian woodland, or chaparral within BSA. BSA is outside range of species.
Mud nama	*Nama stenocarpum*	–/–/2	Lake shores, riverbanks, and similar intermittently wet areas at five to 500 m (20 to 1,600 ft) elevation. Known in California from San Diego, Orange, and Riverside Counties and from San Clemente Island. Believed extirpated from Los Angeles and Imperial Counties. Known also from Baja California and Arizona. Blooms January–July.	A	Believed extirpated from Los Angeles County. Not observed in wet areas within the BSA during special-status plant surveys.
Gambel's water cress	*Nasturtium gambelii*	FE/CT/1B	Marshes and swamps from five to 330 m (20 to 1,100 ft) elevation. Currently believed to occur in California only in Santa Barbara and San Luis Obispo Counties. There are historical records from Los Angeles, Orange, San Diego, and San Bernardino Counties, although the San Diego County records may be based on misidentification of another species. Also occurs in Baja California. Blooms April–October.	A	Believed extirpated from Los Angeles County. Not observed in wet areas within the BSA during special-status plant surveys.
Moran's navarretia	*Navarretia fossalis*	FT/–/1B	In vernal pools, playas, shallow freshwater marshes and similar sites at 30 to 1,310 m (100 to 4,300 ft) elevation. In California, known only from Los Angeles, San Luis Obispo, Riverside, and San Diego Counties. Also occurs in Mexico. Blooms April–June.	A	No vernal pools or other suitable habitat occurs within the BSA.
Prostrate vernal pool navarretia	*Navarretia prostrata*	–/–/1B	Vernal pools, usually alkaline, from 15 to 700 m (50 to 2,300 ft) elevation. Known only from Alameda, Los Angeles, Merced, Los Angeles, Orange, Riverside, San Benito, San Diego San Luis Obispo, and possibly San Bernardino Counties. This species has been documented from approximately one to two miles east of the proposed right-of-way in Downey, approximately one to two miles	A	No vernal pools or other suitable habitat occurs within the BSA.

Table 4.2: Special-Status Plant Species Potentially Occurring or Known to Occur in the Biological Study Area

Common Name	Scientific Name	Status Federal/ State/ CNPS Status	General Habitat Description	Habitat Present or Absent/ Species Observed	Rationale
			west of the right-of-way near Compton, and approximately two miles west of the right-of-way north of the U.S. Naval Station Long Beach. Blooms April–June.		
Coast wooly-heads	*Nemacaulis denudata* var. *denudata*	–/–/1B	Sandy places such as coastal dunes below 100 m (300 ft) elevation. Known in California from Orange, Los Angeles, and San Diego Counties. Believed extirpated from Santa Catalina Island. Also occurs in Mexico. This species has been documented from approximately one to two miles east of the proposed right-of-way north of the Long Beach Harbor. Blooms April–September.	A	No sandy soils occur within the BSA.
California Orcutt grass	*Orcuttia californica*	FE/CE1B	Vernal pools from 15 to 660 m (50 to 2,200 ft) elevation. In California, known from Los Angeles, Ventura, Riverside, and San Diego Counties. Also occurs in Mexico. This species has been documented from approximately one to two miles east of the proposed right-of-way in Downey. Blooms April–August.	A	No vernal pools occur within the BSA. Not observed in wet areas during special-status plant surveys.
Lyon's pentachaeta	*Pentachaeta lyonii*	FE/CE/1B	Clay soils in edges of openings in fire-adapted coastal sage scrub and chaparral on saddles between hills, on the tops of small knolls, or in flat areas at the base of slopes, particularly where soil crust results in less competition from annual grasses, from 30 to 630 m (100 to 2,100 ft) elevation. Occurs only in the Santa Monica Mountains in eastern Ventura and western Los Angeles Counties and in the western Simi Hills in Ventura County. Based on historical records, it once occurred on the Palos Verdes Peninsula and on Santa Catalina Island, but has not been seen at these locations since 1910 and 1855, respectively, and is assumed to be extirpated from those areas. This species has been documented from approximately 2 miles west of the right-of-way north of the U.S. Naval Station Long Beach. Blooms March-August.	A	No clay habitats occur within the BSA. Believed to be extirpated from the area.

Metro

Table 4.2: Special-Status Plant Species Potentially Occurring or Known to Occur in the Biological Study Area

Common Name	Scientific Name	Status Federal/ State/ CNPS Status	General Habitat Description	Habitat Present or Absent/ Species Observed	Rationale
Brand's star phacelia	*Phacelia stellaris*	FC/–/1B	Sandy openings, sandy benches, dunes, sandy washes, or river floodplains in coastal sage scrub at five to 400 m (20 to 1,300 ft) elevation. In western Riverside County, this species appears to be restricted to sandy washes and benches in alluvial floodplains. In California, known only from Los Angeles (believed extirpated), Riverside, and San Diego Counties. This species has been documented from approximately one to two miles east of the proposed right-of-way in Downey. Blooms March-June.	A	No sandy soils or other suitable habitat occurs within the BSA.
White rabbit-tobacco	*Pseudognaphalium leucocephalum*	–/–/2	Sand and gravel at the edges of washes or mouths of steep canyons at 0 to 2,100 m (0 to 7,000 ft) elevation. In California, known from Los Angeles, Orange, Riverside, Santa Barbara, San Diego, San Luis Obispo, and Ventura Counties. Also occurs in Arizona, New Mexico, Texas, and Mexico. Blooms (July) August–November (December).	A	No sandy/gravelly wash habitat occurs within the BSA.
Parish's gooseberry	*Ribes divaricatum* var. *parishii*	–/–/1A	Deciduous shrub of willow swales in riparian habitats at 60 to 300 m (200 to 1,000 ft) elevation. Believed to be extinct. Historical collections from Los Angeles and San Bernardino Counties. Blooms February–April.	A	No willow swales within the BSA. Believed to be extinct. Not observed in riparian habitats.
Sanford's arrowhead	*Sagittaria sanfordii*	–/–/1B	Marshes and swamps below 650 m (2,100 ft) elevation. Occurs in standing or slow-moving fresh water (ponds, marshes, and ditches). Known only from Butte, Del Norte, El Dorado, Fresno, Merced, Mariposa, Placer, Sacramento, Shasta, San Joaquin, and Tehama Counties. Believed extirpated from Southern California.	A	Not known from Los Angeles County. Believed extirpated from Southern California.
Southern mountains skullcap	*Scutellaria bolanderi* ssp. *austromontana*	–/–/1B	Gravelly soils of streambanks or in mesic sites in oak or pine woodland at 425 to 2,000 m (1,400 to 6,600 ft) elevation. Known from Riverside and San Diego Counties. Believed extirpated from San Bernardino County and perhaps Los Angeles County. Blooms June-August.	A	Site is outside species elevation range.

Table 4.2: Special-Status Plant Species Potentially Occurring or Known to Occur in the Biological Study Area

Common Name	Scientific Name	Status Federal/ State/ CNPS Status	General Habitat Description	Habitat Present or Absent/ Species Observed	Rationale
Salt Spring checkerbloom	*Sidalcea neomexicana*	–/–/2	Alkaline springs and brackish marshes below 1,530 m (5,000 ft) elevation. In California, known only from Kern, Orange, Riverside, San Bernardino, San Diego, and Ventura Counties. Believed extirpated from Los Angeles County. Also known from Arizona, New Mexico, Nevada, Utah, and Mexico. Blooms March–June.	A	No alkali springs or brackish marsh within the BSA.
Estuary seablite	*Suaeda esteroa*	–/–/1B	Coastal salt marshes below five m (15 ft) elevation. Occurs along immediate coast from Santa Barbara County to Baja California. This species has been documented from approximately one to two miles east of the right-of-way north of the Long Beach Harbor. Blooms January-October.	A	No salt marsh within the BSA.
San Bernardino aster	*Symphyotrichum defoliatum*	–/–/1B	Vernally wet sites (such as ditches, streams, and springs) in many plant communities below 2,040 m (6,700 ft) elevation. In California, known from Ventura, Kern, San Bernardino, Los Angeles, Orange, Riverside, and San Diego Counties. May also occur in San Luis Obispo County. Blooms July-November.	P	Not observed during focused surveys of vernally wet sites during the blooming period in 2009.
Greata's aster	*Symphyotrichum greatae*	–/–/1B	Chaparral and woodland habitats in mesic canyons from 300 to 2,010 m (1,000 to 6,600 ft) elevation. Known only from Los Angeles, San Bernardino, and Ventura Counties. Blooms July-November.	A	No canyons or similar habitats occur within the BSA..
Sonoran maiden fern	*Thelypteris puberula* var. *sonorensis*	–/–/2	Seeps along streams in meadows at 50 to 610 m (170 to 2,000 ft) elevation. Known from western Riverside, southwest San Bernardino, Santa Barbara, and Los Angeles Counties. Blooms January through September (perennial herb).	A	No seep or meadow habitat within BSA. BSA is outside known range of species. Not observed during surveys of most likely habitat.

Metro

Table 4.2: Special-Status Plant Species Potentially Occurring or Known to Occur in the Biological Study Area

Common Name	Scientific Name	Status Federal/ State/ CNPS Status	General Habitat Description	Habitat Present or Absent/ Species Observed	Rationale
Eelgrass	*Zostera marina*	HAPC/–	Widespread in Northern Hemisphere estuaries and bays, 0–2 ms below mean low tide. Provides habitat and structure for benthic invertebrates and many other organisms.	A	Currently not known to occur in the Los Angeles River system, although it is present elsewhere along the Long Beach shoreline.

Habitat Present/Absent: Absent (A) - no habitat present and no further work needed. Habitat Present (P) – habitat is, or may be present. Species observed during surveys (O) – Based on the literature review the species has been observed within the area of the BSA. Critical Habitat (CH) – Project footprint is located within designated critical habitat unit, but does not necessarily mean that appropriate habitat is present.
Status: Federal Endangered (FE); Federal Threatened (FT); Federal Proposed (FP, FPE, FPT); Federal Candidate (FC); Federal Habitat Area of Particular Concern (HAPC) United States Fish and Wildlife Service Birds of Conservation Concern (BCC); California Endangered (CE); California Threatened (CT); Fully Protected Species (CFP); California Species of Special Concern (CSC); California Special Plant (CSP), California Special Animal (CSA), California Native Plant Society (CNPS); 1A, Plants presumed extinct in California; 1B, Plants considered by CNPS to be rare, threatened, or endangered in California and elsewhere, 2, Plants considered by CNPS to be rare, threatened, or endangered in California, but more common elsewhere; 3, Plants about which more information is needed – a CNPS review list; CNPS threat categories: 0.1-Seriously threatened in California (high degree/immediacy of threat); 0.2-Fairly threatened in California (moderate degree/immediacy of threat); 0.3-Not very threatened in California (low degree/immediacy of threats or no current threats known)
ft = feet/foot
m = meter

Table 4.3: Special-Status Animal Species Potentially Occurring or Known to Occur in the Biological Study Area

Common Name	Scientific Name	Status Federal/ State	General Habitat Description	Habitat Present or Absent/ Species Observed	Rationale
INVERTEBRATES					
Mimic tryonia (California brackish water snail)	*Tryonia imitator*	–/CSA	Inhabits coastal lagoons, estuaries, and salt marshes from Sonoma County to San Diego County. Found only in permanently submerged areas in a variety of sediment types; able to withstand a wide range of salinities.	A	Formerly occurred in Long Beach; but now apparently extirpated from the Los Angeles River.
Western tidal-flat tiger beetle	*Cicindela gabbii*	–/CSA	Dark-colored mud of estuaries and mudflats along the coast of Southern California and northern Baja California.	A	Formerly occurred in Wilmington and Long Beach; but now apparently extirpated from Los Angeles County.
Sandy beach tiger beetle	*Cicindela hirticollis gravida*	–/CSA	Inhabits clean, dry sand along the sea coast from the San Francisco Bay area to Baja California.	A	Formerly occurred in Terminal Island and Long Beach; but now apparently extirpated from Los Angeles County.
Western beach tiger beetle	*Cicindela latesignata latesignata*	–/CSA	Beaches and mudflats from Los Angeles County to northern Baja California.	A	Formerly occurred in San Pedro and Long Beach; but now apparently extirpated from Los Angeles County.
Senile tiger beetle	*Cicindela senilis frosti*	–/CSA	Known from dark-colored mud and dry saltpan in central and Southern California.	A	Formerly occurred in Long Beach; but now apparently extirpated from Los Angeles County.
Globose dune beetle	*Coelus globosus*	–/CSA	Sand dunes along the Pacific Coast from Mendocino County to northern Baja California.	A	Suitable habitat is not present within the BSA.
Monarch butterfly (overwintering)	*Danaus plexippus*	–/CSA	Winter roost sites extend along the coast from northern Mendocino County to Baja California. Roosts located in wind-protected tree groves (eucalyptus, pine, cypress), with nectar and water sources nearby.	P	Suitable winter roost sites may be present in developed areas within and adjacent to the BSA.
Palos Verdes blue butterfly	*Glaucopsyche lygdamus palosverdesensis*	FE/–	Restricted to the cool, fog-shrouded, seaward side of Palos Verdes Hills, Los Angeles County. Dependent upon host plant *Astragalus trichopodus* var. *lonchus*.	A	Outside known range of the subspecies.

Metro

Table 4.3: Special-Status Animal Species Potentially Occurring or Known to Occur in the Biological Study Area

Common Name	Scientific Name	Status Federal/ State	General Habitat Description	Habitat Present or Absent/ Species Observed	Rationale
Wandering skipper	*Panoquina errans*	–/CSA	Southern California coastal salt marshes. Requires moist salt grass for larval development. There are occurrences of this species east-southeast of the BSA from 1989 (Figure 6).	A	Probably occurred formerly, but there appears to be no suitable habitat remaining in the BSA.
FISH					
Mohave Tui chub	*Gila bicolor mohavensis*	FE/CE, CFP	Endemic to the Mojave River basin, adapted to alkaline, mineralized waters. Needs deep pools, ponds, or slough-like areas. Needs vegetation for spawning. Now extirpated from the botanic garden in Palos Verdes, where it was transplanted in 1970.	A	The BSA is outside range of the species.
Arroyo chub	*Gila orcuttii*	–/CSC	Perennial streams or intermittent streams with permanent pools; slow water sections of streams with mud or sand substrates; spawning occurs in pools. Native to Los Angeles, San Gabriel, San Luis Rey, Santa Ana, and Santa Margarita River systems; introduced in Santa Ynez, Santa Maria, Cuyama, and Mojave River systems and smaller coastal streams.	A	Still occurs in upper reaches of the Los Angeles River but apparently extirpated downstream.
Santa Ana speckled dace	*Rhinichthys osculus ssp. 3*	–/CSC	Primarily clear, well-oxygenated moving water (especially shallow, rocky riffles and runs) in the headwaters of the Los Angeles, San Gabriel, and Santa Ana Rivers.	A	Still occurs in upper reaches of the Los Angeles River but apparently extirpated downstream.
Santa Ana sucker	*Catostomus santaanae*	FT/CSC	Historic range includes the Los Angeles, San Gabriel, and Santa Ana River drainage systems located in Southern California. An introduced population also occurs in the Santa Clara River drainage system in Southern California. Found in shallow, cool, running water.	A	Still occurs in upper reaches of the Los Angeles River but apparently extirpated downstream.

Table 4.3: Special-Status Animal Species Potentially Occurring or Known to Occur in the Biological Study Area

Common Name	Scientific Name	Status Federal/ State	General Habitat Description	Habitat Present or Absent/ Species Observed	Rationale
Southern steelhead (Southern California ESU)	*Oncorhynchus mykiss irideus*	FE/CSC	This anadromous species requires small, low-flowing streams with gravel beds with protective cover and adequate food to complete its lifecycle. Historically occurred in larger coastal drainages from Point Conception to northern Baja California. The southernmost populations now appear to be in Malibu and San Mateo Creeks.	A	The BSA is outside the current range of the species.
Tidewater goby	*Eucyclogobius newberryi*	FE/CSC	Found in shallow lagoons up to 15 ft in depth and lower stream reaches; they need fairly still but not stagnant water and high oxygen levels. Brackish water habitats along the California coast from Agua Hedionda Lagoon in San Diego County to the mouth of the Smith River, in shallow lagoons and lower stream reaches.	A	Formerly occurred in Ballona Creek estuary but now apparently extirpated from Los Angeles County.
AMPHIBIANS					
Coast Range newt (Los Angeles County south)	*Taricha torosa torosa*	–/CSC	Southern populations are found on the coastal slope from Los Angeles to near the Mexican border. They generally inhabit mesic habitats such as oak woodland and require streams or pools for breeding.	A	Historical records from Long Beach and the Palos Verdes Peninsula; now extirpated from the Los Angeles Basin.
Western spadefoot	*Spea hammondii*	–/CSC	Grasslands and other relatively open habitats; requires pools (persisting for at least three weeks) for breeding; burrows in loose soils during dry season. Found in Central Valley and foothills, coast ranges, and inland valleys to northwestern Baja California.	A	Occurred historically, but now extirpated from the Los Angeles Basin.
Arroyo toad	*Anaxyrus californicus*	FE/CSC	Washes and arroyos with open water; sand or gravel beds, for breeding, pools with sparse overstory vegetation. Coastal and a few desert streams from Los Angeles County to Baja California.	A	Occurs in the headwaters of the Los Angeles River, but apparently never recorded on the river proper.

Metro

Table 4.3: Special-Status Animal Species Potentially Occurring or Known to Occur in the Biological Study Area

Common Name	Scientific Name	Status Federal/ State	General Habitat Description	Habitat Present or Absent/ Species Observed	Rationale
California red-legged frog	*Rana draytonii*	FT/CSC	Streams with slow-moving water and deep pools; dense, shrubby riparian vegetation at pool edges. Coastal streams from Marin County to northwestern Baja California, but extirpated from most of southwestern California.	A	May have occurred historically, but now extirpated from the Los Angeles Basin.
REPTILES					
Southwestern pond turtle	*Actinemys marmorata pallida*	–/CSC	Inhabits permanent or nearly permanent water below 6,000 ft from the San Francisco Bay area south to northern Baja California. Absent from desert regions, except in the Mojave Desert along the Mojave River and its tributaries. Requires basing sites such as partially submerged logs, rocks, or open mud banks.	A	Occurred formerly, but now extirpated from the lower Los Angeles River.
Green turtle	*Chelonia mydas*	FT/–	Worldwide in warm marine waters near shorelines such as lagoons and bays with beds of eelgrass, seaweeds, or mangroves; open ocean during dispersal and/or migration. Nests on sandy beaches along tropical coasts. In Southern California aggregations occur in areas with artificially warm water from power plant outfalls in south San Diego Bay and at the mouth of the San Gabriel River.	A	Not expected to occur due to lack of suitable foraging habitat (e.g., eelgrass beds) and source of warm water. May occasionally occur downstream from the BSA, in the vicinity of the mouth of the Los Angeles River.
San Diego horned lizard	*Phrynosoma coronatum blainvilii*	–/CSC	Wide variety of habitats, including CSS, grassland, and riparian woodland; typically on or near loose sandy soils; coastal and inland areas from Ventura County to Baja California.	A	Previously known from the area, but now apparently extirpated from the lower Los Angeles River.
Coastal western whiptail	*Aspidoscelis tigris stejnegeri*	–/CSA	Wide variety of habitats, including CSS, sparse grassland, and riparian woodland; coastal and inland valleys and foothills; Ventura County to Baja California.	P	May persist along the lower Los Angeles River, but unlikely to be found within the BSA.

Table 4.3: Special-Status Animal Species Potentially Occurring or Known to Occur in the Biological Study Area

Common Name	Scientific Name	Status Federal/ State	General Habitat Description	Habitat Present or Absent/ Species Observed	Rationale
Silvery legless lizard	*Anniella pulchra pulchra*	–/CSC	Fossorial. Inhabits loose soil and humus from central California to northern Baja California.	P	May persist along the lower Los Angeles River, but unlikely to be found within the BSA.
Rosy boa	*Lichanura trivirgata*	–/CSC	Inhabits rock outcrops and rocky shrublands from southwestern California to northern Baja California.	A	Presumably extirpated from the lower Los Angeles River.
San Bernardino ring-necked snake	*Diadophis punctatus modestus*	–/CSA	Along drainage courses, in mesic chaparral and oak and walnut woodland communities. Moist habitats of southwestern California from approximately Ventura to Orange Counties.	P	Probably persists along the lower Los Angeles River, but unlikely to be found within the BSA although potential habitat is present.
Coast patch-nosed snake	*Salvadora hexalepis virgultea*	–/CSC	Coastal chaparral, washes, sandy flats, and rocky areas from San Luis Obispo County to northwestern Baja California.	A	Presumably extirpated from the lower Los Angeles River.
South coast garter snake	*Thamnophis sirtalis* ssp.	–/CSC	Occurs in marsh and upland habitats near permanent water with riparian vegetation; coastal slope from Ventura to San Diego Counties.	A	Occurred in the area historically, but now apparently extirpated from Los Angeles County.
Two-striped garter snake	*Thamnophis hammondii*	–/CSC	Highly aquatic. Only in or near permanent sources of water. Streams with rocky beds supporting willows or other riparian vegetation. From Los Angeles County to northwestern Baja California.	P	May persist along the lower Los Angeles River, but unlikely to be found within the BSA although potential habitat is present.
BIRDS					
Fulvous whistling-duck	*Dendrocygna bicolor*	–/CSC (nesting)	Fresh and brackish shallow water and cultivated fields, primarily in tropical and subtropical regions around the world.	A	Probably nested formerly within the BSA but now essentially extirpated from California.
Aleutian cackling goose	*Branta hutchinsii leucopareia*	FD/–	Nests on the Aleutian Islands and winters primarily in cultivated fields in California.	P	Probably occurred regularly within the BSA in the past and may still do so occasionally.
Brant	*Branta bernicla*	–/CSC	Cosmopolitan. Nests in Arctic tundra and winters primarily in coastal estuaries and lagoons in the temperate zone.	P	Probably a regular visitor within the BSA historically, but now a very rare visitor to the lower Los Angeles River channel.
Redhead	*Aythya americana*	–/CSC (nesting)	Freshwater marshes for nesting; also estuaries, bays, and lakes in winter. Breeds from Canada to Mexico and winters south to Central America.	P	Probably nested formerly within the BSA, but never confirmed. Now a rare visitor on the lower Los Angeles River and off-channel ponds.

Metro

Table 4.3: Special-Status Animal Species Potentially Occurring or Known to Occur in the Biological Study Area

Common Name	Scientific Name	Status Federal/ State	General Habitat Description	Habitat Present or Absent/ Species Observed	Rationale
California brown pelican	*Pelecanus occidentalis californicus*	FD/CD/ CFP	Nests on islands off Southern California and western Mexico and ranges along the immediate coast and varying distances at sea to Canada and southern Mexico.	P,O	Forages regularly in estuarine portions of the river. One along the river in Paramount in July 2008 was exceptionally far upriver. Observed during biological surveys in 2009 (Appendix B).
American bittern	*Botaurus lentiginosus*	–/CSA	Nests in freshwater and brackish marshes across much of North America; winters south to Central America.	P	Formerly an uncommon nesting species within the BSA; now a scarce nonbreeding visitor.
Least bittern	*Ixobrychus exilis*	–/CSC (nesting)	Occurs locally in freshwater marshes across much of southern North America and northern South America.	P	Probably nested within the BSA formerly; now a rare visitor, at best.
Great blue heron	*Ardea herodias*	–/CSA (rookery site)	Rookeries consist of a colony of breeding animals. Usually nests in trees, but also on large bushes, poles, reed beds, and even on the ground. Frequents a wide range of wetland habitats at other times of year. Widespread in North America; winters to northern South America.	P, O	Probably nested within the BSA historically, but not known to do so currently. There are small rookeries along the San Gabriel River and in urban park lakes (such as Echo Park near downtown Los Angeles) in habitats similar to those found along the lower Los Angeles River. Observed during biological surveys in 2009 (Appendix B).
Great egret	*Ardea alba*	–/CSA (rookery site)	Occurs in a wide range of wetland habitats in much of the temperate and tropical zones worldwide. Nests primarily in trees.	P, O	Probably nested within the BSA historically, but not known to do so currently. There are small rookeries along the San Gabriel River in habitats similar to those found along the lower Los Angeles River. Observed during biological surveys in 2009 (Appendix B).
Snowy egret	*Egretta thula*	–/CSA (rookery site)	Occurs in a wide range of wetland habitats throughout much of the Americas. Nests primarily in trees.	P, O	Probably nested within the BSA historically, but not known to do so currently. There are small rookeries along the San Gabriel River in habitats similar to those found along the lower Los Angeles River. Observed during biological surveys in 2009 (Appendix B).

Table 4.3: Special-Status Animal Species Potentially Occurring or Known to Occur in the Biological Study Area

Common Name	Scientific Name	Status Federal/ State	General Habitat Description	Habitat Present or Absent/ Species Observed	Rationale
Black-crowned night-heron	*Nycticorax nycticorax*	–/CSA (rookery site)	Occurs in a wide range of wetland habitats in much of the temperate and tropical zones worldwide. Nests primarily in trees, sometimes in urban habitats.	P, O	Probably nested within the BSA historically, but not known to do so currently. Rookeries are known from urban residential areas near the lower San Gabriel River, and such rookeries could exist somewhere along the lower Los Angeles River. Observed during biological surveys in 2009 (Appendix B).
White-faced ibis	*Plegadis chihi*	–/CSA (rookery site)	Freshwater wetlands in temperate and tropical North and South America. Usually nests in emergent vegetation or low trees and shrubs over shallow water.	P, O	Probably nested formerly within the BSA, but never confirmed. Now a regular nonbreeding visitor, primarily in fall. Observed during biological surveys in 2009 (Appendix B).
Wood stork	*Mycteria americana*	–/CSC	Freshwater and brackish wetlands in southern North America and much of South America.	P	Formerly an occasional visitor from Mexico, where populations have declined so much that future occurrences are unlikely.
Osprey	*Pandion haliaetus*	–/CSA (nesting)	Estuaries, rivers, lakes, and marshes in much of the temperate and tropical world. Nests primarily on trees and other structures.	P, O	Not known to have nested within the BSA but the species is increasing as a breeder in coastal Southern California. Observed during biological surveys in 2009 (Appendix B).
White-tailed kite	*Elanus leucurus*	–/CSA (nesting), CFP	Open country in South America and southern North America. Nests in trees.	P	Probably nested within the BSA formerly, but now only a scarce visitor.
Bald eagle	*Haliaeetus leucocephalus*	FD,BCC/ CE	Primarily near seacoasts, rivers, swamps, and large lakes throughout much of North America.	A	Probably never common within the BSA and now only a rare visitor (e.g., one observed along the Los Angeles River in Long Beach in November 2004); some birds found in coastal Los Angeles County in recent years originated as released birds on the Channel Islands.
Northern harrier	*Circus cyaneus*	–/CSC (nesting)	Open country in the northern Temperate Zone worldwide. New World birds winter south to Central America.	P	Probably nested within the BSA formerly, but now only an uncommon visitor.

Metro

Table 4.3: Special-Status Animal Species Potentially Occurring or Known to Occur in the Biological Study Area

Common Name	Scientific Name	Status Federal/ State	General Habitat Description	Habitat Present or Absent/ Species Observed	Rationale
Cooper's hawk	*Accipiter cooperii*	–/CSA (nesting)	Primarily forests and woodlands throughout North America. Nests in trees.	P, O	Seen regularly along entire river channel and may nest within the BSA. This species is now a rather common and widespread breeder in urban areas through the Los Angeles Basin. Populations of this and other urban raptor species may be checked in part by large-scale trapping and shooting by roller pigeon fanciers (documented by USFWS and CDFG).
Ferruginous hawk	*Buteo regalis*	–/CSA	Open country in western North America; north to Canada in summer and south to Mexico in winter.	A	Probably occurred regularly historically, and occasional visitors may still occur, but no suitable habitat for long-term presence.
Golden eagle	*Aquila chrysaetos*	–/CFP	Generally open country of the Temperate Zone worldwide. Uncommon resident in southwestern California.	A	Probably occurred regularly within the BSA historically, but now only very rarely.
Merlin	*Falco columbarius*	–/CSA	Open fields; breeds in the Holarctic Region and winters south to the tropics. Uncommon fall migrant and winter visitor to southwestern California.	P	Regularly forages within the BSA. This species has increased greatly as a wintering species in the Los Angeles Basin and regularly forages along the length of the Los Angeles River.
American peregrine falcon	*Falco peregrinus anatum*	FD,BCC/ CD/CFP	Widespread, but scarce and local throughout North America. Nests on buildings and bridges in the Los Angeles Basin.	P, O	Nests in the Port of Los Angeles and regularly forages within the BSA. Observed during biological surveys in 2009 (Appendix B).
California black rail	*Laterallus jamaicensis coturniculus*	BCC/CT, CFP	Shallow margins of fresh and saltwater marshes from central California to northern Baja California; very local in occurrence.	A	Probably occurred historically, but never confirmed within the BSA.
Light-footed clapper rail	*Rallus longirostris levipes*	FE/CE, CFP	Coastal salt marshes from Santa Barbara County to northern Baja California.	A	Former resident in the mouth of the Los Angeles River, but now extirpated from Los Angeles County.

Table 4.3: Special-Status Animal Species Potentially Occurring or Known to Occur in the Biological Study Area

Common Name	Scientific Name	Status Federal/ State	General Habitat Description	Habitat Present or Absent/ Species Observed	Rationale
Lesser sandhill crane	*Grus canadensis canadensis*	–/CSC	Nests in low-lying tundra and marshy areas from northeastern Siberia across northern North America. Winters primarily in agricultural fields and wet prairie in the southern United States and northern Mexico.	A	May have occurred historically, but habitat is now unsuitable within the BSA.
Greater sandhill crane	*Grus canadensis tabida*	–/CT,CFP	Nests in marshy areas across southern Canada and the northern United States. Winters primarily in agricultural fields and wet prairie in the southern United States and northern Mexico.	A	May have occurred historically, but habitat is now unsuitable within the BSA.
Western snowy plover (coastal population)	*Charadrius alexandrinus nivosus*	FT/CSC	Sandy beaches and dry mud or salt flats, Washington to western Mexico. Does not currently nest in coastal Los Angeles County.	A	No nesting habitat remains within the BSA but occasional visitors are seen along the lower Los Angeles River.
Mountain plover	*Charadrius montanus*	BCC/CSC	Nests in dry, open, prairies and grasslands in central North America; winters in the southwestern United States and northern Mexico.	A	Probably a regular winter visitor historically, but no suitable remains within the BSA.
Whimbrel	*Numenius phaeopus*	BCC/–	Circumpolar: nests in arctic and subarctic tundra and migrates for the rest of the year to fields and a wide range of wetland habitats in temperate and tropical areas around the world.	P	Uncommon transient along the lower Los Angeles River.
Long-billed curlew	*Numenius americanus*	BCC/–	Primarily nests on prairies and grassy meadows, near water, in interior western North America. Winters primarily along the Pacific and Gulf of Mexico coasts from the southern United States to Central America.	P, O	Scarce transient along the lower Los Angeles River. Observed during biological surveys in 2009 (Appendix B).
Marbled godwit	*Limosa fedoa*	BCC/–	Nests primarily on grasslands, marshes, and ponds in south-central Canada; winters on both coasts from the United States to Central America.	P, O	Uncommon transient along the lower Los Angeles River. Observed during biological surveys in 2009 (Appendix B).

Metro

Table 4.3: Special-Status Animal Species Potentially Occurring or Known to Occur in the Biological Study Area

Common Name	Scientific Name	Status Federal/ State	General Habitat Description	Habitat Present or Absent/ Species Observed	Rationale
Roselaar's red knot	*Calidris canutus roselaari*	BCC/–	Nests on barren tundra on Wrangle Island and in northwestern Alaska. Winter range and migratory routes poorly known, but may include the Pacific coast of Southern California.	P	The red knot is rare, but probably annual, as a fall transient (remaining into early winter as conditions allow) along the lower Los Angeles River, but there is no information on the subspecies of knots in Los Angeles County.
Short-billed dowitcher	*Limnodromus griseus*	BCC/–	Nests on muskegs, wet meadows, and marshy coastal tundra from southern Alaska across North America to Labrador. Winters along both coasts from temperate North America to tropical South America.	P	Fairly common fall transient (mainly early July to mid-September) along the lower Los Angeles River.
California least tern	*Sternula antillarum browni*	FE/CE (nesting colony)/ CFP	Nests along the coast from San Francisco Bay to northern Baja California. Colonial breeder on bare or sparsely vegetated, flat substrates. Winters primarily off the Pacific coast of northern South America.	P	Nests at Terminal Island in Los Angeles Harbor and forages regularly in estuarine portions of the Los Angeles River. Recent sightings upstream have included juveniles and/or family groups foraging at Willow St., I-405, and off-channel ponds at the Dominguez Gap wetlands.
Caspian tern	*Hydroprogne caspia*	–/CSA (nesting)	Seacoast, bays, estuaries, lakes, marshes, and rivers around much of the world.	P	Nests at Terminal Island in Los Angeles Harbor and forages regularly in estuarine portions of the Los Angeles River and occasionally farther upstream.
Forster's tern	*Sterna forsteri*	–/CSA (nesting)	Nests in freshwater and salt marshes locally across temperate North America; winters from the coastal and southern United States through Central America.	P, O	This species is not documented as breeding in Los Angeles County, although small numbers occurred throughout the spring and summer at Willow St. in some years in the 1990s and early 2000s. Up to 140 birds, including begging juveniles, were along the river at Willow St. in late July 2000, but it is likely that these were dispersing family groups from the nearest breeding colonies in Orange County. Observed during biological surveys in 2009 (Appendix B).

Table 4.3: Special-Status Animal Species Potentially Occurring or Known to Occur in the Biological Study Area

Common Name	Scientific Name	Status Federal/ State	General Habitat Description	Habitat Present or Absent/ Species Observed	Rationale
Elegant tern	*Thalasseus elegans*	–/CSA (nesting)	Strictly coastal; nests in Southern California and western Mexico and winters south to Chile.	P, O	Nests at Terminal Island in Los Angeles Harbor and forages regularly in estuarine portions of the Los Angeles River. Observed during biological surveys in 2009 (Appendix B).
Black skimmer	*Rynchops niger*	BCC/CSC (nesting)	Nests primarily on sandy beaches, shell banks, and small islands in coastal areas locally from the southern United States to South America; more widespread otherwise, extending to bays, lagoons, and mudflats.	P	Nests at Terminal Island in Los Angeles Harbor and forages regularly in estuarine portions of the river. Birds were seen well upstream in Paramount (around Rosecrans) in July 2002 and July 2006.
Western yellow-billed cuckoo	*Coccyzus americanus occidentalis*	FC/CE	Breeds and nests in extensive stands of dense cottonwood and willow riparian forest along broad, lower flood bottoms of larger river systems. Widespread, but local, in western North America; very rare and local in California. Winters in South America.	A	Formerly a fairly common nesting species within the BSA, but no suitable habitat remains.
Burrowing owl	*Athene cunicularia*	BCC/CSC (burrow and some wintering sites)	Open country in much of North and South America.	P, O	Former resident (e.g., in open fields at California State University, Dominguez Hills until the early 1980s). Occasional migrants and wintering birds still occur but believed to be extirpated as a nesting species within the BSA. Individual owls were observed south of the Compton Creek channel on two separate occasions (October and December 2009) (Appendix C).
Long-eared owl	*Asio otus*	–/CSC (nesting)	Scarce and local in forests and woodlands throughout much of the Northern Hemisphere. Sensitive to human disturbance on nesting grounds.	A	Former resident in willow woodlands along the Los Angeles River; no suitable habitat remains within the BSA.

Metro

Table 4.3: Special-Status Animal Species Potentially Occurring or Known to Occur in the Biological Study Area

Common Name	Scientific Name	Status Federal/ State	General Habitat Description	Habitat Present or Absent/ Species Observed	Rationale
Short-eared owl	*Asio flammeus*	–/CSC (nesting)	Open country, usually with tall grass, in scattered regions around the Northern Hemisphere.	A	Former winter visitor but not known to have nested in the Los Angeles Basin; now even rare as a nonbreeding visitor.
Costa's hummingbird	*Calypte costae*	BCC/CSA (nesting)	Primarily deserts, arid brushy foothills, and chaparral in the southwestern United States and northwestern Mexico.	P	Probably occurs in small numbers as a transient and winter visitor (nearly year-round), but natural arid scrub breeding habitat is absent. May occasionally breed where the right mix of exotic flowering sages and other plants grow; flowering sages have been used extensively in landscaping along the banks of the lower Los Angeles River.
Allen's hummingbird	*Selasphorus sasin*	BCC/CSA (nesting)	Chaparral, open oak woodland riparian woodland and residential areas on the breeding grounds from southwestern Oregon to southwestern California; primarily montane woodland on the wintering grounds in central Mexico.	P, O	Fairly common resident within the BSA. An abundant, adaptable, and increasing species throughout urban Southern California, and expected anywhere there is a mix of exotic flowering trees and shrubs. Observed during biological surveys in 2009 (Appendix B).
Nuttall's woodpecker	*Picoides nuttallii*	BCC/CSA (nesting)	Oak, pine-oak, and riparian woodland in California and northwestern Baja California.	A	Occasional visitors may occur, but suitable habitat for nesting appears to be absent within the BSA. Generally scarce to uncommon in wooded parks and residential areas in the lower Los Angeles Basin.
Willow flycatcher	*Empidonax traillii*	FE (*E. t. extimus*)/ SE	Breeds primarily in moist brushy thickets and riparian woodland, especially with willow, across much of temperate North America; winters in Central and South America. The southwestern willow flycatcher (*E. t. extimus*) is a rare and local breeder in the southwestern United States and northwestern Mexico.	A	The southwestern willow flycatcher was once a common nesting species along the lower Los Angeles River, but the population is much reduced and suitable habitat for nesting now appears to be absent within the BSA. The subspecies *E. t. brewsteri* is an uncommon migrant along the lower Los Angeles River.

Table 4.3: Special-Status Animal Species Potentially Occurring or Known to Occur in the Biological Study Area

Common Name	Scientific Name	Status Federal/ State	General Habitat Description	Habitat Present or Absent/ Species Observed	Rationale
Loggerhead shrike	*Lanius ludovicianus*	BCC/CSC (nesting)	Open country in much of North America, but declining in many areas, including southwestern California.	P, O	Nested along the lower Los Angeles River in Long Beach and Cudahy as recently as 2002 and 2004, but now probably extirpated as a nesting species. Has greatly declined as a wintering species in the area as well, but one was seen by the consulting biologist south of East Florence Ave. in December 2009 (Appendix B).
Least Bell's vireo	*Vireo bellii pusillus*	FE/CE	Formerly occurred in well-developed riparian areas from north-central California to Baja California. Now absent from northern portions of its range, but populations in Southern California are growing in response to intense management efforts. Winters primarily in western Mexico.	A	Formerly common along the lower Los Angeles River, but only marginally suitable habitat for nesting remains. Has recently been recorded at DeForest Park and the ponds south of Del Amo St., Long Beach, in winter and spring.
California horned lark	*Eremophila alpestris actia*	–/CSA (nesting)	Open grasslands and fields, agricultural areas from northern coastal California to northwestern Baja California.	P	Probably bred as recently as the mid-1980s in open areas around Carson, but perhaps no longer breeds in coastal Los Angeles County. Now only a rare nonbreeding visitor.
Purple martin	*Progne subis*	–/CSC (nesting)	Breeds locally in a wide range of habitats across much of North America; nests in cavities. Winters primarily in South America.	A	Nested historically in the Los Angeles Basin, but now believed to be extirpated as a nesting species in Los Angeles County. Occasional transient on the Los Angeles River in recent years.
Bank swallow	*Riparia riparia*	–/CT (nesting)	Nests locally in near vertical river banks, primarily in temperate regions around the northern hemisphere; winters primarily in the tropics.	A	Nested historically in the Los Angeles Basin, but now believed to be extirpated as a nesting species in Los Angeles County. Scarce transient in recent years, mainly in late summer and early fall.
Oak titmouse	*Baeolophus inornatus*	BCC/CSA (nesting)	Primarily oak woodland from southern Oregon to southern Baja California Sur.	A	Occasional visitors may occur, but suitable habitat for nesting is absent within the BSA.

Metro

Table 4.3: Special-Status Animal Species Potentially Occurring or Known to Occur in the Biological Study Area

Common Name	Scientific Name	Status Federal/ State	General Habitat Description	Habitat Present or Absent/ Species Observed	Rationale
Cactus wren	*Campylorhyn-chus brunneicapillus*	BCC/–	Primarily lowland arid scrub with cactus in Mexico and the southwestern United States.	A	May have occurred within the BSA historically, but no suitable habitat is present now. The nearest known populations are on the Palos Verdes Peninsula near San Pedro and in the Montebello Hills.
Clark's marsh wren	*Cistothorus palustris clarkae*	–/CSC	Local resident in freshwater marshes on the coastal slope from Los Angeles County to northwestern Baja California.	P	Perhaps a rare resident within the BSA; observed in the off-channel marsh south of the Del Amo St. crossing of the Los Angeles River in 2008.
Coastal California gnatcatcher	*Polioptila californica californica*	FT/CSC	Inhabits CSS in low-lying foothills and valleys in cismontane southwestern California and northwestern Baja California.	A	Recorded thrice in recent years along the lower Los Angeles River, but suitable CSS habitat is no longer present within the BSA.
California yellow warbler	*Dendroica petechia brewsteri*	BCC/CSC (nesting)	Riparian woodland while nesting in the western United States and northwestern Baja California; more widespread in brushy areas and woodlands during migration and winter, when occurring from western Mexico to northern South America.	P, O	Formerly nested along much of the lower Los Angeles River—and still does so fairly commonly along the soft-bottom reach from the Griffith Park area downstream through the Glendale Narrows—but only marginally suitable nesting habitat remains within the BSA. Common migrant and rare winter visitor in the area. Observed during biological surveys in 2009 (Appendix B).
Saltmarsh common yellowthroat	*Geothlypis trichas sinuosa*	BCC/CSC	Nests primarily in brackish and freshwater marshes in the San Francisco Bay area and disperses, at least formerly, along the California coast as far as Humboldt Bay and San Diego.	P	Recorded historically in the Los Angeles Basin, but may no longer occur as frequently as it once did.
Yellow-breasted chat	*Icteria virens*	–/CSC	Riparian thickets of willows, brushy tangles near watercourses. Nests in riparian woodland throughout much of western North America. Winters in Central America.	A	Nested formerly along the lower Los Angeles River, but suitable nesting habitat is now absent. Currently a scarce transient in the area.

Table 4.3: Special-Status Animal Species Potentially Occurring or Known to Occur in the Biological Study Area

Common Name	Scientific Name	Status Federal/ State	General Habitat Description	Habitat Present or Absent/ Species Observed	Rationale
Southern California rufous-crowned sparrow	*Aimophila ruficeps canescens*	–/CSA	Steep, rocky CSS and open chaparral habitats, particularly scrubby areas mixed with grasslands. From Santa Barbara County to northwest Baja California.	A	Probably never common along the lower Los Angeles River, and now all suitable habitat is gone.
Lark sparrow	*Chondestes grammacus*	–/CSA (nesting)	Open situations with scattered bushes or trees. Breeds throughout much of western North America and winters from the southern United States to southern Mexico.	A	Occasional visitors may occur, but suitable nesting habitat is now absent within the BSA.
Belding's Savannah sparrow	*Passerculus sandwichensis beldingi*	–/CE	Coastal salt marshes from Santa Barbara County to northern Baja California.	A	Nested historically within the lower reaches of the Los Angeles River, but suitable nesting habitat is now absent.
Large-billed Savannah sparrow	*Passerculus sandwichensis rostratus*	–/CSC	Nests in brackish marshes in the northern Gulf of California and disperses widely to littoral habitats from Southern California to western Mexico.	P	Once occurred commonly at the mouth of the Los Angeles River, but there are apparently no recent records. Given several recent records from Los Angeles Harbor to Playa del Rey, the occasional sighting near the mouth of the river is to be expected.
Grasshopper sparrow	*Ammodramus savannarum*	–/CSC (nesting)	Grasslands of North America and northern South America.	A	Historically a regular nesting species in the vicinity of the BSA, but no suitable habitat remains.
Oregon vesper sparrow	*Pooecetes gramineus affinis*	–/CSC	Nests in lower valleys and plains in western Washington, western Oregon, and extreme northwestern California. Winters almost exclusively in low elevation grasslands in central and Southern California.	A	Probably once a regular winter visitor in the vicinity of the BSA, but no suitable habitat remains.
Tricolored blackbird	*Agelaius tricolor*	BCC/CSC (nesting)	Open country in western Oregon, California, and northwestern Baja California. Nests primarily in freshwater marshes.	A	Formerly nested in the vicinity of the BSA, but has not been known to do so for many years. Still occurs as a nonbreeding visitor in the area (e.g., one observed along the Lower Los Angeles River on August 8, 2008).

Metro

Table 4.3: Special-Status Animal Species Potentially Occurring or Known to Occur in the Biological Study Area

Common Name	Scientific Name	Status Federal/ State	General Habitat Description	Habitat Present or Absent/ Species Observed	Rationale
Yellow-headed blackbird	*Xanthocephalus xanthocephalus*	–/CSC (nesting)	Nests in freshwater marshes in central-western North America and disperses to open cultivated land and marshes as far as southern Mexico.	A	Formerly nested in the vicinity of the BSA, but has not been known to do so for many years. Still occurs as a nonbreeding visitor in the area (e.g., birds seen along the Los Angeles River at Del Amo St. in September 2008 and September 2009).
Lawrence's goldfinch	*Carduelis lawrencei*	BCC/CSA (nesting)	Oak woodland chaparral, riparian woodland, and other habitats in arid regions, but usually near water; from northern California to northern Baja California, but periodically wandering throughout much of western North America.	A	Occasional visitors may occur, but suitable habitat for nesting is absent within the BSA.
MAMMALS					
Pacific pocket mouse	*Perognathus longimembris pacificus*	FE/CSC	Historically occupied open habitats on sandy soils along the coast from Los Angeles to the Mexican border. Now known from only four sites in Orange and San Diego Counties.	A	Collected from Wilmington in 1865 and probably occurred in the vicinity of the BSA at that time. Not recorded on the shores of San Pedro Bay since.
South coast marsh vole	*Microtus californicus stephensi*	–/CSC	Tidal marshes in Los Angeles, Orange, and southern Ventura Counties.	A	Probably occurred in the vicinity of the BSA historically, but there appears to be an insufficient amount of habitat at this time. However, it is unknown to what extent this subspecies might range into other coastal habitats.
San Diego desert woodrat	*Neotoma lepida intermedia*	–/CSC	Frequents poorly vegetated arid lands and is especially associated with cactus patches. Occurs along the Pacific slope from about San Luis Obispo County to northwest. Baja California.	A	Probably occurred within the BSA historically, but no suitable habitat remains.
Southern grasshopper mouse	*Onychomys torridus ramona*	–/CSC	Primarily open scrub habitats of southwestern California and northwestern Baja California.	A	Probably occurred within the BSA historically, but no suitable habitat remains.
San Diego black-tailed jackrabbit	*Lepus californicus bennettii*	–/CSC	Open country of coastal Southern California and northern Baja California.	A	Occurred within the BSA historically, but has been extirpated from most of the Los Angeles Basin.

Table 4.3: Special-Status Animal Species Potentially Occurring or Known to Occur in the Biological Study Area

Common Name	Scientific Name	Status Federal/ State	General Habitat Description	Habitat Present or Absent/ Species Observed	Rationale
Southern California saltmarsh shrew	*Sorex ornatus salicornicus*	–/CSC	Coastal marshes in Los Angeles, Orange, and Ventura Counties. Requires dense vegetation and woody debris for cover.	A	May have occurred within the BSA historically, but no suitable habitat remains.
California leaf-nosed bat	*Macrotus californicus*	–/CSC	Western United States and northwestern Mexico. In California, primarily occupies low-lying desert areas, roosting in caves, mines, and old buildings with warm, stable temperatures. Rarely uses bridges for roosting. Historic records extend west to near Chatsworth, Los Angeles County, but most populations from the California coastal basins are believed to be extirpated.	A	May have occurred within the BSA historically, but no suitable roosting habitat is present in the vicinity of the BSA, and coastal California populations in general are presumed extirpated.
Mexican long-tongued bat	*Choeronycteris mexicana*	–/CSC	Uses a variety of habitats from the southwestern United States through Central America. In California, this species has been observed in San Diego County, likely as a seasonal migrant. Feeds on nectar and pollen of night-blooming succulents; may visit hummingbird feeders. Roosts in caves, mines, and occasionally buildings. Not known to use bridges for roosting.	A	Foraging and roosting habitat not present within the BSA. No known records in vicinity of BSA.
Lesser long-nosed bat	*Leptonycteris yerbabuenae*	FE/–	Occurs in Sonoran desert scrub, semi-desert grasslands and lower oak woodlands from Arizona and New Mexico to El Salvador, and has been recorded in southwestern California. Frugivorous and nectivorous; highly associated with plants such as agave, saguaro, and ocotillo as a source of food. Roosts in caves and mines; not known to use bridges for roosting. Capable of migrating long distances.	A	Foraging and roosting habitat not present within the BSA. No known records in vicinity of BSA.

Metro

Table 4.3: Special-Status Animal Species Potentially Occurring or Known to Occur in the Biological Study Area

Common Name	Scientific Name	Status Federal/ State	General Habitat Description	Habitat Present or Absent/ Species Observed	Rationale
Western mastiff bat	*Eumops perotis californicus*	–/CSC	Ranged historically throughout much of the southwestern United States and northwestern Mexico. In California, most records are from rocky areas at low elevations. Occurs in many open, semi-arid to arid habitats, including conifer and deciduous woodlands, coastal scrub, grasslands, chaparral, etc.; roosts in crevices in vertical cliff faces, high buildings, trees, and tunnels throughout southwestern California. May roost in tall bridges.	P	Although only marginally suitable roosting habitat is present in the BSA, numerous historic roosting areas exist in the Los Angeles Basin. In addition, foraging habitat is present along the Los Angeles River, and this species is known to forage over large distances from roost sites.
Pocketed free-tailed bat	*Nyctinomops femorosaccus*	–/CSC	Varied habitats, but usually associated with high cliffs or rocky areas. Spotty distribution, ranging from Southern California and southwestern Arizona through central Mexico. Roosts primarily in cliffs/rock crevices; may use buildings for roosting. Rarely roosts in bridges.	P	Although roosting is unlikely within the BSA, foraging habitat is present along the Los Angeles River, and this species is known to forage over large distances from roost sites. Recorded from Harbor City and Inglewood.
Big free-tailed bat	*Nyctinomops macrotis*	–/CSC	Mainly inhabits rugged, rocky habitats in arid southwestern North America. Feeds principally on large moths. Roosts primarily in cliffs/rock crevices, and rarely in buildings, caves, and tree cavities. Not known to use bridges for roosting.	P	Although roosting is unlikely within the BSA, foraging habitat is present along the Los Angeles River, and this species is known to forage over large distances from a roost site. Recorded from Long Beach and Los Angeles.
Western red bat	*Lasiurus blossevillii*	–/CSC	Ranges from southwestern Canada through the western United States and Middle America to South America. Forages over a wide range of habitats, but often associated with intact riparian habitat, and particularly with willows, cottonwoods, and sycamores. Typically solitary, roosting in the foliage of trees or shrubs. Day roosts are commonly in edge habitats adjacent to streams or open fields, in orchards, and sometimes in urban areas.	P	Not known to use bridges for roosting but may roost in large-leaved trees along portions of the Los Angeles River and adjacent residential areas. Foraging habitat is present along the Los Angeles River.

Table 4.3: Special-Status Animal Species Potentially Occurring or Known to Occur in the Biological Study Area

Common Name	Scientific Name	Status Federal/ State	General Habitat Description	Habitat Present or Absent/ Species Observed	Rationale
Hoary bat	*Lasiurus cinereus*	–/CSA	Widespread in North America (and Hawaii). Forages over a wide range of habitats, but prefers open habitats with access to water and trees for roosting. Typically solitary, roosting in the foliage of shrubs or coniferous and deciduous trees. Roosts are usually near the edge of a clearing.	P	Not known to use bridges for roosting but may roost in trees along portions of the Los Angeles River or in adjacent residential areas. Foraging habitat is present along the river. Recorded throughout the Los Angeles area.
Western yellow bat	*Lasiurus xanthinus*	–/CSC	Varied habitats from the southwestern United States to southern Mexico; often associated with palms and desert riparian habitats. In Southern California occurs in palm oases and in residential areas with untrimmed palm trees. Roosts primarily in trees, especially the dead fronds of palm trees, though they have also been documented to roost under the leaves of deciduous trees such as cottonwoods.	P	Not known to use bridges for roosting but may roost in palms along portions of the Los Angeles River and adjacent residential areas. Foraging habitat is present along the Los Angeles River. Recorded from Garden Grove.
Townsend's big-eared bat	*Corynorhinus townsendii*	–/CSC	Ranges from southwestern Canada through the western United States to southern Mexico. Requires caves, mines, tunnels, buildings, or other similar structures for roosting. Occasionally roosts in hollow spaces of bridges or buildings. Will occasionally roost in hollow trees. Highly sensitive to disturbance.	P	Known to occasionally roost in the hollow spaces of bridges. Foraging habitat is present along the Los Angeles River.
Spotted bat	*Euderma maculatum*	–/CSC	Found in widely scattered localities in western North America from southern British Columbia to central Mexico. Occurs in a range of habitats from arid, low desert habitats to high elevation conifer forests. Roosts in crevices and caves, usually high in fractured cliff/rock faces; not known to use bridges or buildings for roosting. Can forage over wide distances.	P	No known records and no roosting habitat in vicinity of BSA, but can travel widely when foraging.

Metro

Table 4.3: Special-Status Animal Species Potentially Occurring or Known to Occur in the Biological Study Area

Common Name	Scientific Name	Status Federal/ State	General Habitat Description	Habitat Present or Absent/ Species Observed	Rationale
Pallid bat	*Antrozous pallidus*	–/CSC	Varied habitats in western North America, including grasslands, shrublands, woodlands, deserts, and forest. Primarily day roosts in bridges, hollows or crevices of trees, or buildings. Occasionally roosts in mines, caves, and cliff/rock crevices. Night roosts may be more open sites, such as porches, open buildings, and bridges.	P	Known to frequently roost in bridges. Foraging habitat is present along the Los Angeles River. Recorded throughout the Los Angeles area, including Long Beach.
Silver-haired bat	*Lasionycteris noctivagans*	–/CSA	Primarily associated with north temperate zone conifer and mixed conifer/hardwood forests across southern Canada and most of the United States. May be found in winter and during seasonal migration in lower, xeric habitats. Roosts mainly in hollows or crevices of trees, but may also roost in rock crevices, mines, or caves. May forage considerable distance from roosting area.	P, O (potential)	Rarely uses bridges for roosting, but may roost in trees within the BSA and forage along the Los Angeles River. Recorded from Bellflower and Long Beach. This species may be present at one bridge location within the BSA, but data collected during nighttime emergence and acoustic surveys was inconclusive (Appendix D).
Western small-footed myotis	*Myotis ciliolabrum*	–/CSA	Found across much of North America, primarily in relatively arid wooded and brushy uplands near water. Individuals are known to roost singly or in small groups in cliff and rock crevices, buildings, concrete overpasses, caves, and mines.	P	Known to occasionally roost in bridges. Foraging habitat is present along the Los Angeles River.
Long-eared myotis	*Myotis evotis*	–/CSA	Found throughout much of North America, in semiarid shrublands, chaparral, and agricultural areas, but is usually associated with coniferous forests. Roosts under exfoliating tree bark and in hollow trees, caves, mines, and crevices in cliffs/rocks. Sometimes roosts in buildings and bridges.	P	Known to occasionally roost in bridges. Foraging habitat is present along the Los Angeles River, and the species has been recorded as close as Arroyo Seco.

Table 4.3: Special-Status Animal Species Potentially Occurring or Known to Occur in the Biological Study Area

Common Name	Scientific Name	Status Federal/ State	General Habitat Description	Habitat Present or Absent/ Species Observed	Rationale
Fringed myotis	*Myotis thysanodes*	–/CSA	Range is patchy in western North America from sea level to 9,350 ft; most common at middle elevations. Appears to be most common in drier woodlands but is found in a wide variety of habitats including desert scrub, mesic coniferous forest, grassland, and sage-grass steppe. Roosts primarily in large trees and snags, as well as in caves and mines. Also roosts in buildings, rock crevices, cliff faces, and bridges.	A	May have occurred within the BSA historically, but no suitable habitat remains. No known records from the vicinity of the BSA.
Long-legged myotis	*Myotis volans*	–/CSA	Widespread in western North America, primarily in coniferous forests, but also occurs seasonally in riparian and desert habitats. Utilizes abandoned buildings, cracks in the ground, cliff crevices, exfoliating tree bark, and hollows within snags as summer day roosts; caves and mine tunnels are used as hibernacula. Commonly forages in and around the forest canopy.	A	May have occurred within the BSA historically, but no suitable habitat remains. No known records from the vicinity of the BSA.
Yuma myotis	*Myotis yumanensis*	–/CSA	Occurs in a variety of habitats in western North America, including riparian, arid scrublands and deserts, and forests. Optimal habitats are open forests and woodlands with sources of water over which to feed. Roosts in buildings, mines, caves or crevices; and under bridges. May occasionally roost in swallow nests.	P, O	Known to frequently roost in bridges. Observed roosting and foraging along the Los Angeles River from SR-91 to Willow St. during 2009 surveys (Figure 6 and Appendix D). This species was confirmed to be day roosting at two bridge locations and was observed foraging at another location during nighttime emergence and acoustic surveys.
American badger	*Taxidea taxus*	–/CSC	Occurs throughout much of North America. Primary habitat requirements seem to be sufficient food and friable soils in relatively open uncultivated ground in grasslands, woodlands, and desert.	A	Probably occurred within the BSA historically, but no suitable habitat remains.

Metro

Table 4.3: Special-Status Animal Species Potentially Occurring or Known to Occur in the Biological Study Area

Common Name	Scientific Name	Status Federal/ State	General Habitat Description	Habitat Present or Absent/ Species Observed	Rationale
California sea lion	*Zalophus californianus*	–/– protected under the MMPA	Occurs in Pacific coastal marine waters from Vancouver Island to the Galapagos Islands.	P, O	Rare in the BSA, but occasionally forages downstream in estuarine portions of the Los Angeles River. An individual was seen in September 2009 during wildlife surveys north of PCH.
Ringtail	*Bassariscus astutus*	–/CFP	Woody and rocky areas of the southwestern United States and most of Mexico.	A	May have occurred within the BSA historically, but no suitable habitat remains.

Habitat Present/Absent: Absent (A) - no habitat present and no further work needed. Habitat Present (P) – habitat is, or may be present. (O) – Based on the literature review and field surveys, the species has been observed within the BSA. Critical Habitat (CH) – Project footprint is located within designated critical habitat unit, but does not necessarily mean that appropriate habitat is present.

Status: Federal Endangered (FE); Federal Threatened (FT); Federal Proposed (FP, FPE, FPT); Federal Candidate (FC); Federally Delisted (FD); United States Fish and Wildlife Service Birds of Conservation Concern (BCC); California Endangered (CE); California Threatened (CT); California Delisted (CD), California Fully Protected Species (CFP); California Species of Special Concern (CSC); California Special Plant (CSP), California Special Animal (CSA)

BSA = biological study area
CDFG = California Department of Fish and Game
CSS = coastal sage scrub
ESU = Evolutionarily Significant Unit
ft = feet/foot
I-405 = Interstate 405
PCH = Pacific Coast Hwy.
SR-91 = State Route 91
USFWS = United States Fish and Wildlife Service

5.0 Biological Resources, Discussion of Effects and Mitigation

5.1 Natural Communities of Special Concern

Habitats are considered to be of special concern based on (1) federal, state, or local laws regulating their development; (2) limited distributions; and/or (3) the habitat requirements of special-status plants or animals occurring within the BSA. Consulting biologists identified two primary plant communities that are considered important by State and/or local agencies. These communities occur with varied abundance within the BSA. Each natural community of special concern identified within the BSA is described in more detail below and is shown in the Vegetation Community figures in Appendix H. Wetlands and Waters of the United States are also considered sensitive by both federal and State agencies, but are discussed in more detail in Sections 5.1.1 and 5.1.2.

Two general natural community groups of special concern were identified within the BSA: estuarine habitat associated with tidal waters of the lower three miles of the Los Angeles River, and riparian/riverine habitats. Sensitive habitats were located primarily in the southern portion of the BSA, where the Los Angeles River and associated wetlands have retained a more natural state.

I-710 Corridor Project effects are based on preliminary construction plans (Table 5.1). Where construction plans showed the placement of columns/piers or other roadway features, a permanent impact was assumed. Indirect impacts were assumed in areas where shading from a bridge or the elevated freight corridor was identified. The full extent of temporary impacts could not be identified at the time this report was prepared, but would occur from demolition and removal of existing bridges, placement of staging areas, and in areas that must be disturbed directly adjacent to piers and abutments during construction. In these cases, a conservative approach was taken, and the maximum potential extent of the temporary impacts was used.

Appendix I illustrates where Natural Communities of Special Concern would be affected by the maximum extent of the design features of Alternative 5A. Appendix J illustrates where Natural Communities of Special Concern would be affected by the maximum extent of the design features of Alternatives 6A, 6B, and 6C.

5.1.1 Estuarine Habitat

Approximately 75–90 percent of California's coastal wetlands (i.e. salt marsh habitats) have been lost to development (Ferren 1990). Estuarine wetland habitats such as those associated with the lower Los Angeles River were formerly more abundant in semi-enclosed coastal waters

Metro

Table 5.1: Project Effects to Natural Communities of Special Concern Occurring within the Biological Study Area

Vegetation Community	Total Acres within BSA	Permanent (Direct)		Permanent (Indirect)		Temporary		Total	
		Alt 5A	Alts 6A/B/C	Alt 5A	Alts 6A/B/C	Alt 5A	Alts 6A/B/C	Alt 5A	Alts 6A/B/C
Estuarine Habitat									
Earthen-bottom Intertidal portions of the Los Angeles River	10.33	0.10	0.10	2.18	2.18	8.05	8.05	10.33	10.33
Riparian/Riverine Habitats									
Dominguez Gap Wetlands west basin	8.57	0.00	2.81	0.00	0.00	0.00	5.76	0.00	8.57
Concrete-lined Freshwater portions of the Los Angeles River and Associated Drainages	53.91	0.67	0.88	10.57	12.88	28.59	31.46	40.09	45.48
Marsh	0.93	0.00	0.02	0.28	0.44	0.32	0.36	0.60	0.82
Riparian Scrub	2.88	0.02	0.12	0.43	0.71	2.98	2.05	3.43	2.88
Total Riparian/ Riverine Habitats	**66.29**	**0.69**	**3.83**	**11.28**	**14.03**	**32.89**	**39.63**	**44.12**	**57.49**

Source: *Natural Environment Study*, 2012.
Alt/Alts = Alternative/s
BSA= Biological Study Area

of California's south coast and included the estuaries of Wilmington Lagoon, Alamitos Bay, Anaheim Bay, Santa Ana River Marsh, and Newport Bay. These tidal wetlands of coastal Southern California are now much reduced due to urban diversion, channelization, and other human developments that altered or eliminated a once-viable system. These habitats are considered high-quality wildlife habitats because they provide protective cover, reproduction, nesting, water, and food for a variety of species. Many animal species are estuarine wetland habitat obligates. Estuaries such as the lower Los Angeles River serve as nurseries for marine fish and provide sediment traps, erosion control, and natural flood control. The fact that estuaries are considered Environmentally Sensitive Habitat Areas (ESHAs) by the CCC protects them under the CCA. They are also regulated by the ACOE under Section 10 of the RHA and Section 404 of the CWA.

5.1.1.1 SURVEY RESULTS

Estuarine habitat occurs in earthen-bottom intertidal portions of the lower Los Angeles River along the three miles of river between Willow St on the north and the Port of Long Beach on the south (10.33 acres). Refer to Appendix H for the location of this sensitive community.

5.1.1.2 AVOIDANCE AND MINIMIZATION EFFORTS

The following measures would be incorporated to avoid and minimize effects to estuarine wetland/open water habitat:

- Prior to clearing or construction, highly visible barriers (such as orange construction fencing) would be installed around sensitive habitats adjacent to the project footprint under the guidance of a biological monitor to designate Environmentally Sensitive Areas (ESAs) to be preserved. No grading or fill activity of any type would be permitted within these ESAs. In addition, no construction activities, materials, or equipment will be allowed within the ESAs. All construction equipment will be operated in a manner so as to prevent accidental damage to nearby preserved areas. No structure of any kind, or incidental storage of equipment or supplies, will be allowed within the ESAs. Silt fence barriers will be installed at ESA boundaries to prevent accidental deposition of fill material in areas where the ESA is immediately adjacent to planned grading activities.

- A biologist will monitor construction within the vicinity of estuarine habitat for the duration of the project to ensure that vegetation removal, best management practices (BMPs), ESAs, and all avoidance and minimization measures are properly implemented.

- An employee education program for all construction personnel would be developed and implemented by the biological monitor prior to construction. At a minimum, the program would include the following topics: (1) responsibilities of the biological monitor; (2) delineation and installation of visible barriers of ESAs; (3) limitations on all movement of those employed on site, including ingress and egress of equipment and personnel, to designated construction zones (personnel shall not be allowed access to ESAs); (4) on-site pet prohibitions; (5) use of trash containers for disposal and removal of trash; and (6) project features designed to reduce the impacts to listed species and habitat and promote continued successful occupation of adjacent habitat areas.

- Prior to construction, preconstruction surveys for Caulerpa taxifolia will be conducted by a qualified biologist to ensure that the BSA is not infested with this nonnative invasive seaweed. If present, containment and proper eradication of any individuals of this species prior to construction would be required.

- The use of rodenticides, herbicides, insecticides, or other chemicals that could potentially harm listed species shall be prohibited in and adjacent to sensitive habitats.

Metro

Use of rodenticides, herbicides, insecticides, or other chemicals in other areas will be monitored by a qualified biologist to ensure no accidental effects in sensitive habitats.

- A Habitat Mitigation and Monitoring Plan (HMMP) that is acceptable by ACOE, CDFG, and RWQCB is expected to be required as a condition of the permit approvals required from each agency. If required, an HMMP will be developed and submitted to the applicable resource agencies for approval as part of the regulatory permit application.

- A construction Storm Water Pollution Prevention Plan (SWPPP) and soil erosion and sedimentation plan will be developed by the construction contractor to minimize erosion and identify specific pollution prevention measures that will eliminate or control potential point and nonpoint pollution sources on site during and following the project's construction phase. The SWPPP will identify specific Best Management Practices (BMPs) to be implemented during project construction so as not to cause or contribute to an exceedance of any water quality standard. A Storm Preparation and Evacuation Plan shall be prepared as part of the SWPPP prepared for the project. The plan shall include a requirement that no work shall occur within drainages during storm events. In addition, the SWPPP will contain provisions for changes to the plan such as alternative mechanisms, if necessary, during project design and/or construction to achieve the stated goals and performance standards.

- A Fisheries Management Plan is expected to be required through informal consultation with the National Marine Fisheries Service (NMFS). If required, a Fisheries Management Plan will be developed and submitted to the applicable resource agencies for approval prior to completion of the final design. The Fisheries Management Plan will also be submitted to the ACOE, RWQCB, and CDFG as necessary for information and permit condition compliance. The Fisheries Management Plan will contain provisions for changes to the plan such as alternative mechanisms, if necessary, during project design and/or construction to achieve the stated goals and performance standards.

- All avoidance, minimization, and mitigation measures identified in the HMMP, Fisheries Management Plan, and SWPPP will be followed.

- BMPs will be included in the Fisheries Management Plan and/or SWPP to limit the resuspension of sediment and to manage resuspended sediment during construction in and adjacent to the Los Angeles River, particularly to limit the spread of contaminated sediment. These BMPs may include cofferdams, silt or turbidity curtains, or other watertight barricades surrounding the work areas that would contain resuspended sediment in the work area until it settles.

- All equipment maintenance, staging, and dispensing of fuel, oil, or any other such activities would occur in developed or designated nonsensitive upland habitat areas. The designated upland areas would be located in such a manner as to prevent runoff from any spills from entering sensitive habitats and waters of the United States.

- In addition to specific BMPs identified in the SWPPP, project construction shall be carried out under standard BMPs (e.g., no staging or vehicle repair in sensitive areas, implementation of erosion control measures, fuel spill cleanup). During project construction, the proper use and disposal of oil, gasoline, diesel fuel, antifreeze, lead paint, and other toxic substances shall be enforced. No construction materials, equipment, debris, or waste shall be placed or stored where it may be subject to tidal erosion and dispersion. Construction materials shall not be stored in direct contact with the soil anywhere along the project alignment.

- Measures to contain all contaminated soils and material, including contaminated topsoil and lead-based paint from demolished bridges, shall be in place prior to and during soil moving (e.g., grading) and demolition activities. All contaminated soils and material shall be removed from the BSA and disposed of at an approved disposal site.

- Construction techniques utilized within and adjacent to the Los Angeles River channel would be designed to minimize effects on downstream conditions (e.g. flow rate, turbidity). During low flow, there would be no substantial contribution to or disruption of normal processes downstream. However, some minimal isolation of work may be required to minimize downstream effects such as turbidity (e.g., air bubble curtain system or air-filled isolation casings around bridge support structures). Any potential disruption during storm events would be inconsequential amid typical high-volume flows.

- All debris generated during bridge construction and deconstruction would be prevented from settling into the Los Angeles River. When work is taking place over the Los Angeles River, floating booms (and/or other acceptable equipment) shall be used to contain debris. All construction-related debris shall be removed no later than the end of each day.

- A biological monitor would be on site during pile-driving activities in the Los Angeles River to monitor fish that may become injured or killed during the pile driving. All pile driving and bridge construction would take place during daylight hours. If fish are observed to be injured or killed, pile driving would cease, and the CDFG and NMFS would be contacted to determine appropriate steps to avoid additional effects to the fish. The results of the pile driving monitoring would be reported to Caltrans within two weeks following the completion of pile-driving activities at each location.

- To minimize impacts of pile driving in the Los Angeles River, minimal impact construction equipment and methods (e.g., a vibrating driver, crane, vibratory hammer, or hydraulic press) will be used during construction.

- To minimize impacts of pile driving in the Los Angeles River, sound levels will be monitored during pile driving activities in the Los Angeles River to ensure that peak sound levels do not exceed the threshold for injury to fish (206 dBpeak or 183 dB SEL). If sound levels exceed threshold, additional mitigation measures (e.g., work when the current is reduced, using a hydraulic hammer, the smallest hammer needed to advance the pile, air bubble curtain system, or air-filled isolation casings) will be developed in consultation with the resource agencies.

- Operation of equipment and stockpiling of materials in storm channels, including the Los Angeles River, must be avoided during times of high flow. If such work is occurring, weather forecasts and storm predictions shall be closely monitored, and equipment and materials that could be affected by storms or other high flow events shall be removed from the channel prior to such events.

5.1.1.3 PROJECT IMPACTS

Based on the information currently available, the worst-case impact scenario associated with Alternatives 5A, 6A, 6B, and 6C are expected to permanently result in direct permanent effects to 0.10 acre of estuarine habitat (earthen-bottom intertidal portions of the Los Angeles River) resulting from construction of abutments and the driving of piles, and a reduction in soft-bottom habitat as a consequence of placement of piers and abutments. Table 5.1 shows the project effects to estuarine habitat by project alternative. The figures in Appendices I and J illustrate where estuarine habitat would be affected by the I-710 Corridor Project.

In addition to direct permanent effects, Alternatives 5A, 6A, 6B, and 6C could result in indirect permanent effects through the potential degradation of estuarine habitats. Alternatives 5A, 6A, 6B, and 6C are expected to cause indirect permanent effects to approximately 2.18 acres of estuarine habitat. Indirect permanent effects could result from permanent shading associated with bridges or elevated roadways. In addition, construction may indirectly affect estuarine habitats permanently through enhancing the germination and proliferation of nonnative invasive plant species. Invasive plant species are those that outcompete native plants and are of particular concern. Although no *Caulerpa taxifolia* (a nonnative seaweed) was observed in the BSA during the 2009 biological surveys, the project could result in the spread of this species into the BSA if preventative measures are not taken to prevent it. Indirect effects are difficult to quantify since they are a result of normal activities and can vary from day to day.

Alternatives 5A, 6A, 6B, and 6C are expected to result in temporary effects to 8.05 acres of estuarine habitat. Temporary effects are anticipated to include construction-related effects such as dust, potential fuel spills from construction equipment, and unauthorized activities of equipment or personnel outside designated construction areas, as well as operational effects such as effects on adjacent habitats caused by storm water runoff, traffic, and litter. Temporary effects would also result in areas chosen for staging, in areas directly adjacent to placement of abutments and piers during construction, dewatering activities, and in areas beneath bridges to be demolished and removed. While dewatering of entire the entire Los Angeles River will not occur, some minimal isolation of work may be required to minimize downstream effects such as turbidity (e.g., air bubble curtain system or air-filled isolation casings around bridge support structures).

5.1.1.4 COMPENSATORY MITIGATION

The majority of existing estuarine communities within Los Angeles County fall under the regulatory jurisdiction of the ACOE pursuant to Section 10 of the RHA and Section 404 of the CWA. Most of the impacts to ACOE jurisdictional waters as a result of the I-710 Corridor Project would occur to estuarine wetlands above the high high tide line. Therefore, the impacts are anticipated to be primarily to waters under the jurisdiction of Section 404. Compensatory mitigation for estuarine communities would be required to comply with Section 404 of the CWA. Compensatory mitigation will be developed in accordance with the Final Rule on Compensatory Mitigation for Losses of Aquatic Resources (33 CFR Part 325 and 332, and 40 CFR Part 200). Typically, estuarine habitat subject to ACOE jurisdiction is mitigated at a minimum mitigation-to-effect ratio of 2:1 for permanent effects and 1:1 for temporary effects, which is consistent with ACOE policy of no net loss of estuarine habitat (e.g., wetlands) standards. Compensatory mitigation may be in the form of habitat restoration and/or enhancement in on- or off-site areas where similar estuarine habitat exists.

Prior to commencement of construction activities, a Habitat Mitigation and Monitoring Plan (HMMP) would be developed in coordination with the ACOE, RWQCB, CDFG, and USFWS and would ensure no net loss of estuarine habitat value or acreage. Final details for compensatory mitigation would be determined through coordination between Caltrans and the resource agencies based on a more detailed design.

The HMMP would comply with all terms and conditions set forth in the permits and opinions issued by the resource agencies and would typically include the following provisions:

- Permanent effects to estuarine habitat would be replaced on or off site at a minimum 2:1 ratio. Temporary effects to estuarine vegetation would be replaced at a minimum 1:1 ratio with in-kind habitat restored in place within the BSA. If off-site restoration is conducted, it would be done within the same watershed as the I-710 Corridor Project.

- Further criteria specified in the HMMP would include an establishment period for the replacement habitat (if applicable), regular trash removal, and regular maintenance and monitoring activities to ensure the success of the mitigation plan. After construction, annual summary reports of biological monitoring would be provided to the ACOE, RWQCB, CDFG, and USFWS that document the monitoring effort. The duration of the monitoring and reporting would be established by resource agency permit conditions.

Final details for compensatory mitigation would be evaluated through coordination between Caltrans and the resource agencies. Areas within or directly adjacent to the BSA may offer potential mitigation options. Online research (The River Project 2009; Los Angeles County 2009) and communication with agency representatives (L. Torres [Rivers and Mountains Conservancy], J. Casanova [Los Angeles River and San Gabriel Rivers Watershed Council], and D. Rivera [Los Angeles County Department of Public Works], personal communication) revealed that a number of restoration opportunities, some still in progress, exist in the vicinity. A few of the restoration projects in the vicinity have been generally located on Figure 3. The west basins of the completed Dominguez Gap wetlands restoration area lie within the BSA. Among other potential options, compensation for I-710 Corridor Project effects to tidal waters may be provided by providing additional funding for the Golden Shore Marine Preserve (Long Beach Natural Areas 2009). The final report has been submitted for the Compton Creek Improvement Project, which may provide a compensatory mitigation opportunity for riparian scrub and/or freshwater emergent marsh. The Rivers and Mountains Conservancy Staff is looking for potential projects for implementation in the Compton Creek Watershed, as well as in the Los Angeles River. These potential opportunities will be investigated in coordination with the resource agencies, LADPW, and SMMRCA, throughout the planning phase, final design, and the permitting process.

5.1.1.5 CUMULATIVE EFFECTS

Most of the lands surrounding the BSA are highly urbanized and have already been developed. Those areas not already developed have generally been preserved as city parks or restored areas. Probable future projects in the vicinity (both transportation related and non-transportation related) were reviewed as part of this analysis. The cumulative effects of the I-710 Corridor Project in combination with reasonably foreseeable development in the vicinity may incrementally cause further effects to estuarine habitats.

5.1.2 RIPARIAN/RIVERINE HABITATS

Riparian/riverine habitats such as those within the BSA were formerly abundant along major rivers of coastal Southern California but are now much reduced by urban expansion, flood control, and channel “improvements” (Holland 1986). The typical association of these riparian habitat types with drainages indicates that they are “protected” under the Fish and Game Code and, to certain extent, by the CWA. These habitats are considered high-quality wildlife habitats because they provide protective cover, water, and food for a variety of species. Many animal species are riparian habitat obligates. Other animals, including large mammals, require access to water and use bands of riparian habitat as wildlife corridors. As such, the CDFG regulates riparian areas to the extent that those areas are associated with the banks of a stream or lake shorelines.

5.1.2.1 SURVEY RESULTS

Approximately 66.29 acres of freshwater waters of the Los Angeles River and associated drainages have been identified within the BSA (see Table 5.1). Approximately 53.91 acres are associated with the concrete-lined freshwater portions of the Los Angeles River and its tributaries, 8.57 acres in the Dominguez Gap Wetlands West Basins, 2.88 acres of riparian scrub, and 0.93 acres of freshwater marsh. The Dominguez Gap Wetlands West Basins consist of three vegetation types; riparian scrub, freshwater emergent marsh, and open water habitat (See Appendix H, Sheet 5).

Riparian scrub habitat is located within the Dominguez Gap Wetlands West Basins (Appendix H, Sheet 5), along the vegetated margins of the Los Angeles River at the Pacific Coast Hwy. crossing (Appendix H, Sheet 2), within the vegetated margins of Compton Creek (Appendix H, Sheet 6), and in scattered areas on Sheets 7 and 9. Freshwater emergent marsh generally was identified in wetter depressional areas adjacent to the vegetated riparian habitat margins of the Los Angeles River (Appendix H, Sheets 1 and 2), the Dominguez Gap Wetlands West Basins (Appendix H, Sheet 5), and Compton Creek (Appendix H Sheet 6). All of the areas identified as a natural community of special concern were disturbed from regular flood control maintenance, human encroachment (e.g., homeless encampments), and intrusion with nonnative species.

5.1.2.2 AVOIDANCE AND MINIMIZATION EFFORTS

The following measures would be incorporated to avoid and minimize effects to riparian/riverine habitats:

- Prior to clearing or construction, highly visible barriers (such as orange construction fencing) would be installed around sensitive habitats adjacent to the project footprint under the guidance of a biological monitor to designate Environmentally Sensitive Areas (ESAs) to be preserved. No grading or fill activity of any type would be permitted within these ESAs. In addition, no construction activities, materials, or equipment will be allowed within the ESAs. All construction equipment will be operated in a manner so as to prevent accidental damage to nearby preserved areas. No structure of any kind, or incidental storage of equipment or supplies, will be allowed within the ESAs. Silt fence barriers will be installed at ESA boundaries to prevent accidental deposition of fill material in areas where the ESA is immediately adjacent to planned grading activities.

- A biologist will monitor construction within the vicinity of riparian/riverine areas for the duration of the project to ensure that vegetation removal, best management practices (BMPs), ESAs, and all avoidance and minimization measures are properly implemented.

Metro

- A biological monitor will be present during all vegetation clearing to flush any wildlife species present prior to construction.

- An employee education program for all construction personnel would be developed and implemented by the biological monitor prior to construction. At a minimum, the program would include the following topics: (1) responsibilities of the biological monitor; (2) delineation and installation of visible barriers of ESAs; (3) limitations on all movement of those employed on site, including ingress and egress of equipment and personnel, to designated construction zones (personnel shall not be allowed access to ESAs); (4) on-site pet prohibitions; (5) use of trash containers for disposal and removal of trash; and (6) project features designed to reduce the impacts to listed species and habitat and promote continued successful occupation of adjacent habitat areas.

- The use of rodenticides, herbicides, insecticides, or other chemicals that could potentially harm listed species shall be prohibited in and adjacent to sensitive habitats. Use of rodenticides, herbicides, insecticides, or other chemicals in other areas will be monitored by a qualified biologist to ensure no accidental effects in sensitive habitats.

- A Habitat Mitigation and Monitoring Plan (HMMP) that is acceptable by ACOE, CDFG, and RWQCB is expected to be required as a condition of the permit approvals required from each agency. If required, an HMMP will be developed and submitted to the applicable resource agencies for approval as part of the regulatory permit application.

- A construction Storm Water Pollution Prevention Plan (SWPPP) and soil erosion and sedimentation plan will be developed by the construction contractor to minimize erosion and identify specific pollution prevention measures that will eliminate or control potential point and nonpoint pollution sources on site during and following the project's construction phase. The SWPPP will identify specific Best Management Practices (BMPs) to be implemented during project construction so as not to cause or contribute to an exceedance of any water quality standard. A Storm Preparation and Evacuation Plan shall be prepared as part of the SWPPP prepared for the project. The plan shall include a requirement that no work shall occur within drainages during storm events. In addition, the SWPPP will contain provisions for changes to the plan such as alternative mechanisms, if necessary, during project design and/or construction to achieve the stated goals and performance standards.

- All avoidance, minimization, and mitigation measures identified in the HMMP and SWPPP will be followed.

- All equipment maintenance, staging, and dispensing of fuel, oil, or any other such activities would occur in developed or designated nonsensitive upland habitat areas. The designated upland areas would be located in such a manner as to prevent runoff from any spills from entering sensitive habitats and waters of the United States.

- In addition to specific BMPs identified in the SWPPP, project construction shall be carried out under standard BMPs (e.g., no staging or vehicle repair in sensitive areas, implementation of erosion control measures, fuel spill cleanup). During project construction, the proper use and disposal of oil, gasoline, diesel fuel, antifreeze, lead paint, and other toxic substances shall be enforced. No construction materials, equipment, debris, or waste shall be placed or stored where it may be subject to tidal erosion and dispersion. Construction materials shall not be stored in direct contact with the soil anywhere along the project alignment.
- Measures to contain all contaminated soils and material, including contaminated topsoil and lead-based paint from demolished bridges, shall be in place prior to and during soil moving (e.g., grading) and demolition activities. All contaminated soils and material shall be removed from the BSA and disposed of at an approved disposal site.
- A weed abatement program would be developed to minimize the importation of nonnative plant material during and after construction. Eradication strategies would be employed should an increase in invasive plants occur.

5.1.2.3 PROJECT IMPACTS

The I-710 Corridor Project would result in direct and indirect permanent and temporary effects to riparian/riverine habitats through disturbance and/or removal of existing vegetation. Areas of temporary effects would only be affected during construction to allow for construction and equipment staging.

Based on the information currently available, the worst-case impact scenario associated with Alternative 5A is expected to potentially result in direct permanent effects to 0.69 acre of riparian/riverine natural communities (comprised of concrete-lined freshwater portions of the LA River, Dominguez Gap Wetlands West Basins, marsh, and riparian scrub) (see Table 5.1). Alternatives 6A, 6B, and 6C are expected to potentially result in direct permanent effects to 3.83 acres of riparian/riverine natural communities (see Table 5.1). The figures in Appendices I and J illustrate where riparian/riverine habitats would be affected by the maximum extent of the design features of Alternatives 5A, 6A, 6B, and 6C, respectively.

Alternative 5A would result in an impact to the Los Angeles River and Compton Creek due to the structural modifications, relocation, and/or replacement of crossing structures at 17 locations (with multiple structures at some locations). Alternatives 6A, 6B, and 6C would result in an impact to the Los Angeles River and Compton Creek due to the structural modifications, relocation, and/or replacement of crossing structures at 19 locations (with multiple structures at some locations). In addition, Alternatives 6A, 6B, and 6C would result in the relocation of ten Los Angeles County Department of Water and Power (DWP) towers on platforms within the existing Los Angeles River channel in order to avoid impacts to surrounding residential neighborhoods.

Furthermore, construction may indirectly affect riparian/riverine habitats permanently through permanent shading of the areas below bridges or elevated roads, and enhancing the germination and proliferation of nonnative invasive plant species. Alternative 5A is expected to potentially result in indirect permanent effects to 11.28 ac of riparian/riverine natural communities (see Table 5.1). Alternatives 6A, 6B, and 6C are expected to potentially result in indirect permanent effects to 14.03 acres of riparian/riverine natural communities (see Table 5.1). Indirect effects are difficult to quantify since they are a result of normal activities and can vary from day to day.

In addition to direct permanent and indirect effects, the proposed project may result in temporary effects through the degradation of riparian/riverine habitats. Alternative 5A is expected to potentially result in temporary effects to 32.89 acres of riparian/riverine natural communities (see Table 5.1). Alternatives 6A, 6B, and 6C are expected to potentially result in temporary effects to 39.63 acres of riparian/riverine natural communities (see Table 5.1). Temporary effects are anticipated from placement of staging areas, construction of piers and abutments, and demolition and removal of existing bridges. While dewatering of entire the entire Los Angeles River will not occur, some minimal isolation of work may be required to minimize downstream effects such as turbidity (e.g., air bubble curtain system or air-filled isolation casings around bridge support structures). Additional temporary indirect effects would include construction-related effects such as dust, potential fuel spills from construction equipment, possible nightlighting during construction, and activities of equipment or personnel outside designated construction areas, as well as operational effects such as effects on adjacent habitats caused by storm water runoff, traffic, and litter.

Furthermore, existing or proposed restoration areas identified in the BSA may be affected by the I-710 Corridor Project. The Los Angeles County Department of Public Works provided the biological consultant with boundaries of the County restoration areas (Rivera and Su, personal communication). Two areas were found to overlap the limits of the BSA. The locations of these restoration areas have been depicted in Figure 4.

The BSA boundary overlaps the Deforest Park Restoration Project. Alternatives 6A, 6B, and 6C would result in greater encroachment into the Deforest Park Restoration Project than Alternative 5A due to their larger project footprints. While Alternatives 5A, 6A, 6B, and 6C will encroach into the Deforest Park Restoration Project, there is no natural community of special concern (or other biological resources), within or adjacent to the BSA. Therefore, the project is not expected to affect biological resources (e.g., riparian/riverine habitat) within the Deforest Park Restoration Project.

Project impacts to the Dominguez Gap Wetlands West Basins are shown in Table 5.1, above. Alternative 5A is not expected to affect the Dominguez Gap Wetlands. However, the Dominguez Gap Wetlands West Basins are located next to two new roadways constructed at grade, associated with the freight corridor proposed in Alternatives 6A, 6B, and 6C. Construction of the at-grade structures adjacent to the West Basins for Alternatives 6A, 6B, and 6C would have permanent (direct) and temporary effects on the habitats described above.

5.1.2.4 COMPENSATORY MITIGATION

The majority of existing riparian/riverine communities within Los Angeles County fall under the regulatory jurisdiction of the ACOE pursuant to Section 404 of the CWA and the CDFG pursuant to Section 1600 of the California Fish and Game Code. Compensatory mitigation for riparian communities would be required in order to obtain permits from the ACOE and CDFG. Compensatory mitigation will be developed in accordance with the Final Rule on Compensatory Mitigation for Losses of Aquatic Resources (33 CFR Part 325 and 332, and 40 CFR Part 200). Typically, riparian habitat subject to ACOE and CDFG jurisdiction is mitigated at a minimum mitigation-to-effect ratio of 2:1 for permanent effects and 1:1 for temporary effects, which is consistent with ACOE and CDFG policies for no net loss of riparian/riverine habitat (e.g., wetlands) standards. Compensatory mitigation may be in the form of habitat restoration and/or enhancement in on- or off-site areas where similar riparian habitat exists, or a monetary contribution toward an in-lieu fee program, as acceptable by the regulatory agencies.

Prior to commencement of construction activities, an HMMP would be developed in coordination with the ACOE, RWQCB, CDFG, and USFWS that ensures no net loss of riparian habitat value or acreage. Final details for compensatory mitigation would be determined through coordination between Caltrans and the resource agencies based on a more detailed design.

The HMMP would comply with all terms and conditions set forth in the permits and opinions issued by the resource agencies and would typically include the following provisions:

- Permanent effects to riparian/riverine habitat would be replaced on or off site at a minimum 2:1 ratio with in-kind habitat. Temporary effects to riparian/riverine vegetation would be replaced at a minimum 1:1 ratio with in-kind habitat restored in place within the BSA. If off-site restoration is conducted, it would be done within the same watershed as the I-710 Corridor Project.

- The HMMP would identify a success criterion of at least 80 percent cover of native riparian vegetation or composition structure similar to existing adjacent high-quality riparian vegetation.

Metro

- Further criteria specified in the HMMP would include an establishment period for the replacement habitat, regular trash removal, and regular maintenance and monitoring activities to ensure the success of the mitigation plan. After construction, annual summary reports of biological monitoring would be provided to the ACOE, RWQCB, CDFG, and USFWS documenting the monitoring effort. The duration of the monitoring and reporting would be established by resource agency permit conditions.

5.1.2.5 CUMULATIVE EFFECTS

Most of the lands surrounding the BSA are highly urbanized and have already been developed. Those areas not already developed have generally been preserved as city parks or restored areas. Probable future projects in the vicinity (both transportation related and nontransportation related) were reviewed as part of this analysis. The cumulative effects of the I-710 Corridor Project in combination with reasonably foreseeable development in the vicinity may incrementally cause further effects to riparian/riverine habitats.

5.2 SPECIAL-STATUS PLANT SPECIES

A total of 14 of the 52 special-status plant species that occur within the vicinity of the BSA are federally and/or State-listed as endangered, threatened, or candidate species: Marsh sandwort (*Arenaria paludicola*), Braunton's milkvetch (*Astragalus brauntonii*), Ventura marsh-milk vetch (*Astragalus pycnostachyus* var*. lanosissimus*), coastal dunes milk-vetch (*Astragalus tener* var. *titi*), Nevin's barberry (*Berberis nevinii*), San Fernando Valley spineflower (*Chorizanthe parryi* var. *fernandina*), salt-marsh bird's beak (*Cordylanthus maritimus* ssp. *maritimus*), Gambel's water cress (*Nasturtium gambelii*), Moran's navarretia (*Navarretia fossalis*), California orcutt grass (*Orcuttia californica*), Lyon's pentachaeta (*Pentachaeta lyonii*), and Brand's star phacelia (*Phacelia stellaris*). The results of surveys, critical habitat discussion, minimization/mitigation measures, project effects, and cumulative effects for the only special-status plant species found within the BSA (southern tarplant) are discussed in this chapter. In addition, other special-status plant species, including those listed by the CNPS as List 1B, 2, 3, and 4 with suitable habitat occurring within the BSA are discussed in Table 4.2.

5.2.1 SOUTHERN TARPLANT

Southern tarplant (*Centromadia parryi* ssp. *australis*) is listed by the CNPS as a species rare or endangered in California and elsewhere (CNPS 1B). This species was previously known as *Hemizonia parryi* ssp. *australis*. This yellow-orange flowered member of the Asteraceae occurs in seasonally wet saline or alkaline soils of the Southern California coast and into northern Baja California. This native annual plant is typically found in areas where competition from other plants is limited by alkalinity, seasonal soil saturation, or the effects of human disturbance. Numbers of individuals can vary widely at a given location from year to year, depending on recent disturbance and seasonal precipitation. Populations are expected to be larger in years of average or above average rainfall.

5.2.1.1 SURVEY RESULTS

Southern tarplant was observed in three locations within the BSA during 2009 botanical surveys conducted during the blooming period for this species (May through November). No additional locations were observed during 2011 surveys. The largest population consisted of approximately 9,000 plants just north of the I-710/Rosecrans Ave. interchange on the east side of I-710. Approximately 90 plants were found in sunny areas near the I-710/Atlantic Blvd. interchange, and six plants were found southeast of the I-710/I-405 interchange. Field survey personnel used global positioning system (GPS) units to determine locations of the three subpopulations of southern tarplant and anticipated impacts to these populations are shown in Figure 5 and discussed in Section 5.2.1.3.

5.2.1.2 AVOIDANCE AND MINIMIZATION EFFORTS

The following measures would be incorporated to not disturb larger portions of the southern tarplant populations than is necessary to improve the I-710 Corridor:

- Prior to clearing or construction, highly visible barriers (such as orange construction fencing) would be installed around sensitive habitats adjacent to the project footprint under the guidance of a biological monitor to designate Environmentally Sensitive Areas (ESAs) to be preserved. No grading or fill activity of any type would be permitted within these ESAs. In addition, no construction activities, materials, or equipment will be allowed within the ESAs. All construction equipment will be operated in a manner so as to prevent accidental damage to nearby preserved areas. No structure of any kind, or incidental storage of equipment or supplies, will be allowed within the ESAs. Silt fence barriers will be installed at ESA boundaries to prevent accidental deposition of fill material in areas where the ESA is immediately adjacent to planned grading activities.

- A biologist will monitor construction within the vicinity of southern tarplant populations for the duration of the project to ensure that vegetation removal, BMPs, ESAs, and all avoidance and minimization measures are properly implemented.

- An employee education program for all construction personnel would be developed and implemented by the biological monitor prior to construction. At a minimum, the program would include the following topics: (1) responsibilities of the biological monitor; (2) delineation and installation of visible barriers of ESAs; (3) limitations on all movement of those employed on site, including ingress and egress of equipment and personnel, to designated construction zones (personnel shall not be allowed access to ESAs); (4) on-site pet prohibitions; (5) use of trash containers for disposal and removal of trash; and

Metro

(6) project features designed to reduce the impacts to listed species and habitat and promote continued successful occupation of adjacent habitat areas.

- A weed abatement program would be developed to minimize the importation of nonnative plant material during construction. Eradication strategies would be employed should invasive plants be identified during construction.

5.2.1.3 PROJECT IMPACTS

Alternative 5A is not expected to result in direct or indirect permanent or temporary impacts to any of the populations of southern tarplant. However, Alternatives 6A, 6B, and 6C will result in direct permanent impacts to the entire population at the Atlantic/Bandini interchange through the shifting of the I-710 mainline to this location. In addition, Alternatives 6A, 6B, and 6C will result in indirect permanent impacts from shading to the Rosecrans Interchange population.

Assuming that populations are evenly distributed throughout the limits of the populations according to their GPS locations, approximately 50.5 percent of the populations would be adversely affected by direct removal or shading below overhead structures. Although some impact to these populations is unavoidable, the listing status of the southern tarplant (CNPS 1B) does not offer it legal protection under CESA. The overall quality of the habitat is fair (not excellent), given the fact that I-710 and other urban development borders the population boundaries. Approximately 49.5 percent of the population would not be affected by shading once the I-710 Corridor Project is completed, providing ample seed source for continued existence of the overall population. Table 5.2 shows the project impacts to each southern tarplant population by Alternatives 6A, 6B, and 6C.

Table 5.2: Impacts to Southern Tarplant from Alternatives 6A, 6B, and 6C

Location of population (from south to north)	Number of Individual Plants in Population	Square Footage of Population	Direct Permanent Impacts		Indirect Permanent Impacts		Approximate Percent of Population Impacted
			Number of Individuals	Square Footage of Population	Number of Individuals	Square Footage of Population	
Southeast of I-405/I-710 Interchange	6	1,029	0	0	0	0	0
Rosecrans Interchange	9,000	5,063	0	0	4,500	2,576	50.9
Atlantic/ Bandini Interchange	90	21,640	90	21,640	0	0	100
Total	**9,096**	**27,731**	**90**	**21,640**	**4,500**	**2,576**	**50.5**

5.2.1.4 COMPENSATORY MITIGATION

Indirect permanent effects to this species cannot be avoided by the I-710 Corridor Project. Collection and scattering of seed in sunny areas adjacent to existing and remaining populations during the appropriate time of year is warranted to ensure that these populations remain stable in future years. Consultation with CDFG would be completed prior to the restoration effort. The avoidance and minimization measures outlined in Section 5.2.1.2 will ensure that effects to this species are absent or minimal from implementation of any of the proposed alternatives.

5.2.1.5 CUMULATIVE EFFECTS

Shading of portions of the southern tarplant populations within the BSA is not likely to threaten the continued existence of these populations, much less threaten the existence of the species. However, considering the cumulative impacts of this project in combination with reasonably foreseeable projects in the vicinity, cumulative effects of the I-710 Corridor Project on this species would be minimal.

5.3 SPECIAL-STATUS ANIMAL SPECIES OCCURRENCES

Four of the 27 animal species in Table 4.3 that are federally and/or State-listed as endangered or threatened, or proposed endangered or threatened, or state or federally delisted, or are considered to be CFP species by the State of California, have been observed recently, or potentially suitable habitat for them still exists within the BSA. All of these listed species are birds. Three of the bird species associated with the BSA's riverine habitats (bald eagle [*Halieaeetus leucocephalus*], western snowy plover [*Charadrius alexandrinus nivosus*], and bank swallow [*Riparia riparia*]) have been observed along the lower Los Angeles River in the last decade, but only as infrequent nonbreeding visitors. Protection of riverine and estuarine habitats within the BSA is required for other listed species discussed in this NES; therefore, these three species will not be discussed further in this report.

Three other state or federally listed bird species observed infrequently within the BSA as nonbreeding visitors are associated with upland habitats. The willow flycatcher (*Empidonax traillii*) and least Bell's vireo (*Vireo bellii pusillus*) are associated with riparian habitat and, although they could occur along the Los Angeles River itself, they have been recorded only east of the river at DeForest Park in Long Beach. The coastal California gnatcatcher (*Polioptila californica californica*) is associated with CSS, a habitat type extirpated within most of the Los Angeles Basin. Although fragmented, small amounts of CSS plantings exist within the BSA and have been included in the vegetation community of developed/ornamental/ruderal. The species is not known to nest any closer than the Palos Verdes Peninsula, approximately 5 miles from the I-710 Corridor Project BSA. Wandering individuals have been observed three times this decade along the Los Angeles River in Long Beach. These three species are rare within the

BSA, and there are essentially no impacts to their habitats; therefore, they are not discussed further in this report.

The California brown pelican and peregrine falcon have recently been delisted (June and November 2009, respectively). Although both of these species remain listed as CFP species, avoidance and minimization measures proposed for nesting birds will not result in a take of these fully protected species. These species are not discussed further in this report.

The two remaining federally listed species, the federally listed as threatened green turtle and the federally and State listed as endangered CLT, are discussed in detail below. Neither of these species occurs within the BSA with any regularity. It is their known or potential use of downstream areas of the Los Angeles River that warrants their treatment in this document. Concurrence from the NMFS, USFWS, and CDFG will be necessary with regard to project effects to these federally listed species. Other special-status wildlife species that were either observed or have the potential to occur within the BSA, based on the presence of suitable habitat, are also discussed in this section. These species are grouped based on the type of habitat they may use. Furthermore, a detailed discussion of the burrowing owl has been provided, since Phase I–III surveys revealed that this State species of special concern is present within the BSA. Further surveys will be required to determine the full extent of the burrowing owl's presence within the BSA.

5.3.1 GREEN TURTLE

The green turtle is a federally threatened species found in areas of Southern California in artificially warm water in south San Diego Bay and at the mouth of the San Gabriel River. No critical habitat has been designated for the green turtle outside of the Caribbean Basin.

5.3.1.1 SURVEY RESULTS

Green turtles have been observed in the Long Beach area (particularly in the vicinity of the San Gabriel River mouth), but not within the BSA. The potential for this species to occur in the Los Angeles River is considered very low (LSA 2009b). Green turtles are most widely distributed in tropical ocean waters.

5.3.1.2 AVOIDANCE AND MINIMIZATION EFFORTS

Although green turtles are not anticipated to be affected by the I-710 Corridor Project, the avoidance and minimization measures described in Sections 5.1.1.2 and 5.1.2.2 are expected to avoid and minimize effects to green turtle, if present.

5.3.1.3 PROJECT IMPACTS

Any green turtles that might visit the area around the mouth of the Los Angeles River could be affected indirectly by changes in water quality originating upstream. Such changes could involve increased pollution levels, increased turbidity, or impacts on sea grasses and algae on which green turtles feed. However, by implementing the avoidance and minimization measures outlined in Sections 5.1.1.2 and 5.1.2.2, no noticeable changes in water conditions would occur.

5.3.1.4 COMPENSATORY MITIGATION

Because of the rarity of green turtles in the project area, and the lack of impacts to their habitat, no compensatory mitigation is warranted. The avoidance and minimization measures outlined in Sections 5.1.1.2 and 5.1.2.2 will ensure that effects to this species are absent or minimal from implementation of any of the proposed alternatives.

5.3.1.5 CUMULATIVE EFFECTS

Even with the avoidance and minimization measures described above, some amount of construction debris is likely to enter the Los Angeles River. Other construction activities throughout the Los Angeles Basin may incrementally result in similar impacts. However, these impacts are strictly temporary during construction, and other features of the I-710 Corridor Project are expected to result in cleaner water conditions after completion. In summary, the cumulative effects on the green turtle from all projects are considered to be minor.

5.3.2 BURROWING OWL

The BUOW is not a federally or State-listed species, but is a California Species of Special Concern. This species is protected by an international treaty under the MBTA of 1918 (16 USC 703–711) and under Sections 3503 and 3800 of the California Fish and Game Code. Sections 2503, 3503.5, and 2800 of the California Fish and Game Code prohibit the take, possession, or destruction of birds, their nests, or eggs. BUOW are found in open, dry grasslands, agricultural and range lands, and desert habitats often associated with burrowing animals. These owls can be found at the margins of airports and golf courses and in vacant urban lots.

5.3.2.1 SURVEY RESULTS

Protocol surveys conducted for BUOW are described in Section 3.2.4.1. Two individual BUOWs were identified on October 13, 2009, and on December 4, 2009, using burrows approximately 150 feet apart in an area with numerous burrows, south of the mouth of Compton Creek. It could not be determined whether or not it was the same owl that was observed on two separate occasions. Although no pairs were observed, the area is large enough to support a pair. No other BUOW were found during the 2009 surveys.

5.3.2.2 AVOIDANCE AND MINIMIZATION EFFORTS

The following measures would be incorporated to avoid and minimize effects to BUOW:

- On-site pets and the deliberate feeding of wildlife shall be prohibited.
- Within 30 days prior to any phase of construction, preconstruction surveys will be conducted to ensure that any BUOW that may occupy the site are not affected by

construction activities. These preconstruction surveys are also required in order to demonstrate compliance with the MBTA and the California Fish and Game Code. If any of the preconstruction surveys determine that BUOW are present, mitigation measures may be required. The specifics of the required measures shall be coordinated between the Caltrans District Biologist and the CDFG.

- If any of the preconstruction surveys determine that BUOW are present, one or more of the following measures may be required: (1) avoidance of active nests and surrounding buffer area during construction activities; (2) passive relocation of individual owls; (3) active relocation of individual owls; and (4) preservation of on-site habitat with long-term conservation value for the owl. The specifics of the required measures shall be coordinated between the Caltrans District Biologist and the CDFG.

- A biologist will monitor construction within the vicinity of burrowing owl (BUOW) locations (if present) for the duration of the project to ensure that vegetation removal, BMPs, ESAs, and all avoidance and minimization measures are properly implemented.

- An employee education program for all construction personnel would be developed and implemented by the biological monitor prior to construction. At a minimum, the program would include the following topics: (1) responsibilities of the biological monitor; (2) delineation and installation of visible barriers of ESAs; (3) limitations on all movement of those employed on site, including ingress and egress of equipment and personnel, to designated construction zones (personnel shall not be allowed access to ESAs); (4) on-site pet prohibitions; (5) use of trash containers for disposal and removal of trash; and (6) project features designed to reduce the impacts to listed species and habitat and promote continued successful occupation of adjacent habitat areas.

5.3.2.3 PROJECT IMPACTS

At this time, the BUOW(s) found in the fall of 2009 are best considered wintering individual(s), likely to leave the BSA in the spring. Protocol breeding season surveys would provide more information. BUOW presence in 2009 demonstrates that open areas within the BSA do still provide habitat for BUOW, despite the species much-reduced status within the Los Angeles Basin.

5.3.2.4 COMPENSATORY MITIGATION

Unless BUOW proves to be a nesting species within the BSA, potential effects to the species would be avoided and/or minimized along with other grassland and open habitat species discussed in Section 5.3.5. The avoidance and minimization measures outlined in Section 5.3.2.2 will ensure that effects to this species are absent or minimal from implementation of any of the proposed build alternatives.

5.3.2.5 Cumulative Effects

Project effects to habitat for the BUOW would not likely threaten the continued existence of the individual(s) identified during the surveys, much less threaten the existence of the species. Considering the cumulative impacts of this I-710 Corridor Project in combination with reasonably foreseeable projects in the vicinity, cumulative effects of the I-710 Corridor Project on this species would be minimal.

5.3.3 California Least Tern

The CLT is a federally and State-endangered colonial breeder that nests along the coast from San Francisco Bay to Baja California. It is also considered a State fully protected species. No critical habitat has been designated for the CLT.

5.3.3.1 Survey Results

The CLT nests at Terminal Island in the Port of Los Angeles. Foraging birds regularly visit the Los Angeles River mouth below the Queensway Bridge and occasionally upstream. CLTs are rare away from the estuarine portions of the Los Angeles River, but have been recorded north to I-5 and in off-channel ponds east of the river north of there. CLT are typically present in California from the first week of April to the first week of September.

5.3.3.2 Avoidance and Minimization Efforts

In addition to the avoidance and minimization measures described in Sections 5.1.1.2 and 5.1.2.2, the following measures would be incorporated to avoid and minimize effects to CLT:

- New and renovated bridges will be designed to ensure the safety of birds flying up and down the Los Angeles River. Suitable fencing or other structural features on the sides of bridges would direct flying birds up and out of the way of traffic, as well as restrict litter and debris from falling into the Los Angeles River during regular operation.

5.3.3.3 Project Impacts

CLTs could be affected indirectly by project-generated changes in water quality. Such changes could involve increased pollution levels, increased turbidity, or impacts on the fish on which they feed. New bridge designs could result in occasional bird strikes. However, by following the avoidance and minimization measures outlined in Sections 5.1.1.2, 5.1.2.2, and 5.3.3.2, no noticeable changes in water conditions or bird strike frequency would occur. This species is absent from California for more than half of the year. Other than potential long-term effects on fish populations (CLT food source), there would be no potential effects when the species is absent.

Metro

5.3.3.4 COMPENSATORY MITIGATION

Because of the lack of project effects on CLT habitat, no compensatory mitigation is warranted. The avoidance and minimization measures outlined in Sections 5.1.1.2, 5.1.2.2, and 5.3.3.2 would address any potential impacts to this species from any of the proposed alternatives.

5.3.3.5 CUMULATIVE EFFECTS

Project effects to habitat for the CLT would not likely threaten the continued existence of the populations nearby, much less threaten the existence of the species. The impacts of the I-710 Corridor Project in combination with reasonably foreseeable projects in the vicinity, would result in incremental, cumulative effects on this species.

5.3.4 OTHER SPECIAL-STATUS RIPARIAN AND AQUATIC ANIMAL SPECIES

In addition to the species discussed above, many special-status animal species occur within riparian and aquatic habitats and may occur within the BSA, including coastal western whiptail (*Aspidoscelis trigris stejnegeri*), silvery legless lizard (*Anniella pulchra pulchra*), San Bernardino ringneck snake (*Diadophis punctatus modestus*), two-striped garter snake (*Thamnophis hammondii*), American bittern (*Botaurus lentiginosus*), great blue heron (*Ardea hoerodias*), great egret (*Ardea alba*), snowy egret (*Egretta thula*), black-crowned night-heron (*Nycticorax nycticorax*), Cooper's hawk (*Accipiter cooperii*), merlin (*Falco columbarius*), whimbrel (*Numenius phaeopus*), long-billed curlew (*Numenius americanus*), marbled godwit (*Limosa fedoa*), Roselaar's red knot (*Calidrus canutus roselaari*), short-billed dowitcher (*Limnodromus griseus*), Clark's marsh wren (*Cistothorus palustris clarkae*), California yellow warbler (*Dendroica petechia brewsteri*), salt marsh common yellowthroat (*Geothlypis trichas sinuosa*), large-billed Savannah sparrow (*Passerculus sandwichensis rostratus*), and special-status bat species described below under Section 5.3.6. Additional species in Table 4.3 have been observed, or are expected to occur, within the BSA; but their special-status designations are restricted to nesting sites, which do not currently exist within the BSA.

5.3.4.1 SURVEY RESULTS

Of the special-status species mentioned above, great blue heron, great egret, snowy egret, black-crowned night heron, Cooper's hawk, long-billed curlew, marbled godwit, California yellow warbler, silver-haired bat (*Lasionycteris noctivagans*), and Yuma myotis (*Myotis yumanensis*) were observed within the BSA during the surveys conducted in 2009. Although the remaining special-status species were not observed during surveys, surveys were not focused on these species. In addition, it is possible for them to move onto the site prior to construction. While much of the habitat within the BSA is disturbed, developed, or degraded by the presence of nonnative species, some suitable habitat exists within the BSA.

5.3.4.2 AVOIDANCE AND MINIMIZATION EFFORTS

These species occupy the riparian/riverine natural communities; therefore, avoidance and minimization efforts for special-status riparian and aquatic animal species are the same as those described for the estuarine and riparian/riverine habitats in Sections 5.1.1.2 and 5.1.2.2, respectively.

5.3.4.3 PROJECT IMPACTS

The proposed project is not expected to directly affect any of these species as a result of the avoidance and minimization measures described in Sections 5.1.1.2 and 5.1.2.2. The I-710 Corridor Project is expected to have indirect and temporary effects on them through the temporary loss of potential habitat. However, special-status riparian and aquatic animal species are expected to move out of the BSA to higher quality habitats during construction. Therefore, I-710 Corridor Project effects for these species are the same as those described for the riparian/riverine natural communities in Section 5.1.2.3.

5.3.4.4 COMPENSATORY MITIGATION

Due to the avoidance and minimization measures described in Sections 5.1.1.2 and 5.1.2.2, the I-710 Corridor Project is not expected to adversely affect these species; therefore, specific compensatory mitigation is not warranted. However, compensatory mitigation described for the estuarine and riparian/riverine habitats in Sections 5.1.1.4 and 5.1.2.4, respectively, would benefit these species by enhancing native vegetation and increasing foraging opportunities.

5.3.4.5 CUMULATIVE EFFECTS

I-710 Corridor Project effects to habitat for species dependent upon riparian and aquatic habitat would not likely threaten the continued existence of the populations nearby, much less threaten the existence of the species. The impacts of the I-710 Corridor Project in combination with reasonably foreseeable projects in the vicinity would result in incremented, cumulative effects on these species.

5.3.5 OTHER SPECIAL-STATUS ANIMAL SPECIES OF DEVELOPED/ORNAMENTAL/RUDERAL HABITATS

In addition to the species discussed above, other special-status animal species that occur within developed, ornamental, or ruderal habitats have the potential to occur within the BSA, including the monarch butterfly (*Danaus plexippus*), Aleutian cackling goose (*Branta hutchinsii leucopareia*), white-tailed kite (*Elanus leucurus*), Costa's hummingbird (*Calypte costae*), Allen's hummingbird (*Selasphorus sasin*), and loggerhead shrike (*Lanius ludovicianus*).

5.3.5.1 SURVEY RESULTS

Allen's hummingbird and loggerhead shrike were observed within the BSA during the surveys conducted in 2009. Although the remaining species listed in Section 5.3.5 were not observed during surveys, surveys were not focused on these species. In addition, it is possible for them to move onto the site prior to construction. While much of the habitat within the BSA is disturbed, developed, or degraded by infestations of nonnative species, some suitable habitat exists within the BSA.

Some bird species prefer disturbed habitat and are likely to be observed during preconstruction bird surveys. The tricolored blackbird (*Agelaius tricolor*) prefers disturbed habitats, while Cooper's hawk (*Accipiter cooperii*), merlin (*Falco columbarius*), American peregrine falcon (*Falco peregrinus anatum*), burrowing owl (*Athene cunicularia*), loggerhead shrike (*Lanius ludovicianus*), California horned lark (*Eremophila alpestris actia*), lark sparrow (*Chondestes grammacus*), and yellow headed blackbird (*Xanthocephalus xanthocephalus*) do not prefer disturbed habitats, but will use them.

5.3.5.2 AVOIDANCE AND MINIMIZATION EFFORTS

The following measure would be incorporated to avoid and minimize effects to other special-status animal species of developed/ornamental/ruderal habitats:

- In order to avoid effects to nesting birds, bridge demolition, native vegetation removal, or tree-trimming (native or exotic) activities would occur outside of the nesting bird season (February 15–September 1). In the event that vegetation clearing is necessary during the nesting season, a qualified biologist shall conduct a preconstruction survey to identify the locations of nests. Should nesting birds be found, an exclusionary buffer would be established by the biologist. This buffer would be clearly marked in the field by construction personnel under the guidance of the biologist, and construction or clearing would not be conducted within this zone until the biologist determines that the young have fledged or the nest is no longer active.

5.3.5.3 PROJECT IMPACTS

The I-710 Corridor Project is not expected to directly affect any of these species as a result of the avoidance and minimization measure described in Section 5.3.5.2; however, the I-710 Corridor Project is expected to have indirect and temporary effects to them through the loss of potential habitat. With the avoidance and minimization measure described above, the I-710 Corridor Project is not expected to adversely affect these species.

5.3.5.4 COMPENSATORY MITIGATION

Due to the avoidance and minimization measures described in Section 5.3.5.2, the I-710 Corridor Project is not expected to directly affect these species; therefore, specific compensatory mitigation is not warranted. However, on February 3, 1999, President Clinton signed EO 13112, requiring federal agencies to combat the introduction or spread of invasive species in the United States. Therefore, in compliance with EO 13112, a weed abatement program would be developed, and temporarily affected areas would be revegetated with plant species that help prevent the introduction or spread of invasive species. Weed abatement would be targeted to areas that do not contain ruderal native vegetative species such as milkweed. Details about the weed abatement program are outlined in Section 6.7.

5.3.5.5 CUMULATIVE EFFECTS

Project effects to habitat for species dependent upon the developed/ornamental/ruderal habitat would not likely threaten the continued existence of the populations nearby, much less threaten the existence of the species. The impacts of the I-710 Corridor Project, in combination with reasonably foreseeable projects in the vicinity, would result in incremental, cumulative effects on these species.

5.3.6 SPECIAL-STATUS BRIDGE- AND CREVICE-DWELLING ANIMAL SPECIES

Special-status bridge- and crevice-dwelling animal species (i.e., bats) with the potential to occur in the BSA include California nose-leaved bat (*Macrotis californicus*), Mexican long-tongued bat (*Choeronycteris mexicana*), lesser long-nosed bat (*Leptonycteris yerbabuenae*), pallid bat (*Antrozous pallidus*), Townsend's big-eared bat (*Corynorhinus townsendii*), western mastiff bat (*Eumops perotis californicus*), western red bat (*Lasiurus blossevillii*), hoary bat (*Lasiurus cinereus*), western yellow bat (*Lasiurus xanthinus*), spotted bat (*Euderma maculatum*), silver-haired bat, western small-footed myotis (*Myotis ciliolabrum*), long-eared myotis (*Myotis evotis*), fringed myotis (*Myotis thysanodes*), long-legged myotis (*Myotis volans*), Yuma myotis, pocketed free-tailed bat (*Nyctinomops femorosaccus*), and big free-tailed bat (*Nyctinomops macrotis*). Suitable roosting and foraging habitat exists within the BSA for all of the special-status bat species with the exception of fringed myotis, lesser long-nosed bat, Mexican long-tongued bat, long-legged myotis, and California leaf-nosed bat.

There are no special-status bridge- and crevice-dwelling bird species with potential to occur within the BSA. Nonlisted bridge- and crevice-dwelling bird species are discussed in Section 6.3.8.

5.3.6.1 SURVEY RESULTS

Bats visually and acoustically detected within the BSA during nighttime emergence and acoustic surveys in 2009 included big brown bat (*Eptesicus fuscus*), Mexican free-tailed bat, and Yuma myotis (Appendix D). In addition, inconclusive acoustic data from the 2009 surveys suggests the potential presence of silver-haired bat and California myotis. Silver-haired bat and Yuma myotis were the only bat species with special status that were identified during these surveys. No indication of a large maternity colony was present, although smaller maternity colonies or groups of bats may be present in the structures along the Los Angeles River.

5.3.6.2 AVOIDANCE AND MINIMIZATION EFFORTS

No sign or indication of a large group of bats, such as a large maternity colony, was observed during the daytime or nighttime surveys; however, smaller maternity colonies or groups of bats may be present in the structures along the Los Angeles River. Additionally, since bats are highly mobile species, there is potential for the bats to subsequently occupy any suitable crevices on site for day roosting. Since bats were observed switching day-roosting sites on multiple occasions during the assessment, bridges along the Los Angeles River that are suitable for day-roosting bats may need to be reassessed prior to construction on a case-by-case basis to ensure that no maternity colonies or individuals are present in structures or portions of structures where they could be directly impacted by construction. If day-roosting bats are present or their presence is assumed in portions of structures that would be directly impacted by construction activities, exclusionary devices should be placed in the fall (September or October) preceding construction to exclude bats from directly affected work areas and avoid potential direct impacts. It is particularly important to avoid direct impacts to bats during the maternity season (typically from March through August in Southern California), when flightless young are present. Additional avoidance and minimization measures, including but not limited to the installation of bat houses or providing other forms of alternative bat habitat, may also be appropriate.

A night roost refers to a structure (natural or humanmade) in which bats roost during the evening between foraging bouts. When a night roost is eliminated, the energetics for bats to successfully utilize the surrounding foraging area may be negatively affected. Although a day roost may double during the evening as a night roost if it is close to a foraging area, night roosts are used only in the evening. Therefore, there would be little to no impacts to bats at structures identified as night roosts or potential night roosts if construction activity is limited to daytime hours, the existing structures utilized by the bats for roosting are not removed or altered, vegetation adjacent to these structures is not cleared, and the airspace to access the structures is not restricted. If nighttime construction activity is anticipated, or if major modifications would be made to the bridges or culverts that may reduce their suitability for night roosting, preconstruction surveys may be needed to determine the appropriate measures to minimize impacts to night-roosting bats. Possible measures could include, but are not limited to, minimization of night lighting beneath the structure and construction of alternative roosting habitat.

Although bridge and culvert roosts can be relatively easy to identify, tree roosts are more subtle and require close examination. To avoid potential direct impacts to roosting bats, if tree removal or trimming is necessary for project construction, large trees and snags should be examined by a bat biologist prior to removal or trimming to ensure that no roosting bats are present. Palm frond trimming, if necessary, should be conducted outside the maternity season to avoid potential mortality to flightless young.

As construction plans with regard to these bridge and culvert structures are finalized, consultation and communication between engineers and a qualified bat biologist early in the construction planning process would aid in the determination of specific measures to minimize impacts to bats in a timely, cost-effective, and structurally successful manner. Although none of the structures identified as day and/or night roosts appear to be utilized by large numbers of bats, if several structures in a given area would be impacted at one time, there may be an impact with regard to the availability of suitable crevices for roosting. In the case of bridges where direct impacts are anticipated, additional surveys are recommended to yield more precise information with regard to seasonal presence, species composition, and the approximate number of bats utilizing the structures for roosting.

The following measures would be incorporated to avoid and minimize effects to the special-status bridge- and crevice-dwelling animal species:

- In order to prevent effects to bridge- and crevice-nesting bats and birds (i.e., swifts), all work on existing bridges with potential habitat identified during the preconstruction surveys (including bat maternity roosts) will have bat/bird exclusion devices installed between September 1 and November 30 (with consideration of weather conditions). Installation of the exclusion devices will be conducted under the guidance of a qualified biologist and will be limited if weather conditions are such that they will be harmful to evicted species (e.g., cold temperatures). Such exclusion efforts must be continued to keep the structures free of bats and birds until the completion of construction. All exclusion techniques shall be coordinated between the District Biologist and the CDFG.

- In the June prior to construction, a qualified bat biologist would survey the project area to assess the potential for its use as a maternity roost, since maternity roosts are generally formed in late spring. The qualified bat biologist shall also perform pre-construction surveys, since bat roosts can change seasonally. The surveys shall include a combination of structure inspection, sampling, exit counts, and acoustic surveys. Pre-construction surveys shall also include nighttime surveys to determine whether night-roosting bats are present. If a maternity roost is found, no work will take place on that structure until the end of the maternity season and exclusion devices are installed.

- In order to prevent project effects to bridge- and crevice-nesting birds (i.e., swallows), all work on existing bridges with potential habitat that is conducted between February 15 and September 1 would be removed of all bird nests prior to construction under the guidance and observation of a qualified biologist prior to February 15 of that year, before the swallow colony returns to the nesting site. Removal of swallow nests that are under construction must be repeated as frequently as necessary to prevent nest completion or until a nest exclusion device is installed (such as netting or a similar mechanism that keeps birds from building nests). Nest removal and exclusion device installation shall be monitored by a qualified biologist. Such exclusion efforts must be continued to keep the structures free of swallows until September 1 or completion of construction. All nest exclusion techniques would be coordinated between the Caltrans District Biologist and the CDFG.

5.3.6.3 PROJECT IMPACTS

Project effects to special-status bridge- and crevice-dwelling animal species would include temporary indirect disturbance (such as noise, vibration, dust, night lighting, and human encroachment) from construction. Permanent indirect issues associated with human encroachment, such as the introduction of nonnative species and trash, would permanently contribute to the degradation of foraging habitat (i.e., riparian/riverine vegetation) in the vicinity. Although low, bat mortality does exist as a possible permanent project effect.

In addition, construction could temporarily impede access to roost sites (existing and future) in the crevices of bridges, culverts, and overhead structures. Only a small portion of roosting habitat (existing and future) may be permanently altered by the I-710 Corridor Project. However, the widening and modification of bridge, culvert, and overhead structures would more likely increase future potential roosting habitat. The I-710 Corridor Project is not expected to substantially affect long-term use of the structures by bats.

5.3.6.4 COMPENSATORY MITIGATION

Due to the measures described in Section 5.3.6.2, the I-710 Corridor Project is not expected to affect these species of bats; therefore, specific compensatory mitigation is not warranted. In addition, compensatory mitigation described in Sections 5.1.1.4 and 5.1.2.4 for natural communities would benefit bridge- and crevice-dwelling animal species by enhancing native vegetation and increasing foraging opportunities.

5.3.6.5 CUMULATIVE EFFECTS

The widening and modification of bridge, culvert, and overhead structures would more likely increase future potential roosting habitat if additional crevices are created within the new or modified structures. However, gaps in joints and hinges will be filled to avoid roosting animal droppings and nesting materials from eroding the structures and impeding inspections. The impacts of the I-710 Corridor Project, in combination with reasonably foreseeable projects in the vicinity, would result in incremental cumulative effects on special-status bridge- and crevice-dwelling animal species.

5.3.7 CALIFORNIA SEA LION

The California sea lion is one of the most common and widespread marine mammals along the California coast. The California sea lion is not a federally listed species or California species of special concern; however, it is protected under the MMPA and therefore is addressed in regard to potential harassment from the I-710 Corridor Project.

5.3.7.1 SURVEY RESULTS

The California sea lion is occasionally found within the BSA in the lower reaches of the Los Angeles River, primarily south of Ocean Blvd. Individuals occasionally stray upstream as far north as Willow St. (e.g., one seen by survey team north of Pacific Coast Hwy. on September 4, 2009), although the generally shallow depth and the disparity of haul-out sites (low-lying docks, piers, platforms, or sandy shoreline beaches) limit their occurrence. Haul-out sites are necessary for seals for mating and giving birth, but not all haul-out sites are for reproduction. Other benefits of haul-out sites may include predator avoidance, thermal regulation, social activity, parasite reduction, and rest.

5.3.7.2 AVOIDANCE AND MINIMIZATION EFFORTS

It is anticipated that most California sea lions would avoid the BSA, but it is possible that some individuals may be present in the work area at various times during construction activity. In addition, prior studies have shown that loud underwater sounds, such as those produced by in-water pile driving, can have detrimental effects on marine mammals. Measures proposed in the Fisheries Management Plan to be prepared for the I-710 Corridor project would provide avoidance and minimization measures that would be suitable for California sea lions, should they be present in the lower Los Angeles River during construction. An IHA and associated MMMP issued under the authority of Section 101 (a) (5) (D) of the MMPA would not be required, although changes in personnel with NMFS could potentially result in a different conclusion.[1] Further coordination with NMFS shall be conducted prior to construction.

In addition, the avoidance and minimization measures described for the Estuarine/Open water and Riparian/Riverine Natural Communities in Sections 5.1.1.2 and 5.1.2.2 are expected to avoid and minimize effects to California sea lions.

5.3.7.3 PROJECT IMPACTS

The I-710 Corridor Project would include driving of 30 piers/support structures on four bridges within the lower Los Angeles River that could affect California sea lions: the 7th St. Bridge (4 piers), Anaheim St. (8 piers), Pacific Coast Hwy. (4 piers), and Willow St. (14 piers). A new bridge will be constructed over the lower Los Angeles River at 7th St., while Anaheim St., Pacific Coast Hwy., and Willow St. will be expanded. Additional details regarding methods and materials of pile driving (e.g., alignment, size, and height of the elevated structure; duration of construction; use of steel or concrete casings) were unknown at the time this NES was being prepared. Nonetheless, the percussive forces generated during any pile-driving activities may result in injury to California sea lions within and adjacent to the BSA, where estuarine habitat exists.

1 Deangeles, personal communication, December 15, 2009.

The I-710 Corridor Project may be able to drive the piles at a sound level less than the threshold that has been identified to harm marine mammals such as California sea lions. A sound level below 190 decibels (dB) re 1 microPa rms would not result in Level A harassment of pinnipeds and the onset of temporary threshold shift (TTS) in pinniped hearing (NMFS 2003). The driving of the steel piles could exceed the Level A harassment levels if no attenuation methods are implemented. Use of appropriate attenuation methods during pile driving such as bubble curtains or blocks are expected to reduce the sound pressure levels below the harassment level.

Construction and expansion of the four bridges in the lower Los Angeles River would also bring construction personnel and equipment into the area where California sea lions may occur. Although there would be an incremental increase in activity due to bridge construction, the Los Angeles River typically draws large numbers of people engaged in recreational and commercial activities. The temporary presence of construction personnel is not expected to adversely impact sea lions.

Construction and expansion of the four bridges in the lower Los Angeles River would not alter movement of California sea lions through the channel. While dewatering of entire the entire Los Angeles River will not occur, some minimal isolation of work (e.g., air bubble curtain system or air-filled isolation casings around bridge support structures) may be required during bridge construction, this impact would be temporary during the period of pile driving and bridge deck construction. Once the pile driving and bridge construction is completed, the bridges would not impede the movement of California sea lions through the channel.

Project activity on dry land is not expected to impact California sea lions, provided that sediments and construction materials are retained on land and measures are implemented to prevent the movement of the soil, concrete, and other construction materials into the Los Angeles River channel.

5.3.7.4 COMPENSATORY MITIGATION

No compensatory mitigation is proposed. The avoidance and minimization measures outlined in Sections 5.1.1.2 and 5.1.2.2 will ensure that effects to the California sea lion resulting from any of the proposed alternatives are absent or minimal.

5.3.7.5 CUMULATIVE EFFECTS

The I-710 Corridor Project would increase the ambient noise level and activity in the vicinity of 7th St., Anaheim St., and Pacific Coast Hwy. bridges during construction, which may affect California sea lions that occasionally use the river channel. If construction occurs concurrent with other Los Angeles River redevelopment activities, noise levels could be elevated well above ambient levels. Based on the reasonably foreseeable projects identified in the BSA, no other projects are expected to occur in the vicinity of the Los Angeles River that would add to the noise levels in the slough during bridge construction.

5.4 FISH

As noted in Section 4.1.4.3, portions of the Los Angeles River within the BSA provide habitat for a number of fish species. These fish inhabit Queensway Bay and may occasionally move upstream to tidal and freshwater portions of the Los Angeles River. Fish moving through the river may be affected by bridge construction, particularly during the pile-driving activities.

5.4.1 SURVEY RESULTS

As explained in more detail in the Estuarine Resources Environmental Assessment (Appendix F), ichthyoplankton (fish eggs and larvae) in the Lower Los Angeles River varies both spatially and seasonally. Species occurring in greatest abundance include gobies (Gobidae family), northern anchovy, slough anchovy (*Anchoa delicatissima*), and white croakers (*Genyonemus lineatus*). Other eggs and larvae occurring in the river include spotted turbot (*Pleuronichthys ritteri*), hornyhead turbot (*Pleuronichthys verticalis*), California lizard fish (*Synodus lucioceps),* and California tonguefish (*Symphurus atricaudus*). Overall, ichthyoplankton species richness and density is higher during the winter, primarily due to an increase in the number of cheekspot goby in the Los Angeles River.

5.4.2 AVOIDANCE AND MINIMIZATION EFFORTS

The avoidance and minimization measures described for the Estuarine/Open water and Riparian/Riverine Natural Communities in Sections 5.1.1.2 and 5.1.2.2 are expected to avoid and minimize effects to fish. In addition to these measures, the following measure will be implemented:

- All pile driving and bridge construction would take place during daylight hours.

5.4.3 PROJECT IMPACTS

Alternatives 5A, 6A, 6B, and 6C would all include driving of 30 piers/support structures in tidal waters across the Los Angeles River at the 7th St., Anaheim St., Pacific Coast Hwy., and Willow St. crossings. Furthermore, numerous pilings would be required upstream of tidal waters in freshwater areas of the Los Angeles River to accommodate improvements to other crossing structures. Relevant information for pile driving such as alignment, number, size, methods, materials, or duration could not be determined at the time this NES was being prepared. Nonetheless, the percussive forces generated during pile-driving activities may result in injury and death to fish within the impact area. Both the peak sound pressure level and the SEL may result in damage to the auditory tissue of fishes or temporary hearing loss (THL) (ICF Jones & Stokes and Illingworth and Rodkin 2009). Temporary hearing loss occurs at lower levels than auditory tissue damage and is dependent on the size of the fish, with smaller fish being affected at lower levels than larger fish (ICF Jones & Stokes and Illingworth and Rodkin 2009). In addition to the direct effect of hearing loss of auditory tissue damage, sound levels from pile driving may also result in indirect effects such as inability to avoid predators or detect prey and inability to communicate or detect the environment (ICF Jones & Stokes and Illingworth and Rodkin 2009).

In addition to auditory tissue damage and temporary hearing loss, increased sound levels associated with pile driving may also affect fish by causing physiological and anatomical damage. Nonauditory tissue damage may include capillary rupture in skin, neurotrauma, eye hemorrhage, swim bladder rupture, and death of individual fish (ICF Jones & Stokes and Illingworth and Rodkin 2009). Such impacts may be the result of single or repeated exposure to elevated sound levels.

CDFG and NMFS have established noise limits associated with pile driving to avoid and minimize effects to fish. These thresholds are discussed in detail in the *Final Technical Guidance for Assessment and Mitigation of the Hydroacoustic Effects of Pile Driving on Fish* (ICF Jones & Stokes and Illingworth and Rodkin 2009). The acoustic impact area for the I-710 Corridor Project is estimated to extend from bank to bank and upstream and downstream 1,000 m from each crossing. This area is estimated using calculations in the *Final Technical Guidance for Assessment and Mitigation of the Hydroacoustic Effects of Pile Driving on Fish* (ICF Jones & Stokes and Illingworth and Rodkin 2009) with the following assumptions:

- Ambient noise level (from Table 4.3 of ICF Jones & Stokes and Illingworth and Rodkin 2009), large, marine inlet and some recreational boat traffic): 135 dB
- Pile Type: 24-inch steel pipe
- Driver: Impact hammer
- Attenuation Device: None
- Injury criteria 206 $dB_{peak,}$ 183 dB $SEL_{cumulative}$
- Peak dB for 24-inch steel pipe piles driven in area with tidal flows: 203 dB at 10 m
- Transmission Loss (TL): 203-135 = 68
- Attenuation factor: 5-30 (site-specific factor is currently unknown)

- Solving for the distance at which the ambient noise would be reached using Equation 4-2 in *Final Technical Guidance*: D_2= 1,848 m to 3.98 $x10^{14}$ m using attenuation factors of 5-30.

Because these values exceed 500 m, and due to the difficulty in detecting audibility beyond 500 to 1,000 m, the upstream and downstream acoustic impact area is assumed to be 1,000 m (ICF Jones & Stokes and Illingworth and Rodkin 2009).

Pile driving can be accomplished with sound levels that are below the peak and cumulative SEL for fish. Through the use of proper equipment and attenuation methods (if needed), pile driving for the bridge can be completed within the acoustic limits established in the *Final Technical Guidance for Assessment and Mitigation of the Hydroacoustic Effects of Pile Driving on Fish* (ICF Jones & Stokes and Illingworth and Rodkin 2009). This technical guidance has been adopted by NOAA Fisheries, USFWS, Caltrans, and CDFG.

Construction of the bridges may also alter movement of fish through the mouth of the Los Angeles River. While dewatering of entire the entire Los Angeles River will not occur, some minimal isolation of work (e.g., air bubble curtain system or air-filled isolation casings around bridge support structures) may be required during bridge construction; this impact would be temporary during the period of pile driving and bridge deck construction. Once the pile driving and bridge construction is completed, the bridges would not impede the movement of fish through the channel.

Construction of the I-710 Corridor Project on dry land is not expected to impact fish, provided that sediments and construction materials are retained on land and measures are implemented to prevent the movement of the soil, concrete, and other construction materials into the river channel.

5.4.4 COMPENSATORY MITIGATION

No compensatory mitigation is proposed. BMPs will be implemented to minimize stirring of contaminated sediments during pile-driving activities and contamination of aquatic resources with lead-based paint during demolition of existing bridges. The full extent of the BMPs will be outlined in the SWPPP to be prepared for the I-710 Corridor Project. With implementation of these BMPs and the avoidance and minimization efforts, effects to fisheries will be temporary.

5.4.5 CUMULATIVE EFFECTS

The I-710 Corridor Project would increase the ambient noise levels in the vicinity of the Los Angeles River during construction. If construction were to occur concurrently with other Los Angeles River redevelopment activities, noise levels could be elevated well above ambient levels; however, no other projects have been identified that would occur in the vicinity of the Los Angeles River that would add to the noise levels in the river during bridge construction.

5.5 ESSENTIAL FISH HABITAT

EFH includes those waters and substrates necessary to fish for spawning, breeding, feeding, or growth to maturity. For the purpose of interpreting the definition of EFH, "waters" include aquatic areas and their associated physical, chemical, and biological properties that are used by fish and may include aquatic areas historically used by fish where appropriate; "substrate" includes sediment, hard bottom, structures underlying the waters, and associated biological communities; "necessary" means the habitat required to support a sustainable fishery and the managed species contribution to a healthy ecosystem; and "spawning, breeding, feeding, or growth to maturity" covers a species full life cycle. EFH is described by Fishery Management Councils in amendments to Fishery Management Plans and is approved by the Secretary of Commerce acting through the NMFS (50 CFR 600.10) (NMFS 2004). The importance of EFH is not necessarily the presence of federally listed species, but what the habitat contributes to the surrounding environment (e.g., wetlands or near-shore ecosystems).

5.5.1 SURVEY RESULTS

The I-710 Corridor Project is located within the lower reaches of the Los Angeles River in an area designated as EFH by NMFS (Erlandson, personal communication, December 14, 2009). An Estuarine Resources Environmental Assessment was prepared for the I-710 Corridor Project and can be found in Appendix F. Previous studies were examined as well.

As a nursery site for numerous fish species, Queensway Bay provides EFH for Coastal Pelagic Species (Northern anchovy [*Engraulis mordax*], Pacific sardine [*Sardinops sagax*], Pacific mackerel [*Scomber japonicus*], and jack mackerel [*Trachurus syymetricus*]) and Pacific Coast Groundfish (leopard shark [*Triakis semifasciata*], spiny dog fish shark [*Squalus acanthias*], and California sculpin [*Clinocottus recalvus*]). These species occasionally use Queensway Bay for reproduction and development and are included in the Coastal Pelagic Species and Pacific Coast Groundfish Fisheries Management Plans. However, the only one of these species that would be expected to occur within the lower reaches of the Los Angeles River is the northern anchovy. The majority of the anchovy population is expected to occur in Queensway Bay and San Pedro Bay at depths greater than 12 ft.

Bay and estuarine fisheries have been found within the lower reaches of the Los Angeles River based on degree and interaction of tidal and freshwater influence. Some members of the estuarine fish community and the demersal and pelagic fish community are expected to be present. However, diversity and abundance of these groups are expected to be low compared to Queensway Bay.

5.5.2 Avoidance and Minimization Efforts

Informal consultation with the NMFS regarding effects to EFH in the lower reaches of the Los Angeles River would be necessary for potential impacts to northern anchovy. At a minimum, the avoidance and minimization measures described in Sections 5.1.1.2 and 5.1.2.2 will be implemented to avoid and minimize effects to EFH.

5.5.3 Project Impacts

The I-710 Corridor Project would have a temporary adverse effect on Coastal Pelagic Management Plan Species. The I-710 Corridor Project would not permanently impede movement of fish into and out of the Los Angeles River corridor. Construction would have a temporary effect on fish that inhabit the river during pile-driving operations and potential isolated dewatering activities, as described in Section 5.4 above. In addition to the injury and mortality that may result from pile driving and dewatering, pile driving and dewatering would likely make the channel bottom in the vicinity of the bridges unsuitable for fish during these operations. This would be a temporary loss of habitat, and no permanent effects would occur to the habitat except for a minimal loss of channel bottom where the piles would be placed. In addition, no permanent effects would occur from dewatering activities, as dewatering materials would be removed upon completion of bridge construction.

5.5.4 Compensatory Mitigation

No compensatory mitigation is proposed. BMPs will be implemented to minimize stirring of contaminated sediments during pile-driving activities and contamination of aquatic resources with lead-based paint during demolition of existing bridges. The full extent of the BMPs will be outlined in the SWPPP to be prepared for the I-710 Corridor Project. With implementation of these BMPs, effects to EFH will be temporary.

5.5.5 Cumulative Effects

The I-710 Corridor Project would increase the ambient noise level in the vicinity of the bridges during construction, which may affect fish habitat designated as EFH. If construction were to occur concurrently with other harbor redevelopment activities, noise levels could be elevated well above ambient levels; however, no other projects have been identified that would occur in the vicinity of the lower Los Angeles River that would add to the noise levels in the river during bridge construction.

5.6 Wildlife Movement

Many wildlife species require large areas of habitat to forage for food, find burrowing/denning or nesting sites, and for breeding. Corridors linking areas of suitable habitat are important because they provide useful habitat and allow movement of wildlife from one area to another. Corridors are often used by juveniles dispersing to new territories. This avoids intraspecific competition in existing habitats and allows the recolonization of areas from which animals have become extirpated. Wildlife movement and habitat fragmentation are greatly affected by roads.

Wildlife crossings are generally structural passages beneath or above roadways. “Wildlife crossing” is the umbrella term encompassing underpasses, overpasses, and culverts. All of these structures provide seminatural corridors above or below roads, and in some cases adjacent to roads, so that animals can safely cross without endangering themselves and motorists. Species of primary interest in this wildlife corridor assessment are medium-sized mammals such as coyote (*Canis latrans*) and bobcat (*Lynx rufus*).

The adverse effects of I-710 to wildlife movement have long been in place since the construction of the freeway in the late 1950s and 1960s. Wildlife movement across I-710 in the BSA has been substantially constrained for many years by humanmade barriers (lack of suitable vegetative cover, existing roadways, storm water conveyance structures, and fencing, along with the associated commercial, industrial and residential development). The urban setting of the BSA provides limited opportunities for habitat continuity. Nevertheless, the Los Angeles River and adjacent parks, wetlands, and vacant lands do provide a long linear stretch of area suitable for wildlife, including many species of waterbirds and medium-sized adaptable mammals such as coyotes.

5.6.1 PROJECT IMPACTS

The I-710 Corridor Project would result in some loss of vacant land, but would not increase habitat fragmentation or impede the movement of wildlife in the area. Habitat within the Los Angeles River channel and movement opportunities therein would not be affected by project implementation because the I-710 Corridor Project essentially modifies an existing transportation facility.

The I-710 Corridor has restricted wildlife movement and resulted in habitat fragmentation for many years; therefore, the I-710 Corridor Project is not expected to have an adverse effect on wildlife movement.

5.6.2 AVOIDANCE, MINIMIZATION, AND MITIGATION

In addition to the avoidance and minimization measures described in the Estuarine/Open water and Riparian/Riverine Natural Communities in Sections 5.1.1.2 and 5.1.2.2, the following measures would be incorporated to avoid and minimize effects to wildlife movement:

- New and renovated bridges will be designed to ensure the safety of birds flying up and down the Los Angeles River. Suitable fencing or other structural features on the sides of bridges would direct flying birds up and out of the way of traffic, as well as restrict litter and debris from falling into the Los Angeles River during regular operation.

- Construction work in the vicinity of the Los Angeles River, adjacent parks, wetlands, and vacant lands will be limited to daylight hours to minimize disturbance to wildlife movement to the best extent feasible. However, this may be difficult to achieve since most highway construction in the region is conducted at night to avoid impacting commuter traffic. If work must be done at night, noise and lighting will be directed away from the Los Angeles River, adjacent parks, wetlands, and vacant lands.
- The Los Angeles River corridor will be kept clear of all equipment or structures that could potentially serve as barriers to wildlife passage.

5.7 SUMMARY OF AVOIDANCE AND MINIMIZATION MEASURES

The following is a consolidated summary of the avoidance and minimization measures discussed in the above sections. These measures would be incorporated to avoid and minimize effects to sensitive biological resources:

1. Prior to clearing or construction, highly visible barriers (such as orange construction fencing) would be installed around sensitive habitats adjacent to the project footprint under the guidance of a biological monitor to designate Environmentally Sensitive Areas (ESAs) to be preserved. No grading or fill activity of any type would be permitted within these ESAs. In addition, no construction activities, materials, or equipment will be allowed within the ESAs. All construction equipment will be operated in a manner so as to prevent accidental damage to nearby preserved areas. No structure of any kind, or incidental storage of equipment or supplies, will be allowed within the ESAs. Silt fence barriers will be installed at ESA boundaries to prevent accidental deposition of fill material in areas where the ESA is immediately adjacent to planned grading activities.
2. A biologist will monitor construction within the vicinity of estuarine habitat, riparian/riverine areas, southern tarplant populations, and burrowing owl (BUOW) locations (if present) for the duration of the project to ensure that vegetation removal, BMPs, ESAs, and all avoidance and minimization measures are properly implemented.
3. A biological monitor will be present during all vegetation clearing to flush any wildlife species present prior to construction.
4. An employee education program for all construction personnel would be developed and implemented by the biological monitor prior to construction. At a minimum, the program would include the following topics: (1) responsibilities of the biological monitor; (2)

delineation and installation of visible barriers of ESAs; (3) limitations on all movement of those employed on site, including ingress and egress of equipment and personnel, to designated construction zones (personnel shall not be allowed access to ESAs); (4) on-site pet prohibitions; (5) use of trash containers for disposal and removal of trash; and (6) project features designed to reduce the impacts to listed species and habitat and promote continued successful occupation of adjacent habitat areas.

5. Prior to construction, preconstruction surveys for *Caulerpa taxifolia* will be conducted by a qualified biologist to ensure that the BSA is not infested with this nonnative invasive seaweed. If present, containment and proper eradication of any individuals of this species prior to construction would be required.

6. The use of rodenticides, herbicides, insecticides, or other chemicals that could potentially harm listed species shall be prohibited in and adjacent to sensitive habitats. Use of rodenticides, herbicides, insecticides, or other chemicals in other areas will be monitored by a qualified biologist to ensure no accidental effects in sensitive habitats.

7. A Habitat Mitigation and Monitoring Plan (HMMP) that is acceptable by ACOE, CDFG, and RWQCB is expected to be required as a condition of the permit approvals required from each agency. If required, an HMMP will be developed and submitted to the applicable resource agencies for approval as part of the regulatory permit application.

8. A construction Storm Water Pollution Prevention Plan (SWPPP) and soil erosion and sedimentation plan will be developed by the construction contractor to minimize erosion and identify specific pollution prevention measures that will eliminate or control potential point and nonpoint pollution sources on site during and following the project’s construction phase. The SWPPP will identify specific Best Management Practices (BMPs) to be implemented during project construction so as not to cause or contribute to an exceedance of any water quality standard. A Storm Preparation and Evacuation Plan shall be prepared as part of the SWPPP prepared for the project. The plan shall include a requirement that no work shall occur within drainages during storm events. In addition, the SWPPP will contain provisions for changes to the plan such as alternative mechanisms, if necessary, during project design and/or construction to achieve the stated goals and performance standards.

9. A Fisheries Management Plan is expected to be required through informal consultation with the National Marine Fisheries Service (NMFS). If required, a Fisheries Management Plan will be developed and submitted to the applicable resource agencies for approval. The Fisheries Management Plan will contain provisions for changes to the plan such as alternative mechanisms, if necessary, during project design and/or construction to achieve the stated goals and performance standards.

10. All avoidance, minimization, and mitigation measures identified in the HMMP, Fisheries Management Plan, and SWPPP will be followed.

11. BMPs will be included in the Fisheries Management Plan and/or SWPP to limit the resuspension of sediment and to manage resuspended sediment during construction in and adjacent to the Los Angeles River, particularly to limit the spread of contaminated sediment. These BMPs may include cofferdams, silt or turbidity curtains, or other watertight barricades surrounding the work areas that would contain resuspended sediment in the work area until it settles.

12. All equipment maintenance, staging, and dispensing of fuel, oil, or any other such activities would occur in developed or designated nonsensitive upland habitat areas. The designated upland areas would be located in such a manner as to prevent runoff from any spills from entering sensitive habitats and waters of the United States.

13. In addition to specific BMPs identified in the SWPPP, project construction shall be carried out under standard BMPs (e.g., no staging or vehicle repair in sensitive areas, implementation of erosion control measures, fuel spill cleanup). During project construction, the proper use and disposal of oil, gasoline, diesel fuel, antifreeze, lead paint, and other toxic substances shall be enforced. No construction materials, equipment, debris, or waste shall be placed or stored where it may be subject to tidal erosion and dispersion. Construction materials shall not be stored in direct contact with the soil anywhere along the project alignment.

14. Measures to contain all contaminated soils and material, including contaminated topsoil and lead-based paint from demolished bridges, shall be in place prior to and during soil moving (e.g., grading) and demolition activities. All contaminated soils and material shall be removed from the BSA and disposed of at an approved disposal site.

15. Construction techniques utilized within and adjacent to the Los Angeles River channel would be designed to minimize effects on downstream conditions (e.g. flow rate, turbidity). During low flow, there would be no substantial contribution to or disruption of normal processes downstream. However, some minimal isolation of work may be required to minimize downstream effects such as turbidity (e.g., air bubble curtain system or air-filled isolation casings around bridge support structures). Any potential disruption during storm events would be inconsequential amid typical high-volume flows.

16. All debris generated during bridge construction and deconstruction would be prevented from settling into the Los Angeles River. When work is taking place over the Los Angeles River, floating booms (and/or other acceptable equipment) shall be used to contain

debris. All construction-related debris shall be removed no later than the end of each day.

17. A biological monitor would be on site during pile-driving activities in the Los Angeles River to monitor fish that may become injured or killed during the pile driving. All pile driving and bridge construction would take place during daylight hours. If fish are observed to be injured or killed, pile driving would cease, and the CDFG and NMFS would be contacted to determine appropriate steps to avoid additional effects to the fish. The results of the pile driving monitoring would be reported to the County and Caltrans within two weeks following the completion of pile-driving activities at each location.

18. To minimize impacts of pile driving in the Los Angeles River, minimal impact construction equipment and methods (e.g., a vibrating driver, crane, vibratory hammer, or hydraulic press) will be used during construction.

19. Operation of equipment and stockpiling of materials in storm channels, including the Los Angeles River, must be avoided during times of high flow. If such work is occurring, weather forecasts and storm predictions shall be closely monitored, and equipment and materials that could be affected by storms or other high flow events shall be removed from the channel prior to such events.

20. To minimize impacts of pile driving in the Los Angeles River, sound levels will be monitored during pile driving activities in the Los Angeles River to ensure that peak sound levels do not exceed the threshold for injury to fish (206 dBpeak or 183 dB SEL). If sound levels exceed threshold, additional mitigation measures (e.g., work when the current is reduced, using a hydraulic hammer, the smallest hammer needed to advance the pile, air bubble curtain system, or air-filled isolation casings) will be developed in consultation with the resource agencies.

21. In order to avoid effects to nesting birds, bridge demolition, native vegetation removal, or tree-trimming (native or exotic) activities would occur outside of the nesting bird season (February 15–September 1). In the event that vegetation clearing is necessary during the nesting season, a qualified biologist shall conduct a preconstruction survey to identify the locations of nests. Should nesting birds be found, an exclusionary buffer would be established by the biologist. This buffer would be clearly marked in the field by construction personnel under the guidance of the biologist, and construction or clearing would not be conducted within this zone until the biologist determines that the young have fledged or the nest is no longer active.

22. A weed abatement program would be developed to minimize the importation of nonnative plant material during and after construction. Eradication strategies would be employed should an increase in invasive plants occur.

23. On-site pets and the deliberate feeding of wildlife shall be prohibited.

24. Within 30 days prior to any phase of construction, preconstruction surveys will be conducted to ensure that any BUOW that may occupy the site are not affected by construction activities. These preconstruction surveys are also required in order to demonstrate compliance with the MBTA and the California Fish and Game Code. If any of the preconstruction surveys determine that BUOW are present, mitigation measures may be required. The specifics of the required measures shall be coordinated between the Caltrans District Biologist and the CDFG.

25. If any of the pre-construction surveys determine that BUOW are present, one or more of the following measures may be required: (1) avoidance of active nests and surrounding buffer area during construction activities; (2) passive relocation of individual owls; (3) active relocation of individual owls; and (4) preservation of on-site habitat with long-term conservation value for the owl. The specifics of the required measures shall be coordinated between the Caltrans District Biologist and the CDFG.

26. New and renovated bridges will be designed to ensure the safety of birds flying up and down the Los Angeles River. Suitable fencing or other structural features on the sides of bridges would direct flying birds up and out of the way of traffic, as well as restrict litter and debris from falling into the Los Angeles River during regular operation.

27. In the June prior to construction, a qualified bat biologist would survey the project area to assess the potential for its use as a maternity roost, since maternity roosts are generally formed in late spring. The qualified bat biologist shall also perform preconstruction surveys, since bat roosts can change seasonally. The surveys shall include a combination of structure inspection, sampling, exit counts, and acoustic surveys. Preconstruction surveys shall also include nighttime surveys to determine whether night-roosting bats are present. If a maternity roost is found, no work will take place on that structure until the end of the maternity season and exclusion devices are installed.

28. In order to prevent effects to bridge- and crevice-nesting bats and birds (i.e., swifts), all work on existing bridges with potential habitat identified during the preconstruction surveys (including bat maternity roosts) will have bat/bird exclusion devices installed between September 1 and November 30 (with consideration of weather conditions). Installation of the exclusion devices will be conducted under the guidance of a qualified biologist and will be limited if weather conditions are such that they will be harmful to

evicted species (e.g., cold temperatures). Such exclusion efforts must be continued to keep the structures free of bats and birds until the completion of construction. All exclusion techniques shall be coordinated between the District Biologist and the CDFG.

29. In order to prevent project effects to bridge- and crevice-nesting birds (i.e., swallows), all work on existing bridges with potential habitat that is conducted between February 15 and September 1 would be removed of all bird nests prior to construction under the guidance and observation of a qualified biologist prior to February 15 of that year, before the swallow colony returns to the nesting site. Removal of swallow nests that are under construction must be repeated as frequently as necessary to prevent nest completion or until a nest exclusion device is installed (such as netting or a similar mechanism that keeps birds from building nests). Nest removal and exclusion device installation shall be monitored by a qualified biologist. Such exclusion efforts must be continued to keep the structures free of swallows until September 1 or completion of construction. All nest exclusion techniques would be coordinated between the Caltrans District Biologist and the CDFG.

30. Construction work in the vicinity of the Los Angeles River, adjacent parks, wetlands, and vacant lands will be limited to daylight hours to minimize disturbance to wildlife movement to the best extent feasible. However, this may be difficult to achieve since most highway construction in the region is conducted at night to avoid impacting commuter traffic. If work must be done at night, noise and lighting will be directed away from the Los Angeles River, adjacent parks, wetlands, and vacant lands.

31. The Los Angeles River corridor will be kept clear of all equipment or structures that could potentially serve as barriers to wildlife passage.

5.8 SUMMARY OF COMPENSATORY MITIGATION

The majority of existing estuarine/open water and riparian/riverine communities within the BSA fall under the regulatory jurisdiction of the ACOE (pursuant to Section 10 of the RHA and Section 404 of the CWA), the CDFG (pursuant to Section 1602 of the California Fish and Game Code), and the RWQCB (pursuant to Section 401 of the CWA). Compensatory mitigation for these communities would be required to comply with Section 404 of the CWA. Compensatory mitigation will be developed in accordance with the Final Rule on Compensatory Mitigation for Losses of Aquatic Resources (33 CFR Part 325 and 332, and 40 CFR Part 200). At minimum, these habitats subject to regulatory jurisdiction will be mitigated at a minimum mitigation-to-effect ratio of 2:1 for permanent effects and 1:1 for temporary effects. Compensatory mitigation may be in the form of habitat restoration and/or enhancement in on- or off-site areas where similar habitats exists.

6.0 RESULTS: PERMITS AND TECHNICAL STUDIES FOR SPECIAL LAWS OR CONDITIONS

6.1 FEDERAL ENDANGERED SPECIES ACT CONSULTATION SUMMARY

Under provisions of Section 7(a)(2) of the FESA, a federal agency that permits, licenses, funds, or otherwise authorizes a project activity must consult with the USFWS to ensure that its actions would not jeopardize the continued existence of any listed species or destroy or adversely modify critical habitat. This NES provides details on the I-710 Corridor Project's effects to federally listed plant and wildlife species. An informal consultation would be necessary to attain concurrence with this assessment of potential effects to green turtles and CLT. The California brown pelican was delisted in December 2009.

Avoidance and minimization measures described in this NES are being formalized in a Biological Assessment (BA), which is being completed concurrently with the NES. Caltrans environmental personnel have informally coordinated with USFWS to date, and informal consultation is planned to commence in 2012 following identification of a preferred alternative. Based on the level of potential effects, USFWS is expected to issue a No Jeopardy Biological Opinion or a "not likely to adversely affect concurrence" for the I-710 Corridor Project.

6.2 FEDERAL FISHERIES AND ESSENTIAL FISH HABITAT CONSULTATION SUMMARY

On May 21, 2004, FHWA identified Caltrans as its non-Federal representative to consult with NMFS under certain circumstances relevant to provisions of EFH pursuant to the Magnuson-Stevens Fishery Conservation and Management Act (MSFCMA). This NES provides details on the I-710 Corridor Project's potential temporary effects to Coastal Pelagic Management Plan Species. An informal consultation would be necessary to attain concurrence with this assessment of potential temporary effects.

Avoidance and minimization measures described in this NES are being formalized in a BA, which is being completed concurrently with the NES. Caltrans will be the lead agency for consultation, and it is planned to commence in 2012 following identification of a preferred alternative. Based on the level of potential effects, NMFS is expected to issue a "No Jeopardy" Biological Opinion or a "not likely to adversely affect" concurrence for the I-710 Corridor Project.

6.3 CALIFORNIA ENDANGERED SPECIES ACT CONSULTATION SUMMARY

The CESA protects plant and animal species listed as rare, threatened, or endangered. The CDFG authorizes take of endangered, threatened, or candidate species through the provisions of Sections 2081 and 2080.1 of the California Fish and Game Code. Concurrence from the

CDFG that the I-710 Corridor Project would not result in take of any endangered, threatened, or candidate species would be necessary with regard to CLT. Delisting of the American peregrine occurred on November 4, 2009. Delisting of the California brown pelican occurred on June 3, 2009.

6.4 WETLANDS AND OTHER WATERS COORDINATION SUMMARY

The findings and conclusions of the location and extent of wetlands and other waters subject to regulatory jurisdiction represent the professional opinion of the consulting biologists. These findings and conclusions have been verified by ACOE. These findings and conclusions should be considered preliminary until verified by the CCC, CDFG, and RWQCB. Project effects to potentially jurisdictional and nonjurisdictional areas are presented in Table 6.1.

Table 6.1: Project Effects to Potentially Jurisdictional and Nonjurisdictional Areas

Jurisdictional Areas	Permanent (acres)		Temporary (acres)
	Direct	Indirect	
ACOE Jurisdictional Areas			
Alternative 5A	0.68	13.97	38.19
Alternatives 6A/B/C	0.83	17.48	59.19
ACOE Nonjurisdictional Areas			
Alternative 5A	0.77	0.00	1.41
Alternatives 6A/B/C	3.52	0.58	7.06
RWQCB Jurisdictional Areas			
Alternative 5A	0.68	13.97	38.19
Alternatives 6A/B/C	3.62	17.56	65.26
RWQCB Nonjurisdictional Areas			
Alternative 5A	0.77	0.00	1.41
Alternatives 6A/B/C	0.73	0.5	0.99
CDFG			
Alternative 5A	0.87	19.43	52.37
Alternatives 6A/B/C	5.64	24.96	84.81

ACOE = United States Army Corps of Engineers
CDFG = California Department of Fish and Game
RWQCB = Regional Water Quality Control Board

6.5 ACOE JURISDICTION

As described in the Jurisdictional Delineation Report (Appendix E), there are several drainages within the BSA (including Compton Creek) that connect directly or indirectly to the Los Angeles River. The Los Angeles River has been designated as a traditional navigable water (TNW).

Some of the tributary drainages have relatively permanent (at least three months) flow during the year and are, therefore, considered jurisdictional by the ACOE.

Other drainages that appear natural or appear to function in a capacity of more than just a storm drain are believed to be potentially jurisdictional. However, because these drainages do not carry a relatively permanent flow, a significant nexus determination by the ACOE would be required.

In contrast, drainages that do not carry a relatively permanent flow, are excavated wholly in uplands, and capture only upland sheetflow are typically not regulated by the ACOE. However, the ACOE does reserve the right to regulate these waters on a case-by-case basis. The locations of these drainages are also shown in Appendix A of the Jurisdictional Delineation Report (Appendix E).

Table 6.1 shows the I-710 Corridor Project's effects to potential ACOE jurisdictional and nonjurisdictional areas within the BSA. Alternative 5A is expected to potentially result in direct permanent effects to approximately 0.68 acre and result in permanent indirect effects to approximately 13.97 acres of ACOE jurisdictional areas. In addition, Alternative 5A is expected to potentially result in temporary effects to approximately 38.19 acres of ACOE jurisdictional areas. Alternatives 6A, 6B, or 6C are expected to potentially result in direct permanent effects to approximately 0.83 acres and result in permanent indirect effects to approximately 17.48 acres of ACOE jurisdiction. In addition, Alternatives 6A, 6B, or 6C are expected to potentially result in temporary effects to approximately 59.19 acres of ACOE jurisdictional areas. Refer to Appendix A of the Jurisdictional Report (Appendix E) for the extent of ACOE jurisdiction.

6.6 CCC JURISDICTION

A portion of the BSA is located within the Long Beach LCP. However, there are no CCC jurisdictional wetlands within the portion of the BSA located in the Coastal Zone. Areas within the Coastal Zone satisfying the ACOE jurisdictional criteria for wetlands would also be subject to CCC jurisdiction as wetlands pursuant to the CCA. However, there are no ACOE wetlands within the Coastal Zone portion of the BSA. There is a concrete-lined drainage potentially jurisdictional by the ACOE within the Coastal Zone, but it does not satisfy ACOE or CCC wetland criteria. Additionally, there are no other areas where hydrophytic vegetation or hydric soils indicators or wetland hydrology occur in the Coastal Zone. Therefore, there are no CCC jurisdictional wetlands within the BSA.

Refer to Appendix A of the Jurisdictional Report (Appendix E) for the location of the Coastal Zone.

6.7 CDFG JURISDICTION

All of the areas satisfying the ACOE jurisdictional criteria for waters of the United States and adjacent wetlands, as described above, are also subject to CDFG jurisdiction pursuant to Section 1602 of the California Fish and Game Code. In addition, streambed banks and adjacent riparian areas extending beyond the limits of the ACOE jurisdiction are considered subject to CDFG jurisdiction. These areas failed to meet the ACOE wetland criteria. Drainages believed not to be jurisdictional by the ACOE and that have an earthen bottom and some vegetation are believed to have some minimal value to wildlife and are likely subject to the jurisdiction of the CDFG. Substantial coordination with the ACOE regarding jurisdictional limits was required to fulfill the requirements of NEPA and because the project affects a facility under ACOE control. No substantial coordination with CDFG has occurred to date, because jurisdictional limits are typically determined by CDFG after a Notification of Streambed Alteration for the proposed final project design is submitted. However, Metro and Caltrans will coordinate with CDFG when further project details are available, and this documentation addresses potential project impacts on resources of interest to CDFG.

Table 6.1 shows the extent to which each build alternative would affect potential CDFG jurisdictional areas. Alternative 5A is expected to potentially result in direct permanent effects to approximately 0.87 acres and result in permanent indirect effects to approximately 19.43 acres of CDFG jurisdictional areas. In addition, Alternative 5A is expected to potentially result in temporary effects to approximately 52.37 acres of CDFG jurisdictional areas. Alternatives 6A, 6B, or 6C are expected to potentially result in direct permanent effects to approximately 5.64 acres and result in permanent indirect effects to approximately 24.96 acres of CDFG jurisdiction. In addition, Alternatives 6A, 6B, or 6C are expected to potentially result in temporary effects to approximately 84.81 acres of CDFG jurisdictional areas. Refer to Appendices A and E of the Jurisdictional Delineation Report (Appendix E) for the extent of CDFG jurisdiction.

6.8 RWQCB JURISDICTION

Since there is no public guidance on determining RWQCB jurisdictional areas, jurisdiction was determined based on the federal definition of wetlands (three-parameter) and other waters of the United States as recommended by the September 2004 Workplan. This includes three presumed wetland areas that are believed to be isolated and therefore not jurisdictional by the ACOE. Although they are believed not to be jurisdictional by the ACOE, the RWQCB often asserts jurisdiction of these areas under the Porter-Cologne Act, and they are consequently included in the total RWQCB jurisdiction. Similar to the ACOE, the RWQCB asserts jurisdiction over the roadside drainage ditches on a case-by-case basis. Alternative 5A is expected to potentially result in direct permanent effects to approximately 0.68 acre and result in permanent indirect effects to approximately 13.97 ac of RWQCB jurisdictional areas. In addition, Alternative 5A is expected to potentially result in temporary effects to approximately 38.19 acres of

RWQCB jurisdictional areas. Alternatives 6A, 6B, or 6C are expected to potentially result in direct permanent effects to approximately 3.62 acres and result in permanent indirect effects to approximately 17.56 acres of RWQCB jurisdictional areas. In addition, Alternatives 6A, 6B, or 6C are expected to potentially result in temporary effects to approximately 65.26 acres of RWQCB jurisdictional areas.

6.9 INVASIVE SPECIES

Exotic plant species exist within the nonnative plant communities throughout the BSA, within patches of native plant communities, and in areas that have been disturbed by human uses. Exotic species are typically more numerous adjacent to roads and developed areas and frequently border the ornamental landscape. The most noxious weeds occurring within the Los Angeles River basin include giant reed, castor bean (*Ricinus communis*), fountain grass (*Pennisetum clandestinum*), yellow star thistle (*Centauria solstitialis*), fan palm, shamel ash (*Fraxinus uhdei*), and mustard, five of which have been documented in the BSA (giant reed, castor bean, fountain grass, shamel ash, and mustard) (The River Project 2009).

A total of 31 exotic plant species occurring on the Cal-IPC California Invasive Plant Inventory were identified within the BSA. Of these species, there are three listed with a High rating, including Hottentot-fig (*Carpobrotus edulis*), giant reed (*Arundo donax*), and pampas grass (*Cortaderia* sp.) Sixteen of the species are listed with a Moderate rating, including poison hemlock (*Conium maculatum*), sticky eupatorium (*Ageratina adenophora*), bull thistle (*Cirsium vulgare*), black mustard (*Brassica nigra*), shortpod mustard (*Hirschfeldia incana*), London rocket (*Sisymbrium irio*), edible fig (*Ficus carica*), tree of heaven (*Ailanthus altissima*), tree tobacco (*Nicotiana glauca*), Mexican fan palm (*Washingtonia robusta*), ripgut brome (*Bromus diandrus*), Bermuda grass (*Cynodon dactylon*), tall fescue (*Festuca arundianacea*), foxtail barley (*Hordeum murinum*), Italian ryegrass (*Lolium multiflorum*), and African fountain grass (*Pennisetum setaceum*). Twelve of the species are listed with a Limited rating, including African brass-buttons (*Cotula coronopifolia*), bristly ox-tongue (*Picris echioides*), wild radish (*Raphanus sativus*), five-hook bassia (*Bassia hyssopifolia*), Russian thistle (*Salsola tragus*), castor ban (*Ricinus communis*), black locust (*Robinia pseudoacacia*), American pokewood (*Phytolacca americana*), English plantain (*Plantago lanceolata*), kikuyugrass (*Pennisetum clandestinum*), smilo grass (*Piptatherum miliaceum*), and rabbitfoot grass (*Polypogon monspeliensis*).

In compliance with EO 13112, a weed abatement program would be developed to minimize the importation of nonnative plant material during and after construction. Eradication strategies would be employed should an increase in invasive plants occur. At a minimum, this program would include:

- Pre-construction surveys for *Caulerpa taxifolia* are warranted to ensure that the BSA is not infested with this nonnative invasive seaweed. If present, containment and eradication of any individuals of this species prior to construction would be required.
- During construction, the construction contractor shall inspect and clean construction equipment at the beginning and end of each day and prior to transporting equipment from one project location to another.
- During construction, soil and vegetation disturbance would be minimized to the greatest extent feasible.
- During construction, the construction contractor shall ensure that all active portions of the construction site are watered a minimum of twice daily or more often when needed due to dry or windy conditions to prevent excessive amounts of dust.
- During construction, the construction contractor shall ensure that all material stockpiled is sufficiently watered or covered to prevent excessive amounts of dust.
- During construction, soil/gravel/rock would be obtained from weed-free sources.
- Only certified weed-free straw, mulch, and/or fiber rolls would be used for erosion control.
- After construction, affected areas adjacent to native vegetation would be revegetated with plant species approved by the Caltrans District Biologist that are native to the vicinity.
- After construction, all revegetated areas would avoid the use of species listed in Cal-IPC's California Invasive Plant Inventory that have a high or moderate rating.
- Eradication procedures (e.g., spraying and/or hand weeding) would be outlined should an infestation occur; the use of herbicides would be prohibited within and adjacent to native vegetation, except as specifically authorized and monitored by the Caltrans District Biologist.
- Weed abatement would be targeted for areas that do not contain ruderal native vegetative species such as milkweed.

6.10 MIGRATORY BIRD TREATY ACT

Native bird species and their nests are protected under the MBTA (16 USC 703–712). The MBTA states that all migratory birds and their parts (including eggs, nests, and feathers) are fully protected. The MBTA prohibits the take, possession, import, export, transport, selling, purchase, barter, or offering for sale, purchase, or barter, any migratory bird, its eggs, parts, and nests, except as authorized under a valid permit. In accordance with the provisions of the MBTA, the measures summarized in Section 5.7 would be incorporated to avoid and minimize effects to migratory birds.

This page intentionally left blank

7.0 REFERENCES

7.1 LITERATURE CITED

Barkley, L. J. 1993. Mammals of the Los Angeles River Basin. *In* K. L. Garrett (editor). The Biota of the Los Angeles River. Unpublished report prepared by the Natural History Museum of Los Angeles County, Los Angeles.

Bezy, R. L., C. A. Weber, and J. W. Wright. 1993. Reptiles and Amphibians of the Los Angeles River Basin. *In* K. L. Garrett (editor). The Biota of the Los Angeles River. Unpublished report prepared by the Natural History Museum of Los Angeles County, Los Angeles.

CalFlora. 2009. Online database (www.calflora.org).

California Coastal Commission. 2008. Staff Report to the City of Long Beach Regarding Tree Trimming and Removal Activities within the City of Long Beach, Los Angeles County.

California Department of Fish and Game (CDFG). 2009b. Special Animals. July 2009. Wildlife and Habitat Data Analysis Branch. California Natural Diversity Database.

California Native Plant Society. 2009. Online Inventory – Inventory of Rare and Endangered Plants. v.7-09d 10-07-09. California Native Plant Society, Sacramento, CA.

California Native Plant Society Electronic Inventory (CNPSEI). 2009. *San Pedro, Torrance, Inglewood, Hollywood, Los Alamitos, Seal Beach, Burbank, Pasadena, Mount Wilson, El Monte, Whittier, South Gate, Long Beach, and Los Angeles, California* USGS 7.5-minute quadrangles.

California Natural Diversity Database (CNDDB), Commercial Version, 2009. California Department of Fish and Game, Biogeographic Data Branch, Sacramento. *San Pedro, Torrance, Inglewood, Hollywood, Los Alamitos, Seal Beach, Burbank, Pasadena, Mount Wilson, El Monte, Whittier, South Gate, Long Beach,* and *Los Angeles, California,* United States Geological Survey 7.5-minute quadrangles.

Cal-IPC. 2007. California Invasive Plant Inventory, Update. Cal-IPC Publication 2006-02. California Invasive Plant Council, Berkeley, CA.

CalPhotos. 2009. Online database (http://calphotos.berkeley.edu/flora/).

City of Long Beach. 2006. Tree Maintenance Policy. Public Works Department.

City of Los Angeles. 2009a. Guidelines for Requesting a Tree Removal Permit. Public Works Department.

———. 2009b. Preservation of Protected Trees. City of Los Angeles Municipal Code, Chapter IV, Article 6. Public Works Department.

Coney, C. C. 1993. Freshwater Mollusca of the Los Angeles River: Past and Present Status and Distribution. *In* K. L. Garrett (editor). The Biota of the Los Angeles River. Unpublished report prepared by the Natural History Museum of Los Angeles County, Los Angeles.

Consortium of California Herbaria, UC Berkeley, Jepson Herbarium. 2009. Online database (http://ucjeps.berkeley.edu/cgi-bin/get_consort.pl?taxon_name.org).

Cornell Lab of Ornithology. 2003. All About Birds Online Field Guide. (http://www.birds.cornell.edu/AllAboutBirds/BirdGuide).

Crother, B.I. (ed). 2008. Scientific and Standard English Names of Amphibians and Reptiles of North America North of Mexico, pp. 1–84. SSAR Herpetological Circular 37.

Environmental Laboratory. 1987. *ACOE of Engineers Wetlands Delineation Manual*. Technical Report Y-87-1. United States Army Engineer Waterways Experiment Station, Vicksburg, MS.

Ferren, W.R. 1990. *Recent Research On and New Management Issues For Southern California Estuarine Wetlands*. Published in the Southern California Botanists Special Publication No. 3: Proceedings of the 15th Annual Symposium. Claremont, CA.

Friends of the Los Angeles River (FOLAR). 2008. State of the River, the Fish Study. http://folar.org/fish-study-2008.pdf.zip.

Garrett, K. L. 1993. The Avifauna of the Los Angeles River, an Historical Overview and Current Analysis. *In* K. L. Garrett (editor). The Biota of the Los Angeles River. Unpublished report prepared by the Natural History Museum of Los Angeles County, Los Angeles.

Hanson, J., M. Helvey, and R. Strach. 2003. Non-fishing Impacts to Essential Fish Habitat and Recommended Conservation Measures. Version 1. Prepared by National Marine Fisheries (NOAA Fisheries) - Alaska Region, Northwest Region, Southwest Region.

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

ICF Jones & Stokes and Illingworth and Rodkin. 2009. *Final Technical Guidance for Assessment and Mitigation of the Hydroacoustic Effects of Pile Driving on Fish.* Prepared for California Department of Transportation. Prepared by ICF Jones & Stokes and Illingworth and Rodkin, Inc., Sacramento and Petaluma, CA.

Los Angeles County Department of Public Works, 2009. Online Spatial Information Library (http://gis.dpw.lacounty.gov/oia/index.cfm?agree=agree).

LSA Associates, Inc. 2009a. Draft Biological Assessment: Interstate 710 Corridor Project between Ocean Boulevard and State Route 60 Interchange.

———. 2009b. Estuarine Resources Environmental Assessment: Interstate 710 Corridor Project between Ocean Boulevard and State Route 60 Interchange.

LSA Associates, Inc. 2012. Jurisdictional Delineation Report: Interstate 710 Corridor Project between Ocean Boulevard and State Route 60 Interchange. MBC Applied Environmental Sciences. 1994. Marine Biological Baseline Study. Queensway Bay, Long Beach Harbor. Prepared for the City of Long Beach, California.

Munsell Soil Color Charts. 2000. GretagMacbeth, New Windsor, New York.

The River Project. 2009. http://www.theriverproject.org/habitat.html.

Rivers and Mountains Conservancy. 2011. *RMC Cumulative Grant Project Status Summary*.

Shuford, W.D. and T. Gardali, editors. 2008. *California Bird Species of Special Concern: A Ranked Assessment of Species, Subspecies, and Distinct Populations of Birds of Immediate Conservation Concern in California. Studies of Western Birds* 1. Western Field Ornithologists, Camarillo, California, and California Department of Fish and Game, Sacramento, CA.

Swift, C. C. and J. Seigel. 1993. The Past and Present Freshwater Fish Fauna of the Los Angeles River, with Particular Reference to the Area of Griffith Park. *In* K. L. Garrett (editor). The Biota of the Los Angeles River. Unpublished report prepared by the Natural History Museum of Los Angeles County, Los Angeles.

United States Army Corps of Engineers (ACOE). 2008. *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region*. J.S. Weakley, R. W. Lichvar, and C. V. Noble (eds). Vicksburg, MS: United States Army Engineer

United States Fish and Wildlife Service (USFWS). 2008. Delisting the California Brown Pelican. February 20, 2008. Federal Register 73: 9408- 9433.

University of California Berkeley, 2009. Jepson Online Interchange for California Floristics. (http://ucjeps.berkeley.edu/interchange.html).

7.2 PERSONAL COMMUNICATION

September 24, 2009. Phone discussion, Sally Brown, Carlsbad USFWS office. (760) 431-9440 x278.

December 4, 2009. Phone discussion. Jason Casanova. Los Angeles River and San Gabriel Rivers Watershed Council. (213) 229-9946.

December 8, 2009. Phone discussion. Luz Torres. Rivers and Mountains Conservancy. (626) 815-1019, Extension 110

December 14, 2009. Phone discussion, Bryant Chesney, National Marine Fisheries Service. (562) 980-4037.

December 15, 2009. Phone discussion, Monica Deangeles, National Marine Fisheries Service. (562) 980-3232.

December 30, 2009. Phone discussion, Diego Rivera, Los Angeles County Department of Public Works. (626) 458-3978.

January 11, 2009. Email correspondence, Clarence Su, Los Angeles County Department of Public Works. (626) 458-4370.

7.3 WEBSITE RESEARCH

http://www.birds.cornell.edu/AllAboutBirds/BirdGuide. Site accessed September 12, 2009.

http://www.californiaherps.com. Site accessed September 12, 2009.

http://dpw.lacounty.gov/wmd/watershed/LA/LARMP/). Site accessed November 14, 2009, and December 30, 2009.

http://lasgrwc2.org/Default.aspx. Site accessed December 4, 2009.

http://longbeachnaturalareas.blogspot.com/2007/06/golden-shores-preserve.html. Site accessed November 24, 2009.

http://www.mammalsociety.org/statelists/camammals.html. Site accessed September 12, 2009.

http://ucjeps.berkeley.edu/interchange.html. Site accessed October 10, 2009.

http://calphotos.berkeley.edu/flora. Site accessed October 10, 2009

http://the riverproject.org/lariver. Site accessed November 2, 2009.

http://www.rmc.ca.gov/. Site accessed December 8, 2009.

http://www.lacity.org/BOSS/Urban ForestryDivision/index_requestremoval.htm. Site accessed November 5, 2009.

http://gis.dpw.lacounty.gov/oia/index.cfm?agree=agree. Site accessed November 2, 2009.

http://dpw.lacounty.gov/wmd/documents/DominguezGap_article.cfm. Site accessed November 2, 2009.

http://wrpinfo.scc.ca.gov/watersheds/briefs.lariver. Site accessed November 2, 2009.

This page intentionally left blank

APPENDIX A
U.S. FISH AND WILDLIFE SERVICE
REGIONAL SPECIES LIST

This page intentionally left blank

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Ecological Services
Carlsbad Fish and Wildlife Office
6010 Hidden Valley Road, Suite 101
Carlsbad, California 92011

In Reply Refer To:
FWS-LA-08B0786-12SL0376

MAY 23 2012

Mr. Paul Caron
Senior District Biologist
California Department of Transportation
Division of Environmental Planning
100 South Main Street, Suite 100
Los Angeles, California 90012 -3603

Attention: Mr. Eric Hanson, Associate Environmental Planner

Subject: Request for a List of Proposed, Threatened, or Endangered Species Potentially Occurring in the Vicinity of the I-710 Corridor Project in Los Angeles County, California

Dear Mr. Caron:

This letter is in response to your request, received by our office on May 21, 2012, for information on federally endangered, threatened, proposed, and candidate species that may occur in the vicinity of the I-710 Corridor Project in Los Angeles County. To assist you in evaluating the potential occurrence of federally listed endangered, threatened, proposed, and candidate species that may occur in the vicinity of the proposed action, we are providing the enclosed list.

Because we do not have site-specific information for the proposed project, we recommend that you seek assistance from a biologist familiar with the habitat conditions and associated species in and around the project site to assess the actual potential for direct, indirect, and cumulative impacts likely to result from the proposed activity. We also suggest that you contact the California Department of Fish and Game regarding State-listed and sensitive species that may occur within the project area. Please note that State-listed species are protected under the provisions of the California Endangered Species Act.

As a reminder, if a proposed project is authorized, funded, or carried out by a Federal agency and may affect a federally listed species, then section 7 consultation pursuant to the Endangered Species Act of 1973 (Act), as amended, is required. If a proposed project does not involve a Federal agency, but is likely to result in the take of a listed animal species, then the project proponent should apply for an incidental take permit, pursuant to section 10 of the Act.

Please note that the Carlsbad Fish and Wildlife Office is hosting all critical habitat GIS data within our jurisdictional area on our website at http://www.fws.gov/carlsbad. Select the GIS DATA link to access current critical habitat layers.

Should you have any questions regarding the species listed or your responsibilities under the Act, please contact Sally Brown of this office at 760-431-9440, extension 278.

Sincerely,

Sally Brown

for Karen A. Goebel
Assistant Field Supervisor

Enclosure

Federally Endangered, Threatened, Proposed, and Candidate Species and Critical Habitat that May Occur in the Vicinity of the I-710 Corridor Project in Los Angeles County, California

May 23, 2012

Common Name	**Scientific Name**	**Federal Status**	**Critical Habitat in Vicinity**
Plants			
Brand's phacelia	*Phacelia stellaris*	candidate	N/A*
California Orcutt grass	*Orcuttia californica*	endangered	N/A
salt marsh bird's beak	*Cordylanthus maritimus subsp. maritimus*	endangered	N/A
Lyon's pentachaeta	*Pentachaeta lyonii*	endangered	N/A
Birds			
coastal California gnatcatcher	*Polioptila californica californica*	threatened	none
least Bell's vireo	*Vireo bellii pusillus*	endangered	none
southwestern willow flycatcher	*Empidonax traillii extimus*	endangered	none
western snowy plover	*Charadrius alexandrinus nivosus*	threatened	none
California least tern	*Sternula antillarum browni*	endangered	N/A

* N/A = not applicable

Metro

APPENDIX B
SPECIES OBSERVED IN THE BSA

This page intentionally left blank

ANIMALS OBSERVED	
REPTILIA	**REPTILES**
Emydidae	**Box and Water Turtles**
Actinemys marmorata	Western pond turtle
Phrynosomatidae	**Phrynosomatid Lizards**
Sceloporus occidentalis	Western fence lizard
AVES	**BIRDS**
Anatidae	**Ducks, Geese, and Swans**
Anas platyrhynchos	Mallard
Pelecanidae	**Pelicans**
Pelecanus occidentalis californicus	California brown pelican
Phalacrocoracidae	**Cormorants**
Phalacrocorax auritus	Double-crested cormorant
Ardeidae	**Herons, Bitterns, and Allies**
Ardea herodias	Great blue heron
Ardea alba	Great egret
Egretta thula	Snowy egret
Cathartidae	**New World Vultures**
Cathartes aura	Turkey vulture
Accipitridae	**Kites, Hawks, and Eagles**
Circus cyaneus	Northern harrier
Accipiter cooperii	Cooper’s hawk
Buteo jamaicensis	Red-tailed hawk
Haliaeetus leucocephalus	Bald eagle
Falconidae	**Falcons**
Falco peregrinus anatum	American peregrine falcon
Falco sparverius	American kestrel
Rallidae	**Rails, Gallinules, and Coots**
Fulica americana	American coot
Charadriidae	**Plovers and Lapwings**
Charadrius alexandrinus nivosus	Western snowy plover
Charadrius vociferus	Killdeer
Recurvirostridae	**Stilts and Avocets**
Himantopus mexicanus	Black-necked stilt
Laridae	**Gulls, Terns, and Skimmers**
Larus delawarensis	Ring-billed gull
Larus occidentalis	Western gull
Larus californicus	California gull
Sternula antirllarum browni	California least tern
Columbidae	**Pigeons and Doves**
*Columba livia**	Rock pigeon
Zenaida macroura	Mourning dove
Strigidae	**Typical Owls**
Athene cunicularia	Burrowing owl
Apodidae	**Swifts**
Aeronautes saxatilis	White-throated swift

ANIMALS OBSERVED	
Trochilidae	**Hummingbirds**
Calypte anna	Anna's hummingbird
Tyrannidae	**Tyrant Flycatchers**
Empidonax traillii	Willow flycatcher
Sayornis nigricans	Black phoebe
Sayornis saya	Say's phoebe
Vireonidae	**Vireos**
Vireo bellii pusillus	Least Bell's vireo
Corvidae	**Crows and Ravens**
Corvus brachyrhynchos	American crow
Corvus corax	Common raven
Hirundinidae	**Swallows**
Riparia riparia	Bank swallow
Sylviidae	**Old World Warblers and Gnatcatchers**
Polioptila californica californica	Coastal California gnatcatcher
Mimidae	**Mockingbirds and Thrashers**
Mimus polyglottos	Northern mockingbird
Sturnidae	**Starlings**
*Sturnus vulgaris**	European starling
Emberizidae	**Emberizines**
Pipilo crissalis	California towhee
Melospiza melodia	Song sparrow
Zonotrichia leucophrys	White-crowned sparrow
Icteridae	**Blackbirds, Orioles and Allies**
Sturnella neglecta	Western meadowlark
Euphagus cyanocephalus	Brewer's blackbird
Fringillidae	**Finches**
Carpodacus mexicanus	House finch
Passeridae	**Old World Sparrows**
*Passer domesticus**	House sparrow
MAMMALIA	**MAMMALS**
Didelphidae	**Opossums**
*Didelphis virginiana**	Virginia opossum
Leporidae	**Rabbits and Hares**
Sylvilagus audubonii	Desert cottontail
Sciuridae	**Squirrels**
Spermophilus beecheyi	California ground squirrel
CARNIVORA	***CARNIVORES***
Canidae	**Foxes, Wolves and Relatives**
Canis latrans	Coyote

* Species not native to the study area

PLANT SPECIES OBSERVED DURING 2009 SURVEYS OF THE 1-710 CORRIDOR	
DICOT FLOWERING PLANTS	
Aizoaceae	**Carpet weed family**
*Carpobrotus edulis**	Hottentot-fig
Amaranthaceae	**Amaranth family**
*Amaranthus albus**	Tumbling pigweed
Amaranthus sp.	Pigweed
Apiaceae	**Carrot family**
*Ciclospermum leptophyllum**	Ciclospermum
*Conium maculatum**	Poison hemlock
Apocynacecae	**Dogbane family**
*Nerium oleander**	Oleander
Asteraceae	**Sunflower family**
*Ageratina adenophora**	Sticky eupatorium
Ambrosia acanthicarpa	Annual bur-sage
Ambrosia psilostachya	Western ragweed
*Anthemis cotula**	Mayweed
Artemisia californica	California sagebrush
Artemisia californica (planted)	California sagebrush
Baccharis pilularis	Coyote brush
Baccharis salicifolia	Mule fat
*Bidens pilosa**	Common beggar's tick
*Centaurea melitensis**	Tocalote
Centromadia parryi	Pappose tarweed
*Chrysanthemum coronarium**	Garland chrysanthemum
*Cirsium vulgare**	Bull thistle
*Conyza bonariensis**	Flax-leaved horseweed
Conyza canadensis	Canadian horseweed
*Cotula coronopifolia**	African brass-buttons
Deinandra fasciculata	Fascicled tarweed
Euthamia occidentalis	Western goldenrod
Helianthus annuus	Common sunflower
Heterotheca grandiflora	Telegraph weed
Iva hayesiana (planted)	San Diego marsh-elder
*Lactuca serriola**	Prickly lettuce
Malacothrix saxatilis	Cliff malacothrix
*Picris echioides**	Bristly ox-tongue
*Pseudognaphalium luteoalbum**	Jersey cudweed
*Sonchus oleraceus**	Common sow thistle
Stephanomeria sp.	Stephanomeria
Symphyotrichum subulatum var. *parviflorum*	Southwestern annual saltmarsh aster
*Verbesina encelioides**	Golden crownbeard
Xanthium strumarium	Rough cockleburr
Boraginaceae	**Borage family**
Heliotropium curassavicum	Salt heliotrope
Brassicaceae	**Mustard family**
*Brassica nigra**	Black mustard
*Hirschfeldia incana**	Shortpod mustard
*Lepidium latifolium**	Broad-leaved peppergrass
Lepidium ramosissimum var. *bourgeauanum*	Bourgeau's pepperweed
*Raphanus sativus**	Wild radish

PLANT SPECIES OBSERVED DURING 2009 SURVEYS OF THE 1-710 CORRIDOR	
*Sisymbrium irio**	London rocket
Caprifoliaceae	**Honeysuckle family**
Sambucus mexicana	Blue elderberry
Caryophyllaceae	**Pink family**
*Stellaria media**	Common chickweed
Chenopodiaceae	**Saltbush family**
Atriplex cf. *lentiformis* (planted)	Big saltbush
Atriplex triangularis	Spearscale
*Bassia hyssopifolia**	Five-hook bassia
Chenopodium sp.	Goosefoot
*Dysphania multifida**	Cutleaf goosefoot
*Salsola tragus**	Russian thistle
Convolvulaceae	**Morning-glory family**
*Convolvulus arvensis**	Field bindweed
*Ipomoea purpurea**	Common morning-glory
Cucurbitaceae	**Gourd family**
Cucurbita foetidissima	Calabazilla
Cuscutaceae	**Dodder family**
Cuscuta sp.	Dodder
Euphorbiaceae	**Spurge family**
*Chamaesyce maculata**	Spotted spurge
*Chamaesyce serpens**	Matted sandmat
*Ricinus communis**	Castor bean
Fabaceae	**Pea family**
*Medicago sativa**	Alfalfa
*Melilotus albus**	White sweetclover
*Melilotus indicus**	Annual yellow sweetclover
*Robinia pseudoacacia**	Black locust
Geraniaceae	**Geranium family**
*Erodium moschatum**	Musky stork's bill
Lamiaceae	**Mint family**
Salvia leucophylla (planted)	Purple sage
Salvia mellifera (planted)	Black sage
Malvaceae	**Mallow family**
*Malva parviflora**	Cheeseweed
Moraceae	**Mulberry family**
*Ficus carica**	Edible fig
*Morus alba**	White mulberry
Myrtaceae	**Myrtle family**
Eucalyptus sp.*	Eucalyptus
Oleaceae	**Olive family**
*Fraxinus uhdei**	Shamel ash
Onagraceae	**Evening primrose family**
Camissonia micrantha	Small primrose
Ludwigia sp.	Primrose-willow
Oenothera elata	Hooker's evening-primrose
Oenothera laciniata	Cutleaf evening primrose
Phytolaccaceae	**Pokeweed family**
*Phytolacca americana**	American pokeweed
Plantaginaceae	**Plantain family**

PLANT SPECIES OBSERVED DURING 2009 SURVEYS OF THE 1-710 CORRIDOR	
*Plantago lanceolata**	English plantain
*Plantago major**	Common plantain
Polygonaceae	**Buckwheat family**
Persicaria hydropiperoides	Swamp smartweed
Persicaria lapathifolia	Curlytop knotweed
*Polygonum aviculare**	Common knotweed
Rumex crispus (Non-native species)	Curly dock
Salicaceae	**Willow family**
Populus fremontii	Fremont cottonwood
Salix exigua	Narrowleaf willow
Salix gooddingii	Goodding's willow
Simaroubaceae	**Quassia family**
*Ailanthus altissima**	Tree of heaven
Solanaceae	**Nightshade family**
Datura wrightii	Sacred thorn-apple
*Nicotiana glauca**	Tree tobacco
Petunia parviflora	Seaside petunia
Solanum americanum	American black nightshade
Solanum sp.	Nightshade
Tropaeolaceae	**Nasturtium family**
*Tropaeolum majus**	Garden nasturtium
Urticaceae	**Nettle Family**
*Parietaria judaica**	Spreading pellitory
*Urtica urens**	Dwarf nettle
Vitaceae	**Grape family**
Parthenocissus vitacea	Woodbine
MONOCOT FLOWERING PLANTS	
Arecaceae	**Palm family**
*Washingtonia robusta**	Mexican fan palm
Cyperaceae	**Sedge family**
Cyperus eragrostis	Tall flatsedge
Cyperus odoratus	Fragrant flatsedge
Schoenoplectus americanus	Three-square
Schoenoplectus californicus	California bulrush
Poaceae	**Grass family**
*Agrostis viridis**	Water bentgrass
*Arundo donax**	Giant reed
Avena sp.*	Oat
*Bromus catharticus**	Rescue grass
*Bromus diandrus**	Ripgut brome
*Bromus madritensis**	Foxtail chess
Cortaderia sp.*	Pampas grass
*Cynodon dactylon**	Bermuda grass
*Echinochloa crus-galli**	Barnyard grass
*Eleusine indica**	Goose grass
Eragrostis mexicana	Mexican lovegrass
*Festuca arundinacea**	Tall fescue
*Hordeum murinum**	Foxtail barley
Leptochloa uninervia	Mexican sprangletop
*Lolium multiflorum**	Italian ryegrass

PLANT SPECIES OBSERVED DURING 2009 SURVEYS OF THE 1-710 CORRIDOR	
*Paspalum dilatatum**	Dallis grass
*Pennisetum clandestinum**	Kikuyugrass
*Pennisetum setaceum**	African fountain grass
*Piptatherum miliaceum**	Smilo grass
*Polypogon interruptus**	Ditch beard grass
*Polypogon monspeliensis**	Rabbitfoot grass
*Sorghum halepense**	Johnsongrass
Typhaceae	**Cattail family**
Typha sp.	Cattail

* Species not native to the study area

APPENDIX C
BURROWING OWL SURVEY REPORT

Metro

This page intentionally left blank

LSA

LSA ASSOCIATES, INC.
20 EXECUTIVE PARK, SUITE 200
IRVINE, CALIFORNIA 92614

949.553.0666 TEL
949.553.8076 FAX

BERKELEY
CARLSBAD
FORT COLLINS

FRESNO
PALM SPRINGS
POINT RICHMOND

RIVERSIDE
ROCKLIN
SAN LUIS OBISPO
SOUTH SAN FRANCISCO

M E M O R A N D U M

DATE:	December 9, 2009
TO:	Wendy Fisher
FROM:	Leo Simone
SUBJECT:	Results of Phase III Wintering Burrowing Owl Surveys for the I-710 Corridor Project Located in Los Angeles County (LSA Project No. URS0801)

This memorandum serves to document the results of Phase III focused winter surveys for the western burrowing owl (*Athene cunicularia hypugea*) conducted by LSA Associates, Inc. (LSA) within areas of suitable habitat within the Interstate 710 (I-710) Corridor Project Biological Study Area (BSA).

On October 13, 2009, during a Phase II follow-up site visit, a single western burrowing owl was observed approximately 400 feet south of the Compton Creek channel on undeveloped land between the Los Angeles River and the I-710 Corridor (Appendix A). During the Phase III focused winter surveys on December 4, 2009, a single western burrowing owl was observed approximately 150 feet south of where the burrowing owl was detected during the October 13, 2009, site visit.

BURROWING OWL BACKGROUND

The western burrowing owl is a small, ground-dwelling owl with a round head that lacks the feather tufts on the head typical of many other owls. It has white eyebrows, yellow eyes, and long, stilt-like legs. The owl is sandy-colored on the head, back, and upper parts of the wings and white to cream with barring on the breast and belly. Unlike most owls, the male is slightly larger than the female, and the females are usually darker than the males.

Burrowing owls are found in open, dry grasslands; agricultural and range lands; and desert habitats often associated with burrowing animals. They can also inhabit the grass, forb, and shrub stages of pinyon and ponderosa pine habitats. The owl can be found at elevations ranging from 200 feet below sea level to 9,000 feet above sea level (asl). In California, the highest elevation where this species can be found is 5,300 feet asl in Lassen County. The owl commonly perches on fence posts or on top of mounds outside its burrow. These owls can be found at the margins of airports and golf courses and in vacant urban lots. They are active day and night but are usually less active in the peak of the day.

Burrowing owls tend to be opportunistic feeders. Large arthropods, mainly beetles and grasshoppers, compose a large portion of their diet. Small mammals, especially mice, rats, gophers, and ground squirrels, are also important food items. Other prey animals include reptiles and amphibians, scorpions, young cottontail rabbits, bats, and birds, such as sparrows and horned larks. Consumption of insects increases during the breeding season. Burrowing owls are primarily crepuscular (active at dusk and dawn), but will hunt throughout a 24-hour period.

As their name suggests, burrowing owls nest in burrows in the ground, often in old ground squirrel burrows or badger dens. They can dig their own burrows but prefer deserted excavations of other animals. They are also known to use artificial burrows, such as pipes, concrete debris piles, or rock outcrops.

The burrowing owl nesting season begins between February and April and lasts until the end of August. The peak of the nesting season is from April 15 to July 15. The owls often line their nests with an assortment of dry materials. Adults usually return to the same burrow or a nearby area each year.

One or more "satellite" burrows can usually be found near the nest burrow and are used by adult males during the nesting period and by juvenile owls for a few weeks after they emerge from the nest. The female will lay six to nine (sometimes up to 12) white eggs one day apart, which are incubated for 28 to 30 days by the female only. The male brings food to the female during incubation and stands guard near the burrow by day. At 14 days of age, the young may be seen roosting at the entrance to the burrow, waiting for the adults to return with food. The young leave the nest at approximately 44 days of age and begin chasing live insects at between 49 and 56 days old.

The western burrowing owl is found in western North America from Canada to Mexico and east to Texas and Louisiana. In certain areas of its range, it is migratory (in the northern areas of the Great Plains and Great Basin). Although the burrowing owls in northern California are thought to migrate, breeding owls within central and southern California are predominantly nonmigratory; migratory owls from northerly areas often migrate during the winter to southern California.

The burrowing owl is protected by international treaty under the Migratory Bird Treaty Act (MBTA) of 1918 (16 United States Code [USC] 703–711) and is protected under Sections 3503 and 3800 of the California Fish and Game Code. Sections 3503, 3503.5, and 3800 of the California Fish and Game Code prohibit the take, possession, or destruction of birds, their nests, or their eggs. When the owl is present on a specific property, implementation of the take provisions requires that project-related disturbance at active nesting territories be reduced or eliminated during critical phases of the nesting cycle (February 1–August 31 annually).

ENVIRONMENTAL SETTING

The relatively flat BSA extends approximately 18 miles from the Ports of Los Angeles and Long Beach, located at the southern terminus of I-710, to the Burlington Northern Santa Fe Railroad/Union Pacific Railroad (BNSF/UPRR) railyards in the cities of Commerce and Vernon. The BSA generally consists of vacant lands located between the Los Angeles River and the I-710 Corridor (Figures 1 and 2; all figures attached). The majority of the BSA is developed or highly disturbed and consists of paved areas, buildings, bare ground, ornamental plantings, and ruderal vegetation. The BSA generally has low habitat value for native plant and wildlife species. Vegetation is dominated by nonnative plants such as ripgut brome (*Bromus diandrus*), London rocket (*Sysmbrium irio*), shortpod mustard (*Hirschfeldia incana*), and common knotweed (*Polygonum aviculare*).

METHODS

A Phase I Habitat Assessment was conducted by LSA biologists Leo Simone and Richard Erickson on September 4, 2009, to assess the presence of burrowing owl habitat within the BSA. The Phase II Burrow Survey was conducted by LSA biologists Leo Simone and Corey Knips from September 9 to 11, 2009, and by LSA biologists Leo Simone and Erin Saverio-Seibert on October 5 and 6, 2009, to determine locations of fossorial mammal burrows and/or burrows with burrowing owl sign (e.g., individuals, feathers, pellets, whitewash, and prey remnants) or other nonnatural structures with the potential for the owl(s) to inhabit (e.g., drainage pipes, concrete refuse piles, debris piles, and detention basins) within the BSA.

Focused surveys were conducted by LSA biologists Leo Simone, Richard Erickson, Erin Saverio-Seibert, and Corey Knips on the mornings of December 1 and 4, 2009, and on the evenings of December 2 and 3, 2009 (Table A).

The Phase III surveys were conducted within the limits of the BSA in areas where the potential for the owl(s) to inhabit (e.g., fossorial mammal burrows, voids under concrete, and debris piles). Three areas were identified that could potentially be used by burrowing owls (Figure 2):

- **Area 1:** Area 1 is a vacant parcel located between the I-710 Corridor and the Los Angeles River just south of the Compton Creek channel. On October 13, 2009, a single burrowing owl was observed using two separate burrows approximately 100 feet apart. Multiple fossorial mammal burrows were also located on the vacant parcel where the burrowing owl was observed.
- **Area 2:** Area 2 is a cavity under the cement and asphalt pavement of the Los Angeles River's east levee between Florence Avenue and Clara Street.
- **Area 3:** Area 3 is a debris pile on a vacant parcel located between the I-710 Corridor and the Los Angeles River approximately 500 feet south of Slauson Avenue.

The locations of the potentially suitable burrows are shown on Figure 3. See Figure 4 for site photos.

Table A: Focused Survey Dates and Weather Conditions

Survey	Date	Time (24-hour) Start/Finish	Temp. (°F) Start/Finish	Wind (mph) Start/Finish	Weather Conditions (i.e., % cloud cover) Start/Finish
1	12/1/09	1400–1740	58/52	0–2/2–3	Clear
2	12/2/09	0530–0840	52/56	0–2/2–3	Mostly cloudy
3	12/3/09	1445–1745	55/52	0–3/2–3	Clear
4	12/4/09	0530–0840	40/55	0–2/2–3	Mostly cloudy

°F = degrees Fahrenheit
mph = miles per hour

In accordance with the recommendations of the California Burrowing Owl Consortium, Santa Cruz Predatory Bird Research Group Burrowing Owl Survey Protocol (1993), and California Department of Fish and Game (CDFG) internal memorandum (February 1995), observations were made from fixed locations on site and within binocular range of large concentrations of burrows or areas large enough for a burrowing owl to occupy during the focused surveys. All species of animals observed were recorded.

RESULTS

On December 4, 2009, a single burrowing owl was observed on the vacant parcel located between the I-710 Corridor and the Los Angeles River just south of the Compton Creek channel (Figure 3). The owl was observed using two separate burrows approximately 100 feet apart and approximately 200 feet south of where a single burrowing owl was observed on October 13, 2009. Multiple fossorial mammal burrows were also located on the vacant parcel where the burrowing owl was observed; however, none showed characteristic burrowing owl sign (i.e., excrement, pellets, or feathers) outside the burrows. No burrowing owls or sign were observed at either of the other two areas identified above.

Additional animal species observed during the surveys are listed in Appendix B. Among them were three special-status species. A single California brown pelican (federally listed as endangered through December 17, 2009) was roosting in the Los Angeles River just south of the railroad bridge, south of Del Amo Street, on December 3. Up to two American peregrine falcons (State-listed as endangered, with a delisting decision awaiting finalization) were observed on several occasions foraging in the same vicinity as the pelican. Upriver, a loggerhead shrike (California Species of Special Concern) was seen south of East Florence Avenue on December 1 (Figure 3).

If you have any questions or require further information, please call me at (949) 553-0666.

REFERENCES

Brown, N.L. 1994. *Western Burrowing Owl Profile*. August 23, 2000. http://arnica.csustan.edu/esrpp/burowl.htm.

The Burrowing Owl Consortium. 1993. *Burrowing Owl Survey Protocol and Mitigation Guidelines.* August 23, 2000; http://www2.ucsc.edu/scpbrg/owls.htm. April.

California Department of Fish and Game. September 25, 1995. *Staff Report on Burrowing Owl Mitigation*. Received by Rebecca Jones, CDFG, May 30, 2001.

Hickman, J.C., ed. 1993. *The Jepson Manual: Higher Plants of California*. University of California Press. 1,400 pp.

LSA Associates, Inc. 2009. *Results of Phase I and Phase II Burrowing Owl Surveys for the I-710 Corridor Project Located in Los Angeles County*.

The Owl Pages. *The Owl Pages - Information about Owls.* March 11, 2002. http://owlpages.com/species/athene/cunicularia.

Sawyer, J.O. and T. Keeler-Wolf. 1995. *A Manual of California Vegetation*. California Native Plant Society. Sacramento, California.

Attachments: Figure 1 – Regional and Project Location
Figure 2 – Burrowing Owl Survey Area
Figure 3 – Burrow and Burrowing Owl Locations
Figure 4 – Site Photos
Appendix A: Memorandum – Results of Phase I and Phase II Burrowing Owl Surveys for the I-710 Corridor Project
Appendix B: Animal Species Observed

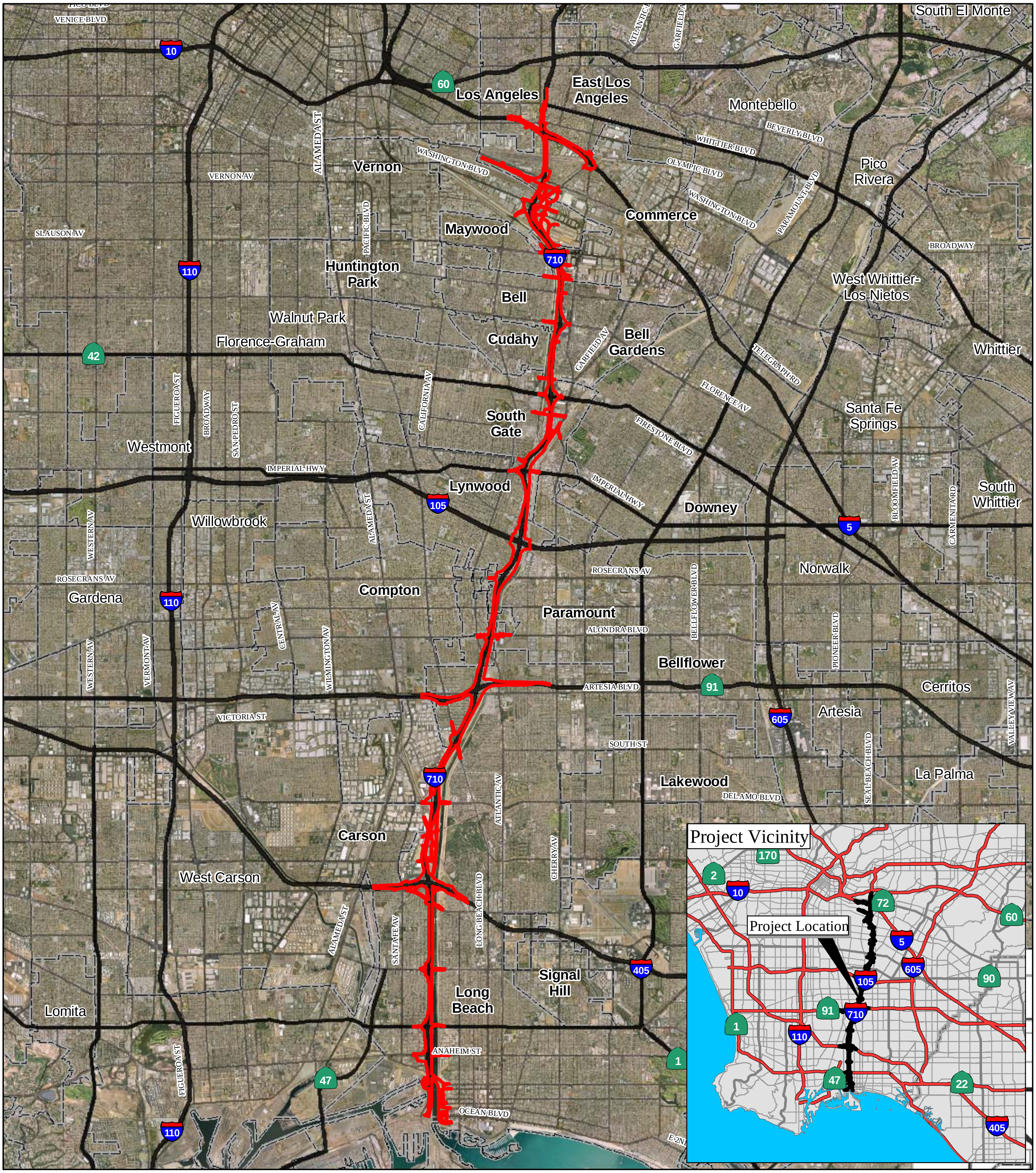


FIGURE 1

LEGEND

Limits of the Biological Study Area

N

0 6250 12500

FEET

SOURCE: AirPhotoUSA (2007); TBM (2007)

I-710 Corridor Project

Regional Location Map

I:\URS0801\GIS\NES\Regional_Loc_Map.mxd (10/7/09)

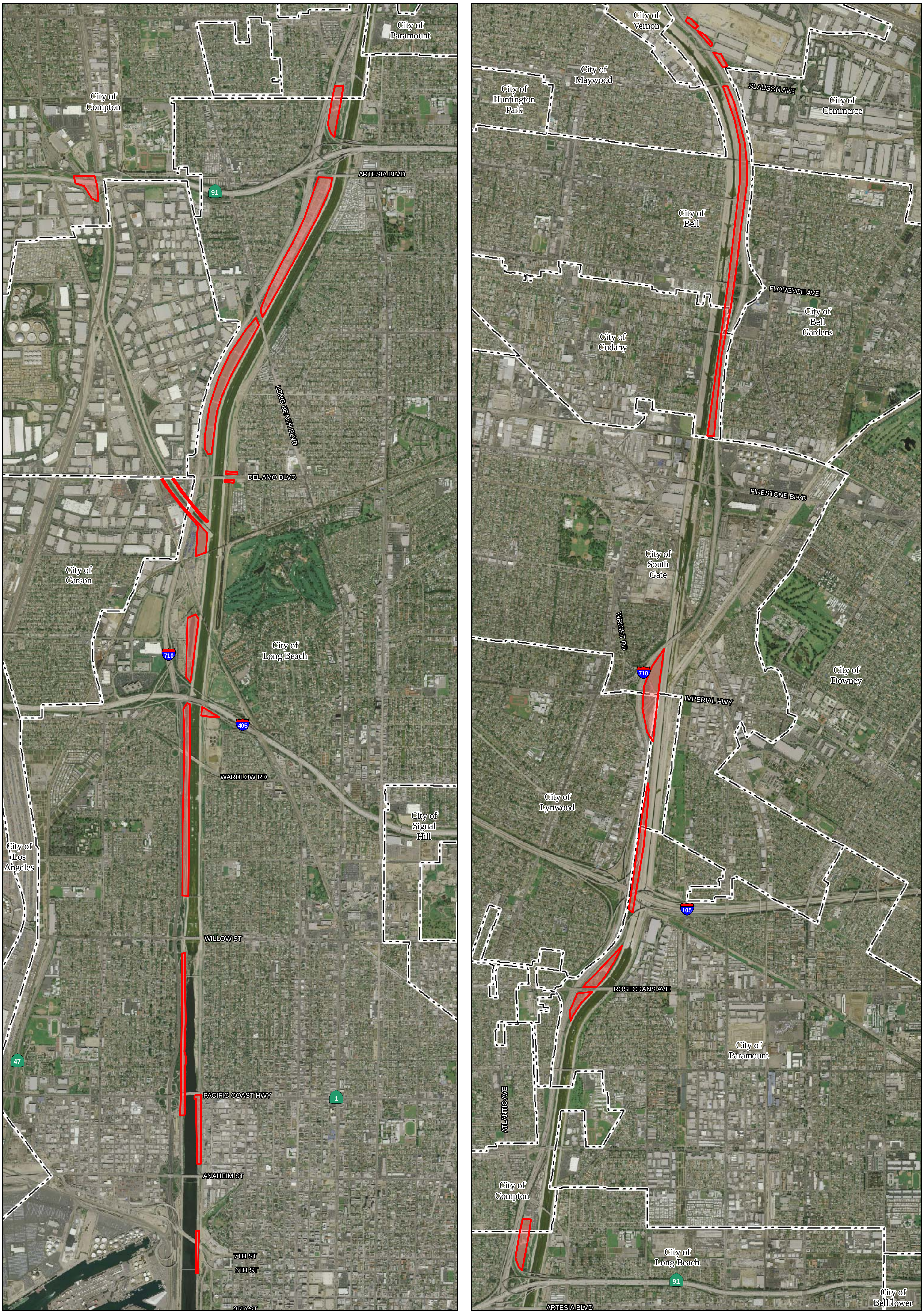


FIGURE 2

LEGEND

Burrowing Owl Survey Area

N

0 1500 3000

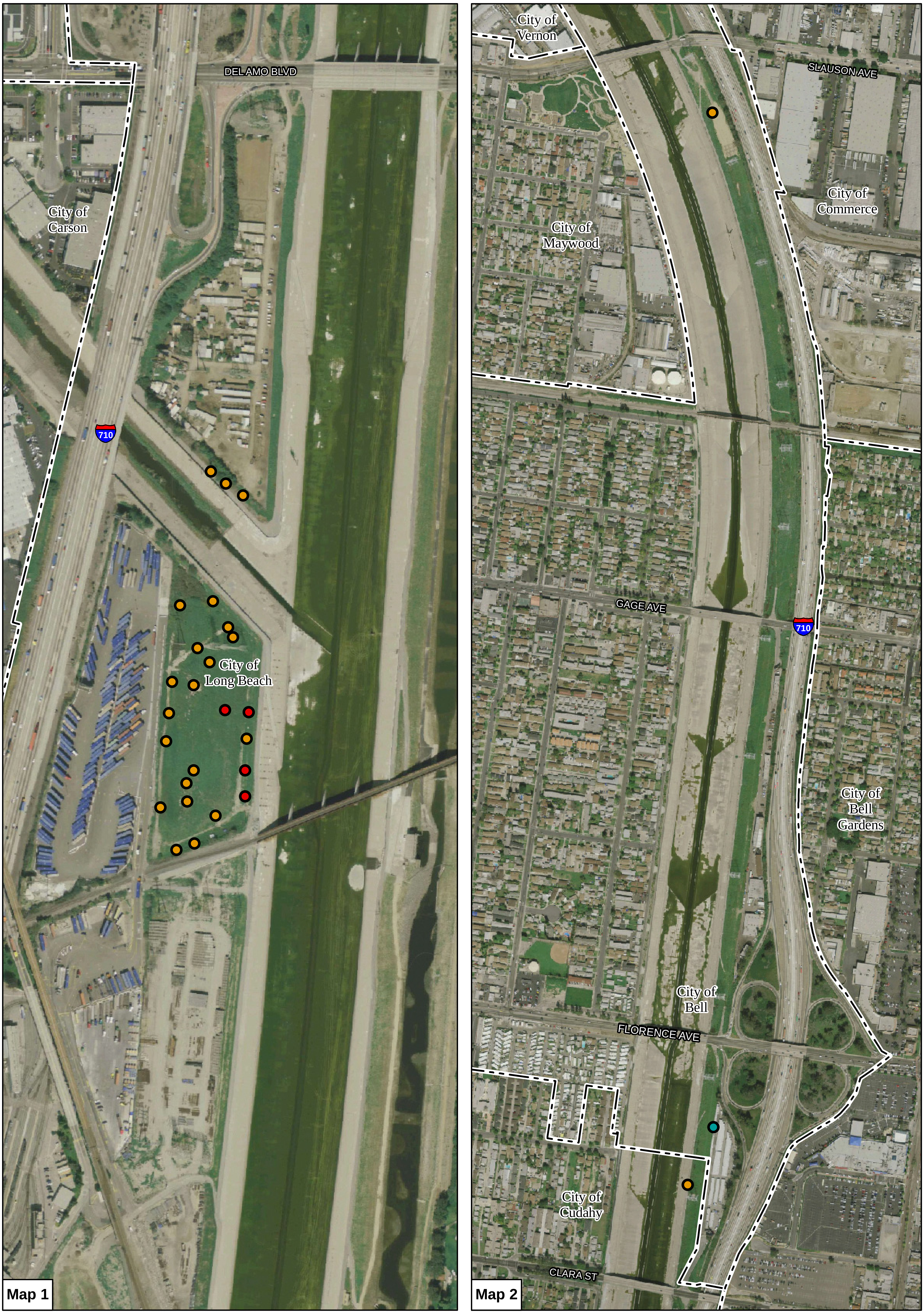
FEET

SOURCE: DigitalGlobe (4/08); TBM (2008)

I:\URS0801\GIS\BUOW_Survey_Area_Split.mxd (12/10/2009)

I-710 Corridor Project

Protocol Winter Burrowing Owl Survey



LEGEND

- Burrowing Owl Sightings
- Potential Burrows
- Loggerhead Shrike Sighting

N

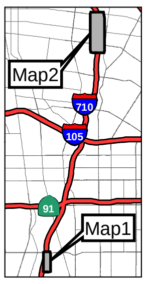


FIGURE 3

I-710 Corridor Project

Burrow Locations

SOURCE: DigitalGlobe (4/08); TBM (2008)

I:\URS0801\GIS\BUOW_Burrows.mxd (12/9/09)

Photo 1: Burrow with sign (white wash) where a single burrowing owl was observed on October 13, 2009.

Photo 2: Vacant parcel where a single burrowing owl was observed on October 13, 2009.

Photo 3: Burrowing owl observed on morning of December 4, 2009 on vacant parcel west of Compton Creek.

Photo 4: Satellite cluster of burrows on parcel where a single burrowing owl was observed on October 13, 2009.

FIGURE 4

I-710 Corridor Project
Protocol Winter Burrowing Owl Survey
Site Photos

APPENDIX A

MEMORANDUM – RESULTS OF PHASE I AND PHASE II BURROWING OWL SURVEYS FOR THE I-710 CORRIDOR PROJECT

LSA

LSA ASSOCIATES, INC.
20 EXECUTIVE PARK, SUITE 200
IRVINE, CALIFORNIA 92614

949.553.0666 TEL
949.553.8076 FAX

BERKELEY
CARLSBAD
FORT COLLINS

FRESNO
PALM SPRINGS
POINT RICHMOND

RIVERSIDE
ROCKLIN
SAN LUIS OBISPO
SOUTH SAN FRANCISCO

M E M O R A N D U M

DATE: October 19, 2009

TO: Wendy Fisher

FROM: Leo Simone

SUBJECT: Results of Phase I and Phase II Burrowing Owl Surveys for the I-710 Corridor Project Located in Los Angeles County (LSA Project No. URS0801)

This memorandum serves to document the results of the Phase I and Phase II surveys for the western burrowing owl (*Athene cunicularia hypugaea*) conducted by LSA Associates, Inc. (LSA) within areas of suitable habitat along the Interstate 710 (I-710) Corridor Project.

On October 13, 2009, during a Phase II follow-up site visit, a single western burrowing owl was observed approximately 400 feet (ft) west of the Compton Creek channel on undeveloped land between the Los Angeles River and the I-710.

BURROWING OWL BACKGROUND

The western burrowing owl is protected under the Migratory Bird Treaty Act (MBTA) of 1918 (16 United States Code [U.S.C.] 703-711) and under Sections 3500, 3503, and 3800 of the California Fish and Game Code (Code). These sections of the Code prohibit take, possession, or destruction of birds, their nests, or their eggs. When the western burrowing owl is present, avoidance of take requires that project-related disturbance be avoided during the critical phases of the nesting cycle (typically from March 1 through August 31 in southern California).

The western burrowing owl is a small ground-dwelling owl with a round head that lacks the feather tufts on the head typical of other owls. It has white eyebrows, yellow eyes, and long stilt-like legs. The owl is sandy-colored on the head, back, and upper parts of the wings and white-to-cream with barring on the breast and belly. Unlike most owls, the males are slightly larger than the females, and the females are usually darker than the males.

The western burrowing owl is found in western North America from Canada to Mexico and east to Texas and Louisiana. In certain areas of its range, it is migratory (in the northern areas of the Great Plains and Great Basin). The western burrowing owl in northern California is thought to migrate, whereas owls that breed within central and southern California are predominantly nonmigratory. However, owls from northern areas sometimes overwinter in southern California.

Western burrowing owls are found in open, dry grasslands, agricultural and range lands, and desert habitats, which are often associated with burrowing animals. They also inhabit grass, forb, and shrub stages of pinyon and ponderosa pine habitats. The owl can be found at elevations ranging from 200 ft below sea level to 9,000 ft above mean sea level (amsl). In California, the highest elevation where this species has been found is 5,300 ft amsl in Lassen County. The owl commonly perches on fence posts or on tops of mounds outside its burrow. Where they occur, these owls can commonly be found at the margins of airports and golf courses and in vacant urban lots. They are active day and night but are usually less active during the peak of day.

Western burrowing owls tend to be opportunistic feeders. Large arthropods, mainly beetles and grasshoppers, comprise a large portion of their diet. Small mammals, especially mice, rats, gophers, and ground squirrels, are also important food items. Other prey animals include reptiles and amphibians, scorpions, young rabbits, bats, and birds such as sparrows and horned larks (*Eremophila* sp.). Consumption of insects increases during the breeding season. Western burrowing owls are primarily crepuscular (active at dusk and dawn) but will hunt throughout a 24-hour period.

As their name suggests, western burrowing owls nest in burrows in the ground, often in old ground squirrel burrows or badger dens. They can dig their own burrows but prefer deserted excavations of other animals. They are also known to use artificial burrows, such as pipes, concrete debris piles, or rock outcrops.

Western burrowing owl nesting season begins between February and April and lasts until the end of August. The peak of the nesting season is from April 15 through July 15. The owls often line their nests with an assortment of dry materials. Adults usually return to the same burrow or nearby area each year.

One or more “satellite” burrows can usually be found near the nest burrow and are used by adult males during the nesting period and by juvenile owls for a few weeks after they emerge from the nest. The female will lay 5 to 6 (sometimes 3 to 11) white eggs a day apart, which are incubated for 28 to 30 days by the female. The male brings food to the female during incubation and stands guard near the burrow by day. At 14 days of age, the young may be seen roosting at the entrance to the burrow, waiting for the adults to return with food. The young leave the nest at about 40–45 days of age and begin chasing live insects between 49 and 56 days of age.

ENVIRONMENTAL SETTING

The relatively flat study area extends approximately 18 miles from the vicinity of the Port of Los Angeles to the south to Slauson Avenue in the City of Commerce to the north. The study area generally consists of vacant lands located between the Los Angeles River and I-710 (Figures 1 and 2; all figures attached). The majority of the study area is developed or highly disturbed and consists of paved areas, buildings, bare ground, ornamental plantings, and ruderal vegetation. The study area generally has low habitat value for native plant and wildlife species. Vegetation is dominated by nonnative plants such as ripgut brome (*Bromus diandrus*), London rocket (*Sysmbrium irio*), shortpod mustard (*Hirschfeldia incana*), and common knotweed (*Polygonum aviculare*).

METHODS

Phase I and Phase II surveys for burrows and owls were conducted in accordance with accepted protocol (“Burrowing Owl Survey Protocol and Mitigation Guidelines,” The California Burrowing Owl Consortium, April 1993). A Phase I – Habitat Assessment was conducted by LSA biologists Leo Simone and Richard Erickson on September 4, 2009, to assess the presence of burrowing owl habitat within the study area. The Phase II – Burrow Survey was conducted by LSA Biologists Leo Simone and Corey Knips from September 9–11, 2009, and by LSA Biologists Leo Simone and Erin Saverio-Seibert on October 5 and 6, 2009, to determine locations of fossorial mammal burrows and/or burrows with burrowing owl sign (e.g., individuals, feathers, pellets, whitewash, and prey remnants) or other nonnatural structures with the potential for the owl(s) to inhabit (e.g., drainage pipes, concrete refuse piles, debris piles, and detention basins) within the study area.

The Phase II – Burrow Survey provided 100 percent coverage within the project footprint limits by walking transects throughout suitable habitat. See Figure 3 for the locations of burrows and owl sighting. Within the study area, transects of approximately 50 ft apart were walked within areas of suitable habitat. Areas of dense vegetation where vegetation height was greater than 3 ft, areas with active homeless encampments, and areas with roaming dogs were excluded from the survey. The survey did not include the 150-meter zone of influence transects, as suggested by the protocol, due to the lack of authorization to enter adjacent properties.

On October 13, 2009, Leo Simone conducted a follow-up site visit in order to photo-document burrows identified as potentially suitable for burrowing owl. Representative site photographs are included as Figure 4. Plant and wildlife species observed during the Phase I and Phase II surveys are presented in Appendix A.

RESULTS

One burrowing owl was observed on October 13, 2009, during a follow-up site visit to a vacant parcel located between I-710 and the Los Angeles River just west of the Compton Creek channel. The burrowing owl was observed using two separate burrows approximately 100 ft apart. One of the burrows where the owl was observed had owl sign that included whitewash and prey remnants. Figures 3 and 4, respectively, show burrow locations and a photograph of burrows being used by the observed burrowing owl. Multiple fossorial mammal burrows were also located on the vacant parcel where the burrowing owl was observed.

Other portions of the study area also contained fossorial mammal burrows and potentially suitable burrowing sites among cavities under the cement and asphalt pavement of the river levee, exposed pipes, and the levee itself. The locations of the potentially suitable burrows are shown on Figure 3. No owl sign was found, and no owls were observed utilizing these other burrows at the time of the September and October 2009 surveys.

CONCLUSION

The Phase II – Burrow Survey was conducted outside of the protocol nesting season survey period (April 15–July 15) and the survey period for resident wintering nonbreeding owls (December 1–January 31). Therefore, winter surveys should be conducted during the period when wintering owls are most likely to be present. Nesting season surveys should also be conducted to determine if breeding activity is occurring.

Although a burrowing owl was observed on the study area outside of the winter and nesting season, information on the owl may be inadequate for mitigation planning because the number of owls and their distribution pattern may change during the winter and nesting seasons.

Additionally, since the burrowing owl is a mobile species, it has a potential to subsequently occupy any suitable burrows on site. Therefore, at a minimum, a preconstruction survey should be conducted to ensure that no owls have subsequently occupied the site prior to construction of the project.

Attachments: Figure 1 – Regional and Project Location
Figure 2 – Burrowing Owl Survey Area
Figure 3 – Burrow and Burrowing Owl Locations
Figure 4 – Site Photographs
Appendix A – Plants and Animals Observed

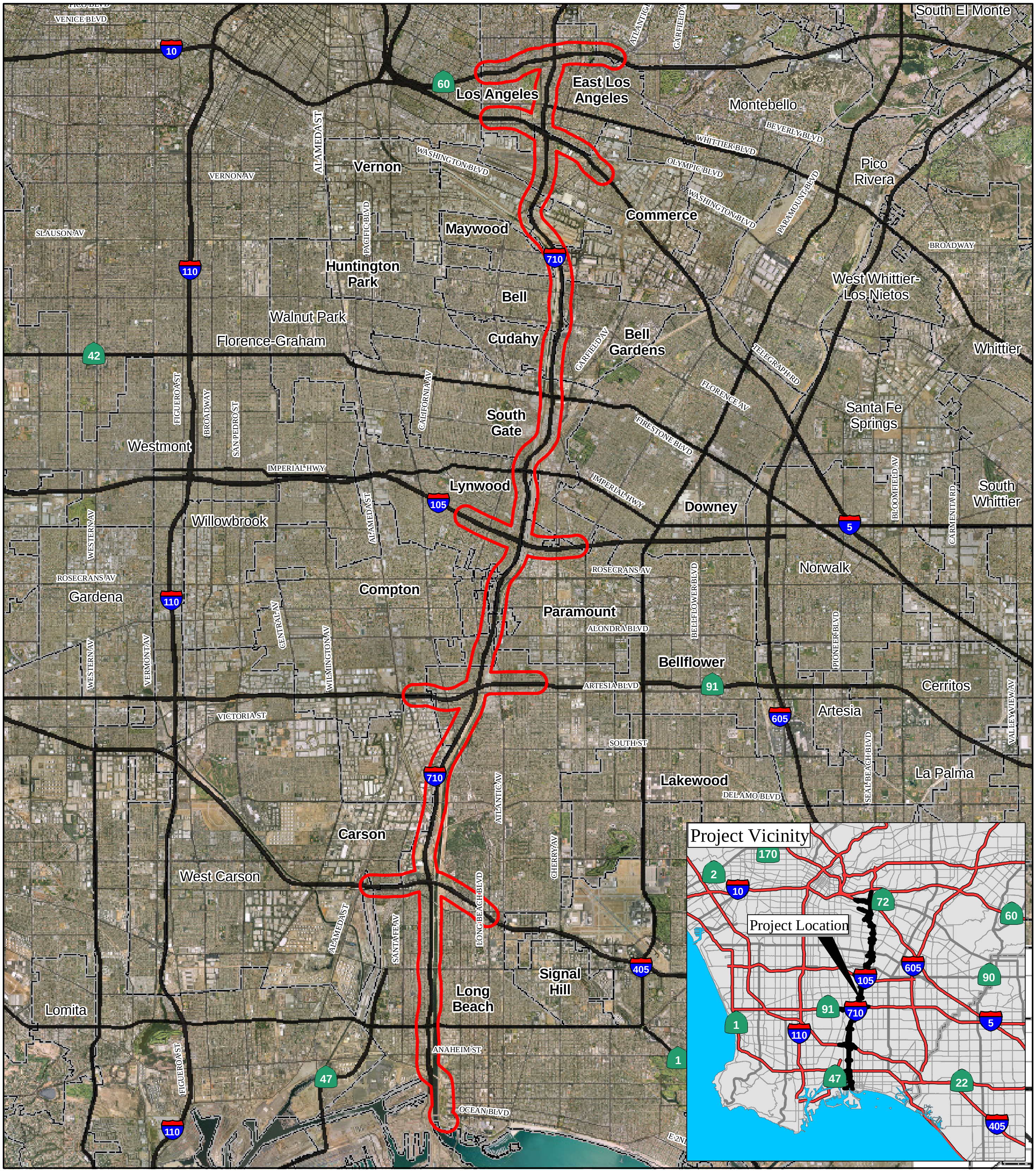


FIGURE 1

LEGEND

Project Limits

N

0 6250 12500

FEET

SOURCE: AirPhotoUSA (2007); TBM (2007)

I-710 Corridor Project

Regional Location Map

I:\URS0801\GIS\NES\Regional_Loc_Map.mxd (10/7/09)

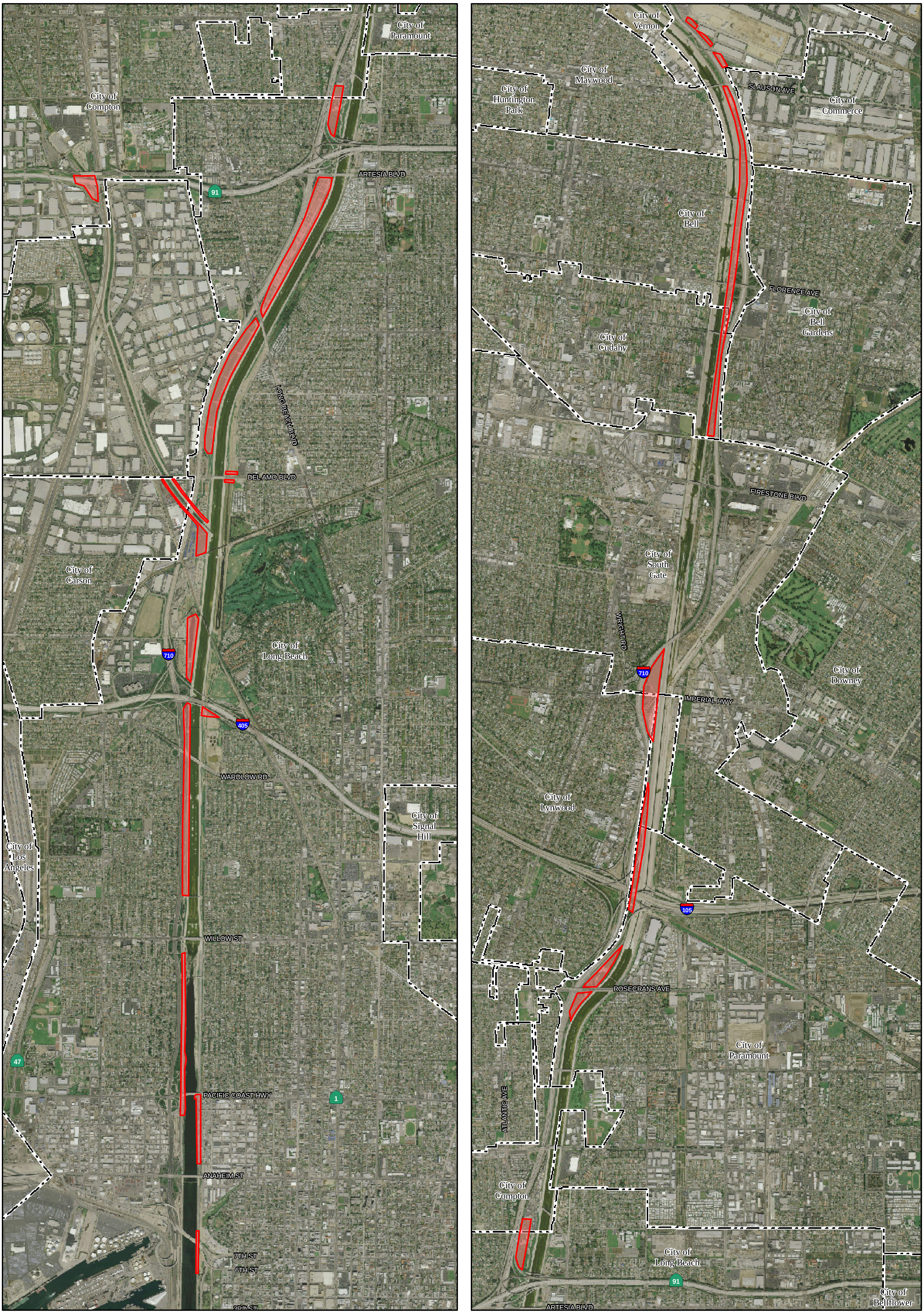


FIGURE 2

LEGEND

Burrowing Owl Survey Area

N

0 1500 3000

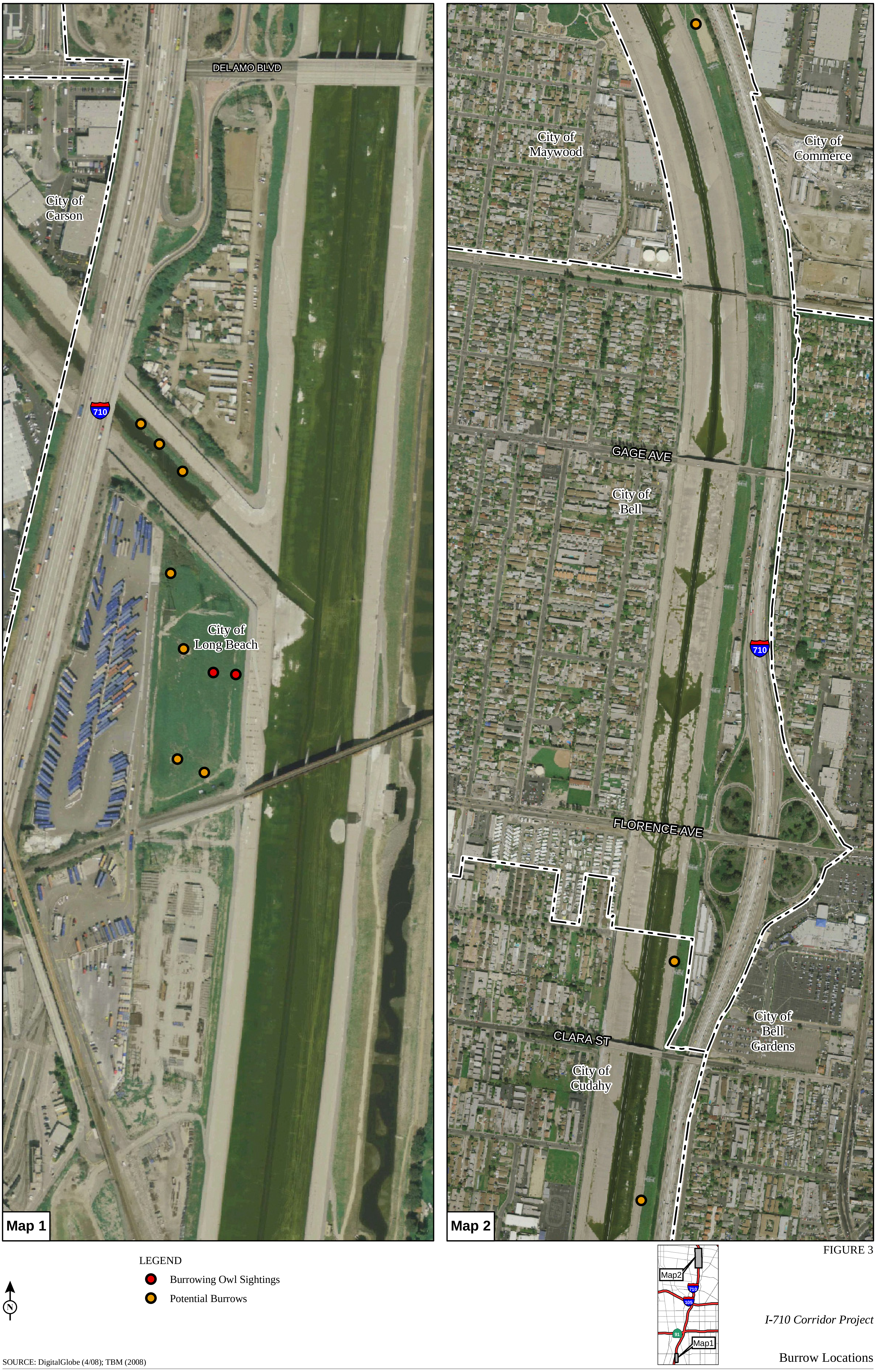
FEET

I-710 Corridor Project

Burrowing Owl Survey Area

SOURCE: DigitalGlobe (4/08); TBM (2008)

I:\URS0801\GIS\BUOW_Survey_Area.mxd (10/14/09)



LEGEND

- Burrowing Owl Sightings
- Potential Burrows

N

FIGURE 3

I-710 Corridor Project

Burrow Locations

SOURCE: DigitalGlobe (4/08); TBM (2008)

I:\URS0801\GIS\BUOW_Burrows.mxd (10/14/09)

Photo 1: Burrow with sign (white wash) where a single burrowing owl was observed on October 13, 2009.

Photo 2: Vacant parcel where a single burrowing owl was observed on October 13, 2009.

Photo 3: Another burrow used by single burrowing owl was observed on October 13, 2009.

Photo 4: Satellite cluster of burrows on parcel where a single burrowing owl was observed on October 13, 2009.

FIGURE 4

I-710 Corridor Project

Site Photos

APPENDIX A

PLANT AND ANIMALS OBSERVED

PLANTS OBSERVED	
DICOT FLOWERING PLANTS	
Aizoaceae	**Carpet weed family**
*Carpobrotus edulis**	Hottentot-fig
Amaranthaceae	**Amaranth family**
*Amaranthus albus**	Tumbling pigweed
Amaranthus sp.	Pigweed
Apiaceae	**Carrot family**
*Ciclospermum leptophyllum**	Ciclospermum
*Conium maculatum**	Poison hemlock
Apocynacecae	**Dogbane family**
*Nerium oleander**	Oleander
Asteraceae	**Sunflower family**
*Ageratina adenophora**	Sticky eupatorium
Ambrosia acanthicarpa	Annual bur-sage
Ambrosia psilostachya	Western ragweed
*Anthemis cotula**	Mayweed
Artemisia californica	California sagebrush
Artemisia californica (planted)	California sagebrush
Baccharis pilularis	Coyote brush
Baccharis salicifolia	Mule fat
*Bidens pilosa**	Common beggar's tick
*Centaurea melitensis**	Tocalote
Centromadia parryi	Pappose tarweed
*Chrysanthemum coronarium**	Garland chrysanthemum
*Cirsium vulgare**	Bull thistle
*Conyza bonariensis**	Flax-leaved horseweed
Conyza canadensis	Canadian horseweed
*Cotula coronopifolia**	African brass-buttons
Deinandra fasciculata	Fascicled tarweed
Euthamia occidentalis	Western goldenrod
Helianthus annuus	Common sunflower
Heterotheca grandiflora	Telegraph weed
Iva hayesiana (planted)	San Diego marsh-elder
*Lactuca serriola**	Prickly lettuce
Malacothrix saxatilis	Cliff malacothrix
*Picris echioides**	Bristly ox-tongue
*Pseudognaphalium luteoalbum**	Jersey cudweed
*Sonchus oleraceus**	Common sow thistle
Stephanomeria sp.	Stephanomeria
Symphyotrichum subulatum var. *parviflorum*	Southwestern annual saltmarsh aster
*Verbesina encelioides**	Golden crownbeard
Xanthium strumarium	Rough cockleburr

PLANTS OBSERVED	
Boraginaceae	**Borage family**
Heliotropium curassavicum	Salt heliotrope
Brassicaceae	**Mustard family**
*Brassica nigra**	Black mustard
*Hirschfeldia incana**	Shortpod mustard
*Lepidium latifolium**	Broad-leaved peppergrass
Lepidium ramosissimum var. *bourgeauanum*	Bourgeau’s pepperweed
*Raphanus sativus**	Wild radish
*Sisymbrium irio**	London rocket
Caprifoliaceae	**Honeysuckle family**
Sambucus mexicana	Blue elderberry
Caryophyllaceae	**Pink family**
*Stellaria media**	Common chickweed
Chenopodiaceae	**Saltbush family**
Atriplex cf. *lentiformis* (planted)	Big saltbush
Atriplex triangularis	Spearscale
*Bassia hyssopifolia**	Five-hook bassia
Chenopodium sp.	Goosefoot
*Dysphania multifida**	Cutleaf goosefoot
*Salsola tragus**	Russian thistle
Convolvulaceae	**Morning-glory family**
*Convolvulus arvensis**	Field bindweed
*Ipomoea purpurea**	Common morning-glory
Cucurbitaceae	**Gourd family**
Cucurbita foetidissima	Calabazilla
Cuscutaceae	**Dodder family**
Cuscuta sp.	Dodder
Euphorbiaceae	**Spurge family**
*Chamaesyce maculata**	Spotted spurge
*Chamaesyce serpens**	Matted sandmat
*Ricinus communis**	Castor bean
Fabaceae	**Pea family**
*Medicago sativa**	Alfalfa
*Melilotus albus**	White sweetclover
*Melilotus indicus**	Annual yellow sweetclover
*Robinia pseudoacacia**	Black locust
Geraniaceae	**Geranium family**
*Erodium moschatum**	Musky stork’s bill
Lamiaceae	**Mint family**
Salvia leucophylla (planted)	Purple sage
Salvia mellifera (planted)	Black sage
Malvaceae	**Mallow family**
*Malva parviflora**	Cheeseweed
Moraceae	**Mulberry family**
*Ficus carica**	Edible fig
*Morus alba**	White mulberry
Myrtaceae	**Myrtle family**
Eucalyptus sp.*	Eucalyptus
Oleaceae	**Olive family**
*Fraxinus uhdei**	Shamel ash

PLANTS OBSERVED	
Onagraceae	**Evening primrose family**
Camissonia micrantha	Small primrose
Ludwigia sp.	Primrose-willow
Oenothera elata	Hooker's evening-primrose
Oenothera laciniata	Cutleaf evening primrose
Phytolaccaceae	**Pokeweed family**
*Phytolacca americana**	American pokeweed
Plantaginaceae	**Plantain family**
*Plantago lanceolata**	English plantain
*Plantago major**	Common plantain
Polygonaceae	**Buckwheat family**
Persicaria hydropiperoides	Swamp smartweed
Persicaria lapathifolia	Curlytop knotweed
*Polygonum aviculare**	Common knotweed
Rumex crispus (Non-native species)	Curly dock
Salicaceae	**Willow family**
Populus fremontii	Fremont cottonwood
Salix exigua	Narrowleaf willow
Salix gooddingii	Goodding's willow
Simaroubaceae	**Quassia family**
*Ailanthus altissima**	Tree of heaven
Solanaceae	**Nightshade family**
Datura wrightii	Sacred thorn-apple
*Nicotiana glauca**	Tree tobacco
Petunia parviflora	Seaside petunia
Solanum americanum	American black nightshade
Solanum sp.	Nightshade
Tropaeolaceae	**Nasturtium family**
*Tropaeolum majus**	Garden nasturtium
Urticaceae	**Nettle Family**
*Parietaria judaica**	Spreading pellitory
*Urtica urens**	Dwarf nettle
Vitaceae	**Grape family**
Parthenocissus vitacea	Woodbine
MONOCOT FLOWERING PLANTS	
Arecaceae	**Palm family**
*Washingtonia robusta**	Mexican fan palm
Cyperaceae	**Sedge family**
Cyperus eragrostis	Tall flatsedge
Cyperus odoratus	Fragrant flatsedge
Schoenoplectus americanus	Three-square
Schoenoplectus californicus	California bulrush
Poaceae	**Grass family**
*Agrostis viridis**	Water bentgrass
*Arundo donax**	Giant reed
Avena sp.*	Oat
*Bromus catharticus**	Rescue grass
*Bromus diandrus**	Ripgut brome
*Bromus madritensis**	Foxtail chess
Cortaderia sp.*	Pampas grass

PLANTS OBSERVED	
*Cynodon dactylon**	Bermuda grass
*Echinochloa crus-galli**	Barnyard grass
*Eleusine indica**	Goose grass
Eragrostis mexicana	Mexican lovegrass
*Festuca arundinacea**	Tall fescue
*Hordeum murinum**	Foxtail barley
Leptochloa uninervia	Mexican sprangletop
*Lolium multiflorum**	Italian ryegrass
*Paspalum dilatatum**	Dallis grass
*Pennisetum clandestinum**	Kikuyugrass
*Pennisetum setaceum**	African fountain grass
*Piptatherum miliaceum**	Smilo grass
*Polypogon interruptus**	Ditch beard grass
*Polypogon monspeliensis**	Rabbitfoot grass
*Sorghum halepense**	Johnsongrass
Typhaceae	**Cattail family**
Typha sp.	Cattail

* Species not native to the study area

ANIMALS OBSERVED	
REPTILIA	**REPTILES**
Emydidae	**Box and Water Turtles**
Actinemys marmorata	Western pond turtle
Phrynosomatidae	**Phrynosomatid Lizards**
Sceloporus occidentalis	Western fence lizard
AVES	**BIRDS**
Anatidae	**Ducks, Geese, and Swans**
Anas platyrhynchos	Mallard
Phalacrocoracidae	**Cormorants**
Phalacrocorax auritus	Double-crested cormorant
Ardeidae	**Herons, Bitterns, and Allies**
Ardea herodias	Great blue heron
Ardea alba	Great egret
Egretta thula	Snowy egret
Cathartidae	**New World Vultures**
Cathartes aura	Turkey vulture
Accipitridae	**Kites, Hawks, and Eagles**
Circus cyaneus	Northern harrier
Accipiter cooperii	Cooper’s hawk
Buteo jamaicensis	Red-tailed hawk
Falconidae	**Falcons**
Falco sparverius	American kestrel
Rallidae	**Rails, Gallinules, and Coots**
Fulica americana	**American coot**

ANIMALS OBSERVED	
Charadriidae	**Plovers and Lapwings**
Charadrius vociferus	Killdeer
Recurvirostridae	**Stilts and Avocets**
Himantopus mexicanus	Black-necked stilt
Laridae	**Gulls, Terns, and Skimmers**
Larus delawarensis	Ring-billed gull
Larus occidentalis	Western gull
Larus californicus	California gull
Columbidae	**Pigeons and Doves**
*Columba livia**	Rock pigeon
Zenaida macroura	Mourning dove
Strigidae	**Typical Owls**
Athene cunicularia	Burrowing owl
Apodidae	**Swifts**
Aeronautes saxatilis	White-throated swift
Trochilidae	**Hummingbirds**
Calypte anna	Anna’s hummingbird
Tyrannidae	**Tyrant Flycatchers**
Sayornis nigricans	Black phoebe
Sayornis saya	Say’s phoebe
Corvidae	**Crows and Ravens**
Corvus brachyrhynchos	American crow
Corvus corax	Common raven
Mimidae	**Mockingbirds and Thrashers**
Mimus polyglottos	Northern mockingbird
Sturnidae	**Starlings**
*Sturnus vulgaris**	European starling
Emberizidae	**Emberizines**
Pipilo crissalis	California towhee
Melospiza melodia	Song sparrow
Zonotrichia leucophrys	White-crowned sparrow
Icteridae	**Blackbirds, Orioles and Allies**
Sturnella neglecta	Western meadowlark
Euphagus cyanocephalus	Brewer’s blackbird
Fringillidae	**Finches**
Carpodacus mexicanus	House finch
Passeridae	**Old World Sparrows**
*Passer domesticus**	House sparrow
MAMMALIA	**MAMMALS**
Didelphidae	**Opossums**
*Didelphis virginiana**	Virginia opossum
Leporidae	**Rabbits and Hares**
Sylvilagus audubonii	Desert cottontail
Sciuridae	**Squirrels**
Spermophilus beecheyi	California ground squirrel

ANIMALS OBSERVED	
CARNIVORA	***CARNIVORES***
Canidae	**Foxes, Wolves and Relatives**
Canis latrans	Coyote

* Species not native to the study area

APPENDIX B

ANIMAL SPECIES OBSERVED

APPENDIX B

ANIMAL SPECIES OBSERVED

This is a list of the conspicuous aerial insects (i.e., dragonflies and butterflies), bony fishes, amphibians, reptiles, birds, and mammals noted in the BSA by LSA biologists. Presence may be noted if a species is seen or heard, or identified by the presence of tracks, scat, or other signs.

* Species not native to the BSA

AVES	**BIRDS**
Anatidae	**Ducks, Geese, and Swans**
Anas strepera	Gadwall
Anas americana	American wigeon
Anas platyrhynchos	Mallard
Anas discors	Blue-winged teal
Podicipedidae	**Grebes**
Podilymbus podiceps	Pied-billed grebe
Pelecanidae	**Pelicans**
Pelecanus occidentalis californicus	California brown pelican
Phalacrocoracidae	**Cormorants**
Phalacrocorax auritus	Double-crested cormorant
Ardeidae	**Herons, Bitterns, and Allies**
Ardea herodias	Great blue heron
Ardea alba	Great egret
Egretta thula	Snowy egret
Butorides striatus	Green heron
Nycticorax nycticorax	Black-crowned night-heron
Cathartidae	**New World Vultures**
Cathartes aura	Turkey vulture
Accipitridae	**Hawks, Kites, Eagles, and Allies**
Accipiter cooperii	Cooper's hawk
Buteo lineatus	Red-shouldered hawk
Buteo jamaicensis	Red-tailed hawk

	Falconidae	**Caracaras and Falcons**
	Falco sparverius	American kestrel
	Falco peregrinus	Peregrine falcon
	Rallidae	**Rails, Gallinules, and Coots**
	Fulica americana	American coot
	Charadriidae	**Plovers and Lapwings**
	Charadrius vociferus	Killdeer
	Recurvirostridae	**Stilts and Avocets**
	Himantopus mexicanus	Black-necked stilt
	Recurvirostra americana	American avocet
	Scolopacidae	**Sandpipers, Phalaropes, and Allies**
	Tringa melanoleuca	Greater yellowlegs
	Calidris mauri	Western sandpiper
	Calidris minutilla	Least sandpiper
	Calidris alpina	Dunlin
	Limnodromus scolopaceus	Long-billed dowitcher
	Laridae	**Gulls, Terns, and Skimmers**
	Chroicocephalus philadelphia	Bonaparte’s gull
	Larus delawarensis	Ring-billed gull
	Larus occidentalis	Western gull
	Larus californicus	California gull
	Larus argentatus	Herring gull
	Columbidae	**Pigeons and Doves**
*	*Columba livia*	Rock pigeon
*	*Streptopelia chinensis*	Spotted dove
	Zenaida macroura	Mourning dove
	Strigidae	**Typical Owls**
	Athene cunicularia	Burrowing owl
	Apodidae	**Swifts**
	Aeronautes saxatilis	White-throated swift
	Trochilidae	**Hummingbirds**
	Calypte anna	Anna’s hummingbird
	Selasphorus sasin	Allen’s hummingbird
	Alcedinidae	**Kingfishers**
	Megaceryle alcyon	Belted kingfisher

Picidae	**Woodpeckers and Allies**
Picoides pubescens	Downy woodpecker
Colaptes auratus	Northern flicker
Tyrannidae	**Tyrant Flycatchers**
Sayornis nigricans	Black phoebe
Sayornis saya	Say's phoebe
Laniidae	**Shrikes**
Lanius ludovicianus	Loggerhead shrike
Corvidae	**Crows and Jays**
Aphelocoma californica	Western scrub-jay
Corvus brachyrhynchos	American crow
Corvus corax	Common raven
Aegithalidae	**Long-Tailed Tits and Bushtits**
Psaltriparus minimus	Bushtit
Troglodytidae	**Wrens**
Troglodytes aedon	House wren
Cistothorus palustris	Marsh wren
Regulidae	**Kinglets**
Regulus calendula	Ruby-crowned kinglet
Sylviidae	**Old World Warblers and Gnatcatchers**
Polioptila caerulea	Blue-gray gnatcatcher
Mimidae	**Mockingbirds and Thrashers**
Mimus polyglottos	Northern mockingbird
Sturnidae	**Starlings**
* *Sturnus vulgaris*	European starling
Motacillidae	**Wagtails and Pipits**
Anthus rubescens	American pipit
Parulidae	**Wood Warblers**
Vermivora celata	Orange-crowned warbler
Dendroica coronata	Yellow-rumped warbler
Geothlypis trichas	Common yellowthroat

Emberizidae	**Emberizids**
Pipilo crissalis	California towhee
Spizella passerina	Chipping sparrow
Melospiza melodia	Song sparrow
Melospiza lincolnii	Lincoln's sparrow
Zonotrichia leucophrys	White-crowned sparrow
Zonotrichia atricapilla	Golden-crowned sparrow
Icteridae	**Blackbirds**
Agelaius phoeniceus	Red-winged blackbird
Euphagus cyanocephalus	Brewer's blackbird
Quiscalus mexicanus	Great-tailed grackle
Molothrus ater	Brown-headed cowbird
Fringillidae	**Fringilline and Cardueline Finches and Allies**
Carpodacus mexicanus	House finch
Spinus psaltria	Lesser goldfinch
Passeridae	**Old World Sparrows**
* *Passer domesticus*	House sparrow
Ploceidae	**Weavers**
* *Euplectes franciscanus*	Orange bishop
Estrildidae	**Estrildid Finches**
* *Lonchura punctulata*	Nutmeg mannikin

MAMMALIA	**MAMMALS**
Sciuridae	**Squirrels, Chipmunks, and Marmots**
Spermophilus beecheyi	California ground squirrel
Geomyidae	**Pocket Gophers**
Thomomys bottae	Botta's pocket gopher
Muridae	**Old World Rats and Mice, Gerbils, and Relatives**
* *Mus musculus*	House mouse
Leporidae	**Rabbits and Hares**
Sylvilagus audubonii	Audubon's cottontail
Canidae	**Foxes, Wolves, and Allies**
Canis latrans	Coyote

Taxonomy and nomenclature are based on the following:

Birds: American Ornithologists' Union (1998, The A.O.U. Checklist of North American Birds, Seventh Edition, American Ornithologists' Union, Washington D.C.; and supplements; see http://www.aou.org/checklist/north/index.php).

Mammals: Wilson, D.E., and D.M. Reeder, eds. (2005, Mammal Species of the World, 3rd ed., Johns Hopkins University Press, Baltimore, Maryland; see http://vertebrates.si.edu/mammals/msw/.

APPENDIX D
BAT HABITAT SUITABILITY
ASSESSMENT MEMORANDUM

This page intentionally left blank

LSA

LSA ASSOCIATES, INC.
20 EXECUTIVE PARK, SUITE 200
IRVINE, CALIFORNIA 92614

949.553.0666 TEL
949.553.8076 FAX

BERKELEY
CARLSBAD
COLMA

FORT COLLINS
PALM SPRINGS
POINT RICHMOND

RIVERSIDE
ROCKLIN
SAN LUIS OBISPO

MEMORANDUM

DATE: November 4, 2009

TO: Wendy Fisher

FROM: Jill Carpenter

SUBJECT: Bat Habitat Suitability Assessment for the I-710 Corridor Project Located in Los Angeles County (LSA Project No. URS0801)

The purpose of this memorandum is to discuss the results of the Bat Habitat Suitability Assessment conducted along Interstate 710 (I-710). The Biological Study Area (study area) comprises various bridge, culvert, and pipeline structures located within and adjacent to the California Department of Transportation (Caltrans) right-of-way along I-710. Portions of the I-710 Corridor include the Los Angeles River channel and its associated bridges and culvert structures. This assessment was conducted to evaluate the potential for bat foraging and roosting activity, as well as to locate potential bat roosting sites within the study area. Many bats use crevices in bridges as day roosts and the open spaces between bridge beams for night roosting. Species that commonly utilize anthropogenic structures such as bridges and culverts for day and/or night roosting include the Mexican free-tailed bat (*Tadarida brasiliensis*), big brown bat (*Eptesicus fuscus*), pallid bat (*Antrozous pallidus*), and Yuma myotis (*Myotis yumanensis*); other species that may use these types of roosts include small-footed myotis (*Myotis ciliolabrum*), California myotis (*Myotis californicus*), western mastiff bat (*Eumops perotis*), silver-haired bat (*Lasionycteris noctivagans*), western canyon bat (*Parastrellus hesperus*),[1] and Townsend's big-eared bat (*Corynorhinus townsendii*).

Day roosts are used by bats during the day for shelter from the elements and from predators, while a night roost refers to a structure (natural or humanmade) located near or in the foraging area in which bats roost during the evening between foraging bouts as an energy-saving strategy. Since bats have separate roosting and foraging habitat requirements, it is expected that some bats may utilize one area for foraging and another for roosting. Therefore, when assessing an area with regard to proposed alterations to habitat, a landscape-level approach is required to adequately determine potential impacts to bats.

Potential and confirmed bat roosting locations are illustrated on Figure 1 (all figures attached). Photographs of the site are provided on Figure 2.

METHODS

This assessment was carried out in two parts. The first consisted of a preliminary daytime habitat assessment conducted throughout June 2009, while the second component of the assessment consisted

[1] Formerly known as *Pipistrellus hesperus*.

of follow-up nighttime surveys conducted in late June and early July 2009. During the preliminary assessment, potential foraging habitat was assessed throughout the study area on the basis of vegetation composition, existence of adjacent habitat, and accessibility, while potential day- and night-roosting sites were identified through the examination of bridge and culvert structures[1] for suitable crevices and roosting habitat as well as any presence of bat sign (e.g., guano, urine staining, or vocalizations). Large trees within the study area that are suitable for foliage-roosting species were noted, but roosting activity at these locations could not be confirmed due to the nature of this roosting behavior (these species tend to roost singly, beneath leaves, and may roost in a different location each night).

Night surveys were not practical at every location determined to be suitable for bat roosting due to the volume of surveys required for such a task; therefore, follow-up night survey locations were identified during the preliminary daytime assessment as those structures most likely to have colonies of bats rather than a few individuals, and/or a high probability of night roosting due to the quality of the adjacent foraging habitat. Follow-up nighttime bat surveys were conducted to ascertain the level of bat foraging and roosting activity within that portion of the study area, to confirm whether the bridges are utilized by bats for day and/or night roosting, and to visually determine the approximate number and species of bats utilizing the roosts. Acoustic monitoring was used during these surveys to aid in identifying the bat species present and to determine an index of relative bat activity for that site on that specific evening; however, it is not possible to determine the number of bats from the number of calls recorded. Surveys were conducted at the Del Amo box culvert and Del Amo Bridge, State Route 91 (SR-91)/I-710 interchange bridges over the Los Angeles River, Willow Street Bridge over the Los Angeles River, and the SR-91 Bridge over Compton Creek (see Figure 1). Surveys were conducted on June 29, July 1, July 2, and July 6, 2009, respectively.

Each nighttime survey was initiated 0.5 hour before sunset and continued until three hours after sunset. Observers were stationed at various vantage points on either side of the structure being surveyed, in positions that would optimize visibility of the crevices or any area that might be used for roosting. Prior to the initiation of the survey, the bridge structures were again examined for bat sign. During the survey, the structure and surrounding area were monitored for bat activity visually and acoustically with at least one ultrasonic detector on each side of the structure. The underside of the bridge was also examined periodically throughout the evening to ascertain whether bats were utilizing the structure for night roosting. Pettersson D240X detectors were used in time expansion mode to collect acoustic data during the entirety of the survey, and digital media players were used to record the data files. These data, consisting of full-spectrum sonograms of echolocation calls, were subsequently analyzed using Sonobat 2.9 acoustic analysis software. Species identifications were made by comparing call recordings with a library of “voucher” calls from known hand-released bats.

Some limitations are inherent in acoustic monitoring and in the analysis of acoustic data, and include (but are not limited to) human bias and past experience in data interpretation as well as the fact that some species are not equally detectable or may not be recorded at all. Some bats, such as Mexican free-tailed bats, emit loud, low-frequency echolocation calls that can be recorded from great distances and will be overrepresented in the data, while “whispering” bats, such as Townsend’s big-eared bats,

[1] The undersides of some structures were not accessible on foot and required examination for potential habitat from another vantage point with binoculars; these structures included those in the Burlington Northern Santa Fe (BNSF) Railroad right-of-way and bridges spanning deep water at the southern, tidally influenced end of the Los Angeles River.

emit faint calls that may not be recorded at all. In addition, not all call sequences are identifiable; different bat species may use similar types of echolocation calls, or the same species may use different types of echolocation calls based on the perceptual task and the immediate environment or habitat. Finally, the species composition and activity levels recorded during a single visit to a site may not necessarily reflect long-term patterns of use (e.g., seasonal and nightly use of an area).

RESULTS AND DISCUSSION

Although the majority of the vegetation within the study area comprises ruderal, nonnative species and/or ornamental plantings, riparian habitat consisting of mature western cottonwoods (*Populus fremontii*), willows (*Salix* spp.), and mulefat (*Baccharis salicifolia*) is present in portions of the Los Angeles River and in various drainages throughout the study area. Native habitat restoration areas consisting of coastal sage scrub or riparian/wetland vegetation are also present along portions of the Los Angeles River trail or adjacent to it. Any of these areas and their associated insect fauna may provide foraging habitat for a variety of bat species. Bats were observed foraging over the grapevines (*Vitus* spp.) planted along sections of the Los Angeles River trail during the nighttime emergence surveys, indicating that these ornamental plantings also provide foraging habitat.

In addition to providing foraging habitat, mature riparian trees may be utilized for roosting by the western red bat (*Lasiurus blossevillii*), a foliage-roosting species known to roost in broad-leafed trees such as cottonwoods and sycamores. Mexican fan palms (*Washingtonia robusta*) observed throughout the study area could provide roosting habitat for western yellow bats (*Lasiurus xanthinus*), which primarily utilize palm fronds for roosting but have also been documented to occasionally roost in cottonwoods. Mature native and ornamental trees in adjacent residential areas and along I-710 may also provide roosting habitat for hoary bats (*Lasiurus cinereus*) and other bat species, particularly since these trees are in close proximity to foraging habitat along and within the Los Angeles River.

The majority of undercrossings, overcrossings, and bridges associated with I-710 lack suitable habitat for day-roosting bats, either due to the type of construction/structure (materials, design), lack of crevices, or sealed state of any crevices present. In some cases, suitable features such as crevices were present; however, they were generally filled in or sealed with material that would prevent bats from accessing or using these crevices. Old staining observed at several of these sealed crevices suggests probable use by bats prior to them being sealed. In addition, some of the bridges over the Los Angeles River contained crevices suitable for day roosting that were either unsealed or had open sections where sealant was not present or had fallen out. Although some of the undercrossings and overcrossings along I-710 contained suitable crevices, no bat sign was observed at these crevices during the daytime assessment, and these structures are also unlikely to be used by roosting bats due to the high volume of vehicular traffic that passes beneath them.

The presence of day-roosting bats within the project area was confirmed by direct observation at several culverts and bridges throughout the study area; these bats were later identified as Yuma myotis following analysis of the acoustic data collected during evening emergence surveys. Although no colonies were visually observed during the assessment, individuals or small groups of bats were observed day roosting at several locations, including a single box culvert beneath Long Beach Boulevard on the west side of the Los Angeles River, a hinge on the east side of the SR-91 Bridge over the Los Angeles River, at the Willow Street Bridge over the Los Angeles River, and in several vertical crevices in the concrete columns of bridges along the Los Angeles River.

Small gaps are present in many sealed crevices throughout the Los Angeles River channel, and it is likely that individuals and small groups of bats are present in many of these crevices and may move around utilizing multiple roosts among the various structures within a given portion of the study area. However, due to the presence of flowing water beneath many of the bridges in the Los Angeles River channel, guano that would typically accumulate beneath the crevices to indicate the presence of roosting bats is instead washed away. The four bats emerging from Willow Street Bridge were observed flying out of crevices where little to no sign was observed, while a single myotis (*Myotis* sp.) bat observed during the day in a box culvert beneath Long Beach Boulevard on the west side of the Los Angeles River was observed in an area with copious sign, yet was not observed in that crevice on a subsequent visit. In addition, while guano was found in the majority of open vertical crevices in the concrete columns beneath many of the bridges, bats were observed in different crevices on different days of the assessment. This situation, in which a bat or a few bats were observed roosting in a particular crevice one day and were absent from it the next day, was frequently encountered during the daytime assessment of the study area. Therefore, it is likely that bats in the study area are utilizing many of the suitable crevices along the Los Angeles River for day roosting.

Although a minority of the crevices observed during the examination of the numerous bridge and culvert structures within the study area were suitable for day-roosting bats, the majority of the bridges along the Los Angeles River do contain structurally suitable components for night-roosting bats. Although some of the undercrossings and overcrossings along I-710 were structurally suitable for night-roosting bats, these are not likely used for night roosting due to lack of sign (e.g., guano, urine staining) and their location (over heavy vehicular traffic and away from suitable foraging). The proximity of a bridge or culvert to diverse foraging habitat increases the probability of its use as a night-roosting site by a variety of bat species. Probable night roosts were identified by the presence of guano and urine staining in the structurally suitable portions of these structures; however, night roosting was difficult to confirm in several of the Los Angeles River bridges during the daytime assessment because sign was not visible on the ground due to the presence of water in the channel, and the aboveground height of many of these bridges made it difficult to closely examine the underside of the bridge between the beams.

Scattered guano, consistent with use by night-roosting bats, was observed during the preliminary daytime assessment in several of the culvert structures within the study area. A large amount of bat guano found in a single box culvert at the northwest corner of the SR-91/I-710 interchange suggests a probable night roost at this location. Evidence of use by night-roosting bats was also observed along the concrete walls and on the ground at some of the columns separating the sections of the bridges.

Several of the bridges along the Los Angeles River, particularly in the southern portion of the study area, are steel or concrete girder bridges. Although no suitable day-roosting habitat was observed on the steel bridge structures, it is possible that bats may use the corners or areas between beams for night roosting, although this occurs more commonly in the concrete bridges. The proximity of these bridges to optimal foraging habitat along the Los Angeles River increases the likelihood that these structures may be used for night roosting, particularly by bats coming from day roosts located far off site. However, few could be closely examined due to inaccessibility, the height of the bridge, and the lack of a suitable vantage point. In addition, it was difficult to ascertain the presence of sign beneath the majority of the bridge span due to the presence of water in the drainage.

Bats were visually and acoustically detected within the study area during the nighttime surveys. The results of these surveys are presented below in Table A. Foraging bats were observed at all survey sites except Compton Creek Bridge. No bats were observed in the vicinity of the SR-91 Bridge over Compton Creek or any of the adjacent bridges during the nighttime survey at Compton Creek, where significant light pollution was observed originating from the bright lights of adjacent businesses and billboards. This excessive lighting may deter bats from using this area for foraging or night roosting.

Table A: Results of Nighttime Emergence and Acoustic Surveys

Survey Location	Date	Species Detected
Del Amo Bridge and culvert	June 29, 2009	MYYU, TABR, MY50, MYCA?
SR-91 Bridge over Los Angeles River	July 1, 2009	MYYU*, EPFU, MY50, TABR, LANO?
Willow Street Bridge	July 2, 2009	MYYU*
SR-91 Bridge over Compton Creek	July 6, 2009	None

Notes: *indicates a species confirmed to be day roosting in this location.
? indicates a species that may have been detected during the nighttime survey; however, the data is inconclusive.
EPFU = *Eptesicus fuscus*
LANO = *Lasionycteris noctivagans*
MY50 = calls containing characteristics of both *Myotis californicus* and *Myotis yumanensis* that were not diagnostic of either are labeled here as MY50
MYCA = *Myotis californicus*
MYYU = *Myotis yumanensis*
TABR = *Tadarida brasiliensis*

RECOMMENDATIONS

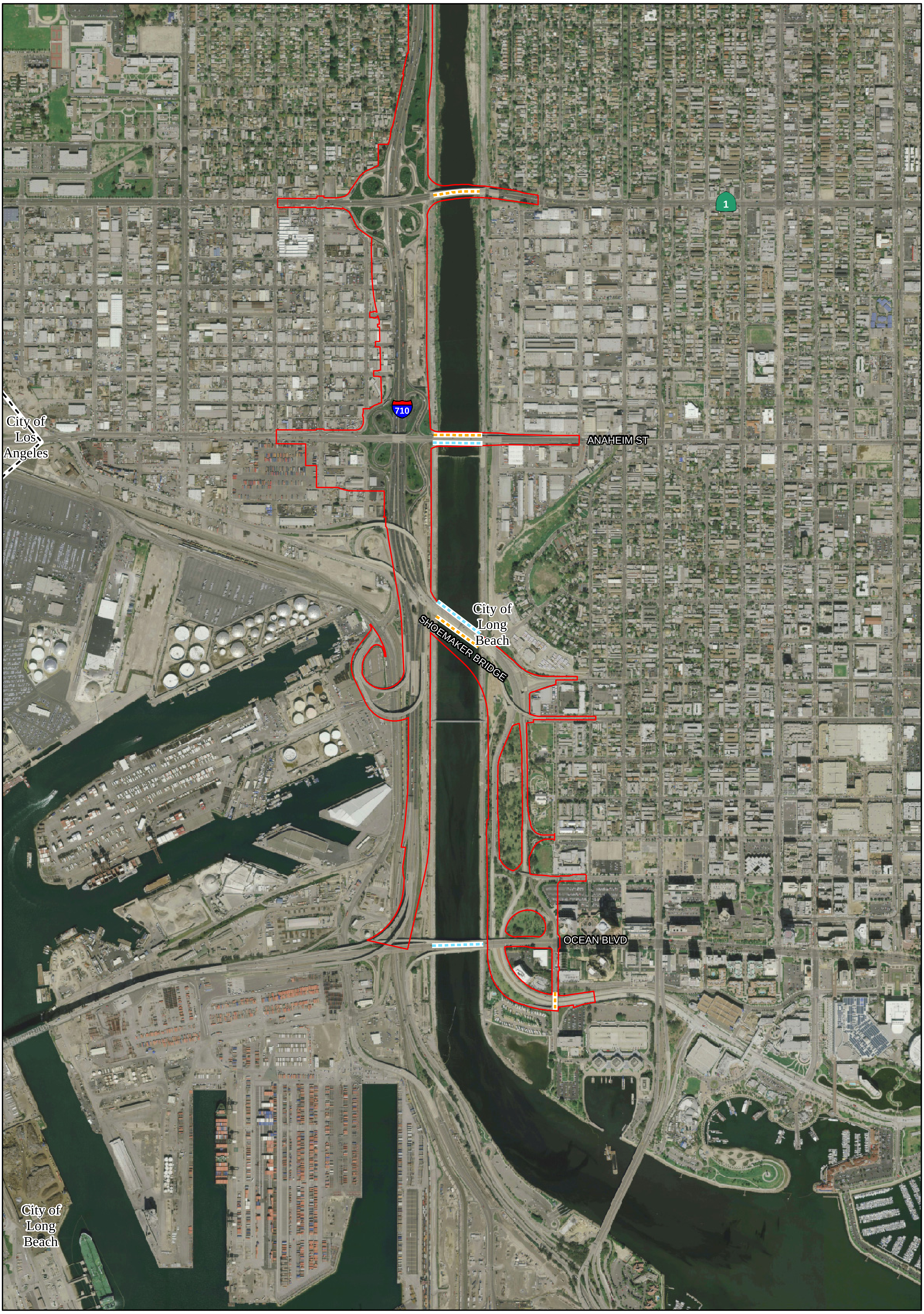
No sign or indication of a large group of bats, such as a large maternity colony, was observed during the day- or nighttime surveys; however, smaller maternity colonies or groups of bats may be present in the structures along the Los Angeles River within the study area. Additionally, since bats are highly mobile species, there is potential for the bats to subsequently occupy any suitable crevices on site for day roosting. Since bats were observed switching day-roost sites on multiple occasions during the assessment, bridges along the Los Angeles River within the study area that are suitable for day-roosting bats may need to be reassessed prior to construction on a case-by-case basis to ensure no maternity colonies or individuals are present in structures or portions of structures where they could be directly impacted by construction. If day-roosting bats are present or their presence is assumed in portions of structures that will be directly impacted by construction activities, exclusionary devices should be placed in the fall (September or October) preceding construction to exclude bats from directly affected work areas and avoid potential direct impacts. It is particularly important to avoid direct impacts to bats during the maternity season (typically from March through August in Southern California), when flightless young are present. Additional mitigation measures, including but not limited to the installation of bat houses or other forms of alternative bat habitat, may also be appropriate.

A night roost refers to a structure (natural or humanmade) in which bats roost during the evening between foraging bouts. When a night roost is eliminated, the energetics for bats to successfully utilize the surrounding foraging area may be negatively affected. Although a day roost may double during the evening as a night roost if it is close to a foraging area, night roosts are used only in the evening. Therefore, there would be little to no impacts to bats at structures identified as night roosts or potential night roosts if construction activity is limited to daytime hours, the existing structures utilized by the bats for roosting are not removed or altered, vegetation adjacent to these structures is not cleared, and the airspace to access the structures is not restricted. If nighttime construction activity is anticipated, or if major modifications will be made to the bridges or culverts that may reduce their suitability for night roosting, the study area may require further investigation through acoustic monitoring to yield more precise information with regard to presence, species composition, and the approximate number of bats utilizing the structures for roosting. This information would then be used to determine the appropriate mitigation to minimize impacts to night-roosting bats. Possible mitigation measures could include, but are not limited to, minimization of night lighting beneath the structure and construction of alternative roosting habitat.

Although bridge and culvert roosts can be relatively easy to identify, tree roosts are more subtle and require close examination. To avoid potential direct impacts to roosting bats, if tree removal or trimming is necessary for project construction, large trees and snags should be examined by a bat biologist prior to removal or trimming to ensure that no roosting bats are present. Palm frond trimming, if necessary, should be conducted outside the maternity season to avoid potential mortality to flightless young.

As construction plans with regard to these bridge and culvert structures are finalized, consultation and communication between engineers and a qualified bat biologist early in the construction planning process will aid in the determination of specific measures to minimize impacts to bats in a timely, cost-effective, and structurally successful manner. Although none of the structures identified as day and/or night roosts appear to be utilized by large numbers of bats, if several structures in a given area will be impacted at one time there may be a cumulative impact with regard to the availability of suitable crevices for roosting. In the case of bridges where direct impacts are anticipated, additional surveys are recommended to yield more precise information with regard to seasonal presence, species composition, and the approximate number of bats utilizing the structures for roosting.

Attachments: Figure 1 – Potential Bat Roost Locations
Figure 2 – Site Photographs



LEGEND

Bat Habitat Suitability Components

- Day-roosting low potential
- Day-roosting moderate to high potential
- Night-roosting low potential
- Night-roosting moderate to high potential
- Roosting Bats
- Survey Location
- Proposed Right of Way

N

0 500 1000

FEET

SOURCE: DigitalGlobe (4/08); TBM (2008)

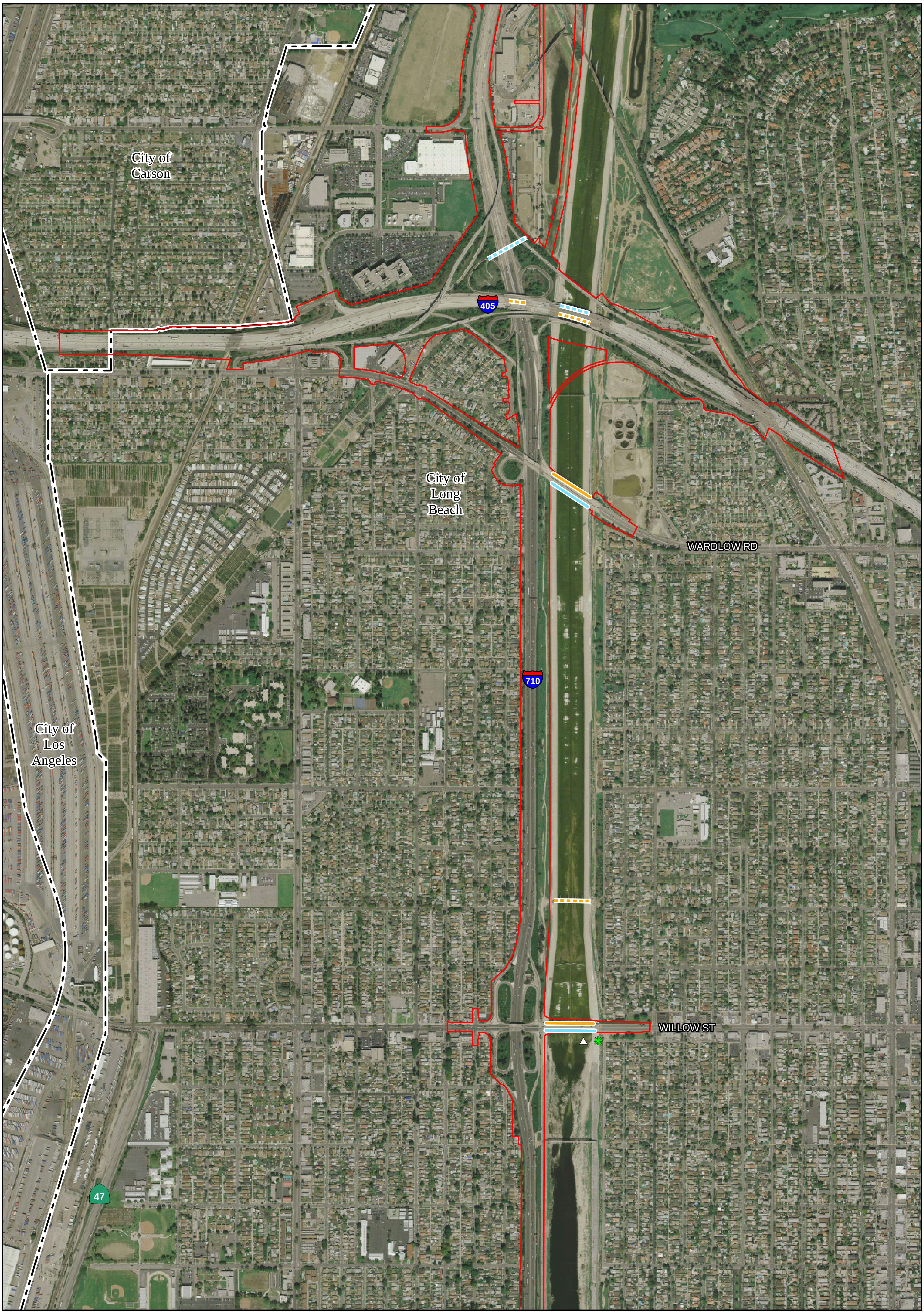
I:\URS0801\GIS\NES\Bat_Roosts.mxd (11/13/09)

FIGURE 1

Sheet 1 of 7

I-710 Corridor Project

Locations of Potential Bat Roosts



LEGEND

Bat Habitat Suitability Components

- Day-roosting low potential
- Day-roosting moderate to high potential
- Night-roosting low potential
- Night-roosting moderate to high potential
- Roosting Bats
- Survey Location
- Proposed Right of Way

0 500 1000
FEET

SOURCE: DigitalGlobe (4/08); TBM (2008)

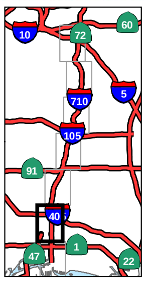
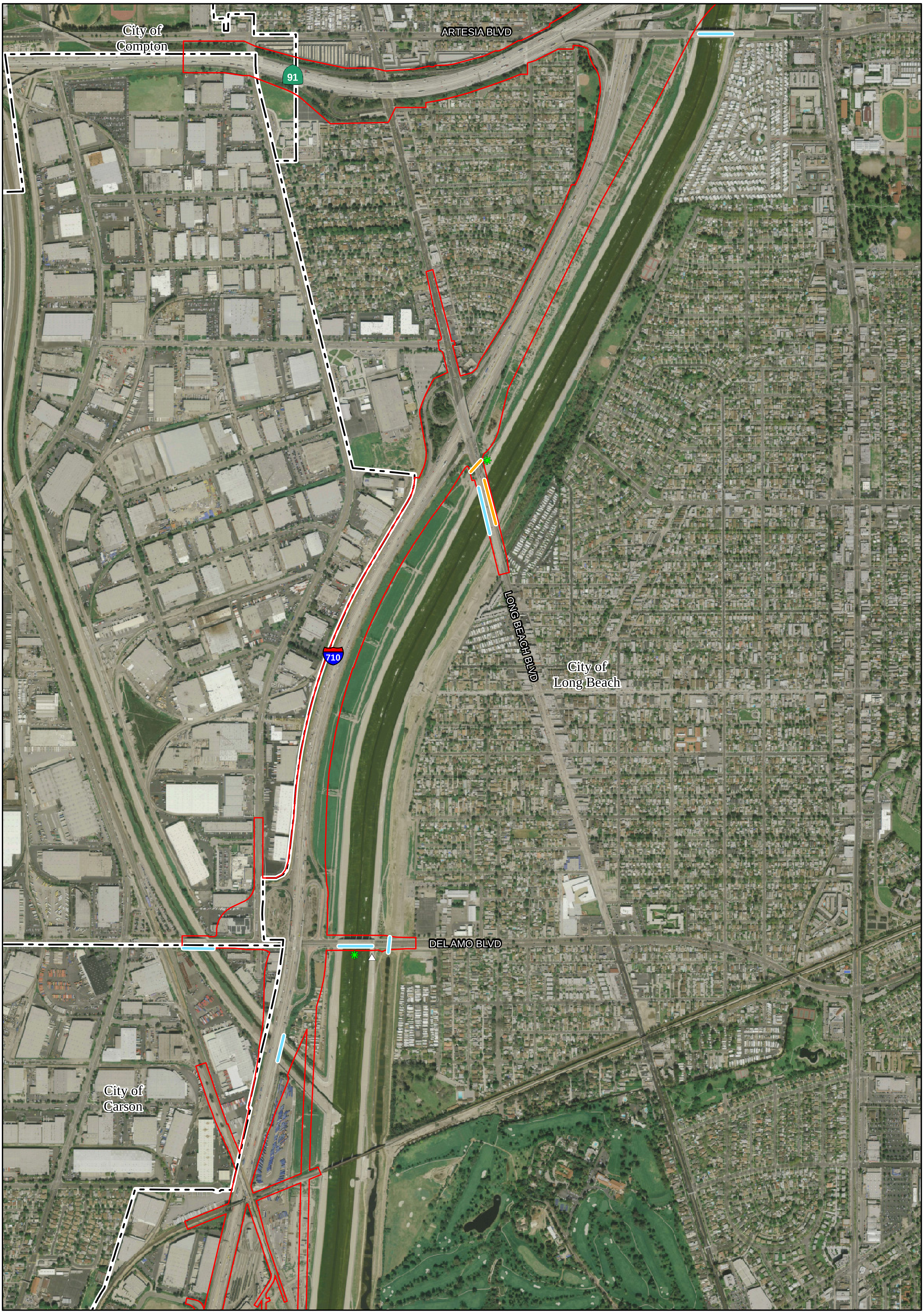


FIGURE 1
Sheet 2 of 7

I-710 Corridor Project

Locations of Potential
Bat Roosts

I:\URS0801\GIS\NES\Bat_Roosts.mxd (11/13/09)



LEGEND

Bat Habitat Suitability Components

- Day-roosting low potential
- Day-roosting moderate to high potential
- Night-roosting low potential
- Night-roosting moderate to high potential
- Roosting Bats
- Survey Location
- Proposed Right of Way

0 500 1000
FEET

SOURCE: DigitalGlobe (4/08); TBM (2008)

I:\URS0801\GIS\NES\Bat_Roosts.mxd (11/13/09)

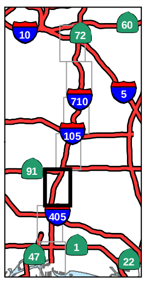


FIGURE 1
Sheet 3 of 7

I-710 Corridor Project

Locations of Potential Bat Roosts

LEGEND

Bat Habitat Suitability Components

Day-roosting low potential

Day-roosting moderate to high potential

Night-roosting low potential

Night-roosting moderate to high potential

Roosting Bats

Survey Location

Proposed Right of Way

0 500 1000

FEET

SOURCE: DigitalGlobe (4/08); TBM (2008)

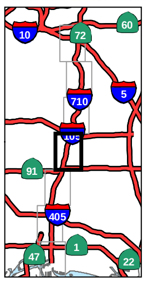


FIGURE 1

Sheet 4 of 7

I-710 Corridor Project

Locations of Potential Bat Roosts

I:\URS0801\GIS\NES\Bat_Roosts.mxd (11/13/09)

LEGEND

Bat Habitat Suitability Components

- Day-roosting low potential
- Day-roosting moderate to high potential
- Night-roosting low potential
- Night-roosting moderate to high potential
- Roosting Bats
- Survey Location
- Proposed Right of Way

N

0 500 1000

FEET

SOURCE: DigitalGlobe (4/08); TBM (2008)

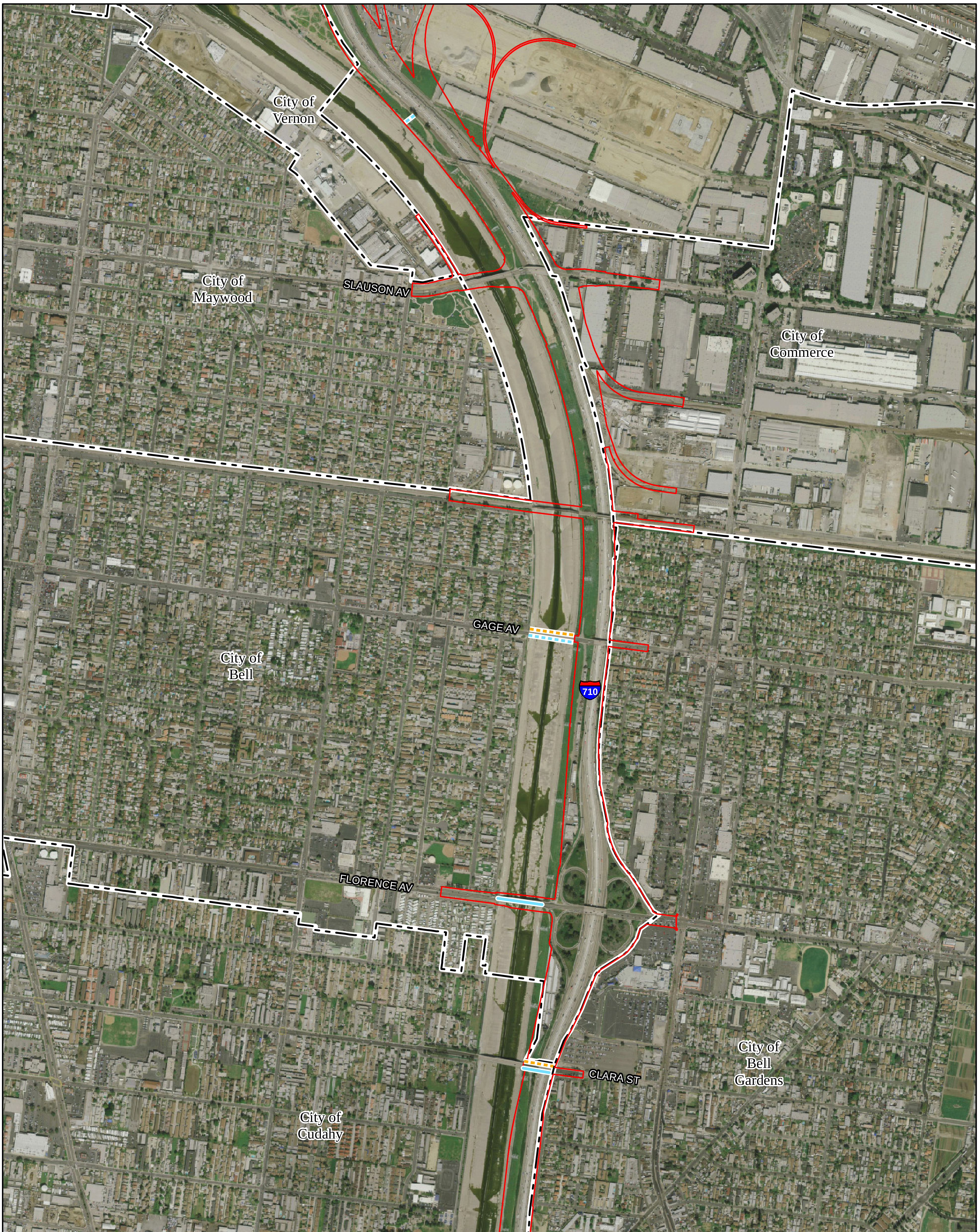
FIGURE 1

Sheet 5 of 7

I-710 Corridor Project

Locations of Potential Bat Roosts

I:\URS0801\GIS\NES\Bat_Roosts.mxd (11/13/09)



LEGEND

Bat Habitat Suitability Components

- Day-roosting low potential
- Day-roosting moderate to high potential
- Night-roosting low potential
- Night-roosting moderate to high potential
- Roosting Bats
- Survey Location
- Proposed Right of Way

0 500 1000
FEET

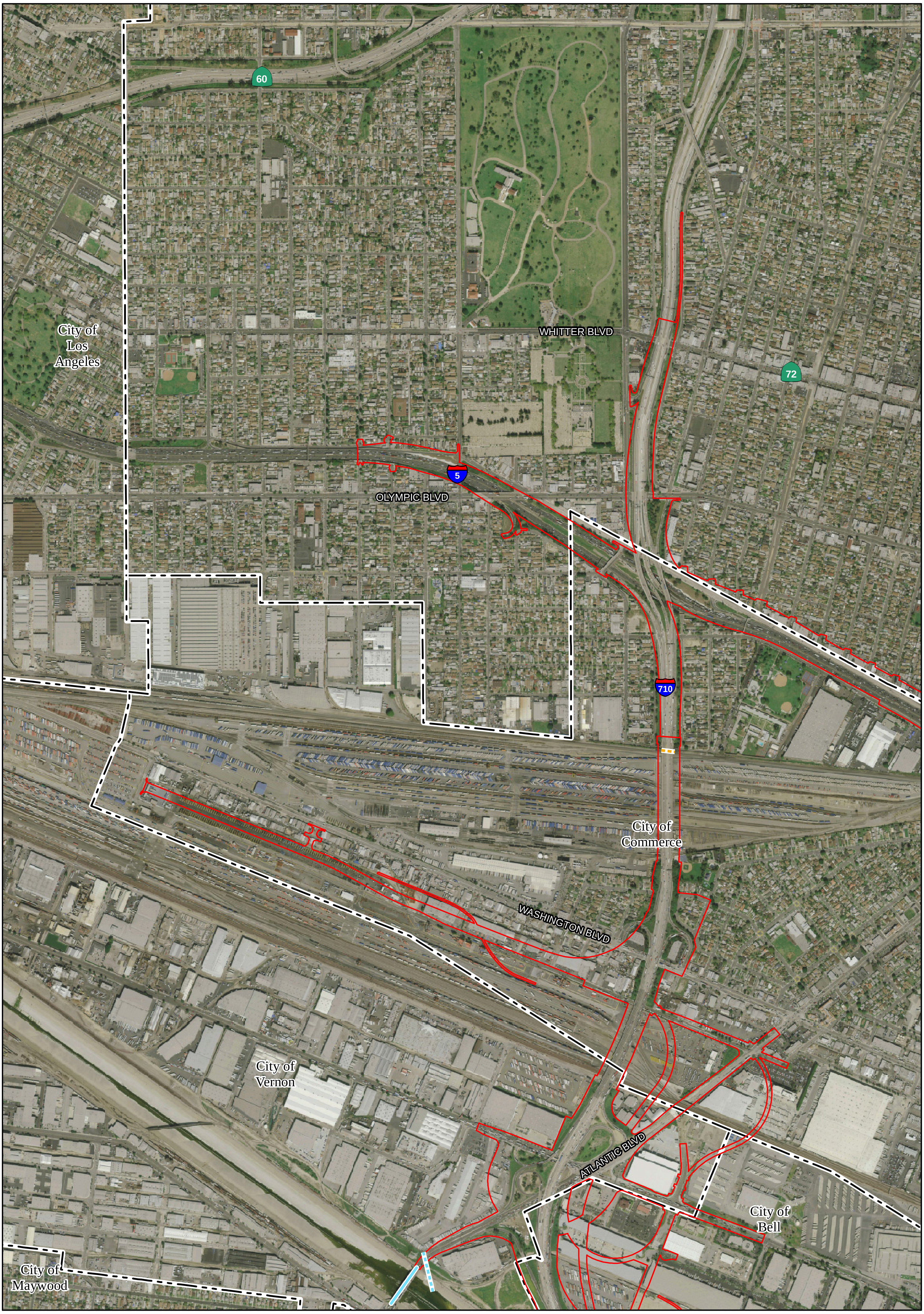
SOURCE: DigitalGlobe (4/08); TBM (2008)

FIGURE 1
Sheet 6 of 7

I-710 Corridor Project

Locations of Potential Bat Roosts

I:\URS0801\GIS\NES\Bat_Roosts.mxd (11/13/09)



LEGEND

Bat Habitat Suitability Components

- Day-roosting low potential
- Day-roosting moderate to high potential
- Night-roosting low potential
- Night-roosting moderate to high potential
- Roosting Bats
- Survey Location
- Proposed Right of Way

0 500 1000
FEET

SOURCE: DigitalGlobe (4/08); TBM (2008)

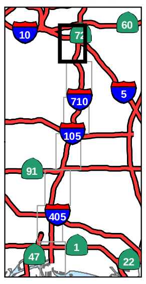


FIGURE 1
Sheet 7 of 7

I-710 Corridor Project

Locations of Potential
Bat Roosts

I:\URS0801\GIS\NES\Bat_Roosts.mxd (11/13/09)

A. View of fresh staining at a small gap in an otherwise sealed crevice beneath the SR-91 bridge over the Los Angeles River (06/19/09).

B. View of scattered guano on rock riprap beneath the SR-91 bridge over the Los Angeles River (06/09/09).

C. View of hinge crevices beneath the Willow Street Bridge over the Los Angeles River (06/23/09).

D. View of the riparian foraging habitat downstream and adjacent to the Willow Street Bridge over the Los Angeles River (06/23/09).

LSA

FIGURE 2
Sheet 1 of 2

Bat Habitat Suitability Assessment
I-710 Corridor Improvements Project

Site Photographs

I:\URS0801\G\BHSA sitephotos.cdr (11/09/09)

E. View of the foraging habitat in the Compton Creek Channel; the I-710 bridge in the background may serve as night-roosting habitat (06/05/09).

F. View of an area beneath the SR-91/I-710 interchange over the Los Angeles River containing crevices and structures suitable for day and night-roosting (06/19/09).

G. View beneath the Firestone Boulevard Bridge over the Los Angeles River, which consists of girders that may be used by night-roosting bats (06/15/09).

H. View of riparian foraging habitat and the single box culvert suitable for night-roosting located beneath Del Amo Boulevard east of the Los Angeles River (06/05/09).

LSA

FIGURE 2
Sheet 2 of 2

Bat Habitat Suitability Assessment
I-710 Corridor Improvements Project

Site Photographs

I:\URS0801\G\BHSA sitephotos.cdr (11/09/09)

FINAL REPORT

JURISDICTIONAL DELINEATION REPORT INTERSTATE 710 CORRIDOR PROJECT BETWEEN OCEAN BOULEVARD AND THE STATE ROUTE 60 INTERCHANGE WBS ID:165.15.10

Prepared for

Metro

Los Angeles County
Metropolitan Transportation Authority

May 2012

Prepared by:

LSA

LSA Associates, Inc.
20 Executive Park, Suite 200
Irvine, California 92614

TABLE OF CONTENTS

SECTION PAGE

LIST OF FIGURES

LIST OF TABLES

APPENDICES

LIST OF ACRONYMS AND ABBREVIATIONS

BMP	Best Management Practice
BSA	biological study area
Caltrans	California Department of Transportation
CCA	California Coastal Act
CCC	California Coastal Commission
CDFG	California Department of Fish and Game
CDP	Coastal Development Permit
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
CWA	Clean Water Act
EPA	United States Environmental Protection Agency
GIS	geographic information systems
I-5	Interstate 5
I-10	Interstate 10
I-105	Interstate 105
I-405	Interstate 405
I-710	Interstate 710
LACDPW	Los Angeles County Department of Public Works
LCP	Local Coastal Program
Metro	Los Angeles County Metropolitan Transportation Authority
NASIS	National Soil Information System
NOS	National Ocean Service

NRCS	National Resources Conservation Service
OHWM	ordinary high water mark
Porter-Cologne Act	Porter-Cologne Water Quality Control Act
RPW	relatively permanent water
RWQCB	Regional Water Quality Control Board
SCAG	Southern California Association of Governments
SR-1	State Route 1
SR-60	State Route 60
SR-91	State Route 91
SWANCC	*Solid Waste Agency of Northern Cook County v. U.S. Army Corps of Engineers*, No. 99-1178
TNW	traditional navigable water
USACE	United States Army Corps of Engineers
USDA	United States Department of Agriculture
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey

EXECUTIVE SUMMARY

INTRODUCTION

The Interstate 710 (I-710) Corridor Project study area includes the portion of I-710 (6 or 8 lanes) from Ocean Blvd. in Long Beach to State Route 60 (SR-60), a distance of approximately 18 miles (see Figure 1). At the freeway-to-freeway interchanges, the study area extends one mile east and west of I-710 for the Interstate 405 (I-405), State Route 91 (SR-91), Interstate 105 (I-105), and Interstate 5 (I-5) interchanges. The I-710 Corridor Project traverses portions of the cities of Bell, Bell Gardens, Carson, Commerce, Compton, Cudahy, Downey, Huntington Park, Lakewood, Long Beach, Los Angeles, Lynwood, Maywood, Paramount, Signal Hill, South Gate, and Vernon, and portions of unincorporated Los Angeles County, all within Los Angeles County, California.

I-710 (also known as the Long Beach Freeway) is a major north/south interstate freeway connecting the City of Long Beach to central Los Angeles. Within the I-710 Corridor Project study area, the freeway serves as the principal transportation connection for goods movement between the Port of Los Angeles (POLA)/Port of Long Beach (POLB) shipping terminals and the Burlington Northern Santa Fe (BNSF)/Union Pacific Railroad (UP) rail yards in the cities of Commerce and Vernon and destinations along I-710 as well as destinations north and east of I-710.

The I-710 Major Corridor Study (MCS), undertaken to address the mobility and safety needs of the I-710 Corridor and to explore possible solutions for transportation improvements, was completed in March 2005 and identified a community-based Locally Preferred Strategy (LPS) consisting of 10 general purpose (GP) lanes next to four separated freight movement lanes. The Los Angeles County Metropolitan Transportation Authority (Metro), the California Department of Transportation (Caltrans), the Gateway Cities Council of Governments (GCCOG), the Southern California Association of Governments (SCAG), POLA, POLB, and the Interstate 5 Joint Powers Authority (I-5 JPA) are collectively known as the I-710 Funding Partners. Through a cooperative agreement, these agencies are funding the preparation of preliminary engineering and environmental documentation for the I-710 Corridor Project to evaluate improvements identified in the Major Corridor Study along the I-710 Corridor from Ocean Blvd. in the City of Long Beach to SR-60. The I-710 Funding Partners have continued this engineering and environmental study effort within the same broad, continuous community participation framework that was used for the MCS.

The environmental impacts of the I-710 Corridor Project will be assessed and disclosed in compliance with both the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA). Caltrans is the Lead Agency for CEQA compliance and the

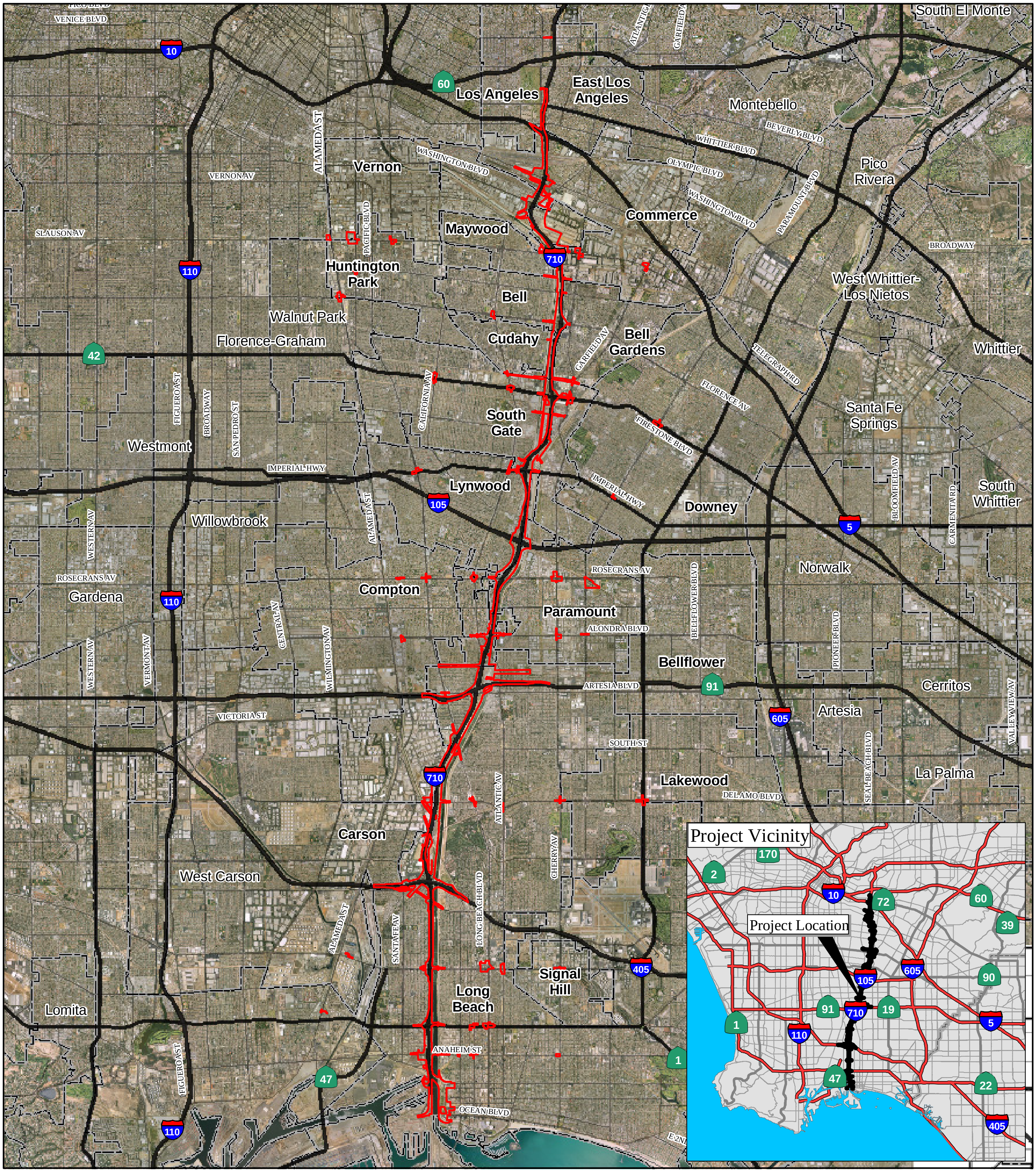


FIGURE 1

LEGEND

Limits of the Biological Study Area

N

0 6250 12500
FEET

SOURCE: AirPhotoUSA (2007); TBM (2007)

I-710 Corridor Project

Regional Location Map

I:\URS0801A\GIS\BIO\Regional_Loc_Map.mxd (12/29/11) lead agency for NEPA compliance pursuant to Section 6005 of the Safe, Accountable, Flexible, and Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) (23 United States Code [USC] 327).

The need for the I-710 Corridor Project is as follows:

- I-710 experiences high heavy-duty truck volumes, resulting in high concentrations of diesel particulate emissions within the I-710 Corridor.
- I-710 experiences accident rates, especially truck-related, that are well above the statewide average for freeways of this type.
- At many locations along I-710, the on- and off-ramps do not meet current design standards and weaving sections within and between interchanges are of insufficient length.
- High volumes of both trucks and cars have led to severe traffic congestion throughout most of the day (6:00 a.m. to 7:00 p.m.) on I-710 as well as on the connecting freeways. This is projected to worsen over the next 25 years.
- Increases in population, employment, and goods movement between now and 2035 will lead to more traffic demand on I-710 and on the streets and roadways within the I-710 Corridor as a whole.

The purpose of the I-710 Corridor Project is to achieve the following within the I-710 Corridor (2035 time frame):

- Improve air quality and public health
- Improve traffic safety
- Provide modern design for the I-710 mainline
- Address projected traffic volumes
- Address projected growth in population, employment, and activities related to goods movement (based on SCAG population projections and projected container volume increases at the two ports)

Project Description and Study Area

The I-710 Corridor Project alternatives are Alternative 1 (No Build Alternative), Alternative 5A (I-710 Widening up to 10 General Purpose Lanes), Alternative 6A (10 General Purpose Lanes plus a Four-Lane Freight Corridor), Alternative 6B (10 General Purpose Lanes plus a Zero-Emissions Four-Lane Freight Corridor), and Alternative 6C (10 GP Lanes plus a Four-Lane Freight Corridor Tolled).

The study area referred to as the biological study area (BSA) is approximately 18 linear miles along the I-710 corridor, from Ocean Blvd. to SR-60. The BSA also includes a portion of the interchanges with Interstate 405 (I-405), State Route 91 (SR-91), Interstate 105 (I-105), I-5, SR-60, and Interstate 10 (I-10), to accommodate for proposed interchange improvements. The project area spans the Cities of Bell, Bell Gardens, Carson, Commerce, Compton, Cudahy, Downey, Huntington Park, Lakewood, Long Beach, Los Angeles, Lynwood, Maywood, Paramount, Signal Hill, South Gate, and Vernon in Los Angeles County (Figure 1).

REGULATORY SETTING

The United States Army Corps of Engineers (USACE) regulates discharges of dredged or fill material into waters of the United States (U.S.) pursuant to Section 404 of the Clean Water Act (CWA). These waters include wetlands and non-wetland waters of the U.S. that meet specific criteria.

Additionally, under Section 10 of the Rivers and Harbors Act of 1989, USACE asserts regulatory jurisdiction over navigable waters of the U.S., which covers construction, excavation, or deposition of materials or structures in, over, or under such waters, or any work which would affect the course, location, condition, or capacity of navigable waters of the U.S.

The California Coastal Commission (CCC), through provisions of the California Coastal Act (CCA), is empowered to issue a Coastal Development Permit (CDP) for many projects located within the Coastal Zone. In areas where a local entity has a certified Local Coastal Program (LCP), the local entity (e.g., the City of Long Beach) can issue a CDP only if it is consistent with the LCP. The CCC, however, has appeal authority for portions of LCPs and retains jurisdiction over certain public trust lands and in areas without an LCP.

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

The California Regional Water Quality Control Board (RWQCB) is responsible for the administration of Section 401 of the CWA. Typically, the areas subject to RWQCB jurisdiction coincide with those of the USACE (i.e., waters of the U.S., including any wetlands). The

RWQCB also asserts authority over waters of the State under waste discharge requirements pursuant to the State Porter-Cologne Water Quality Control Act (Porter-Cologne Act).

AFFECTED ENVIRONMENT

The BSA is the primary area assessed for jurisdictional waters. The BSA is approximately 18 linear miles and includes a portion of I-405, SR-91, I-105 and I-5, to accommodate for proposed interchange improvements. The BSA is located on the USGS *Long Beach, South Gate,* and *Los Angeles, California* 7.5-minute series topographical quadrangles (Figure 2). The BSA passes through mostly urban settings consisting of residential, industrialized warehouse, and commercial business uses that run along the existing transportation facilities. At two locations, the BSA longitudinally divides jurisdictional waters. Therefore, the USACE review area extends across the entire water body to include areas outside the BSA.

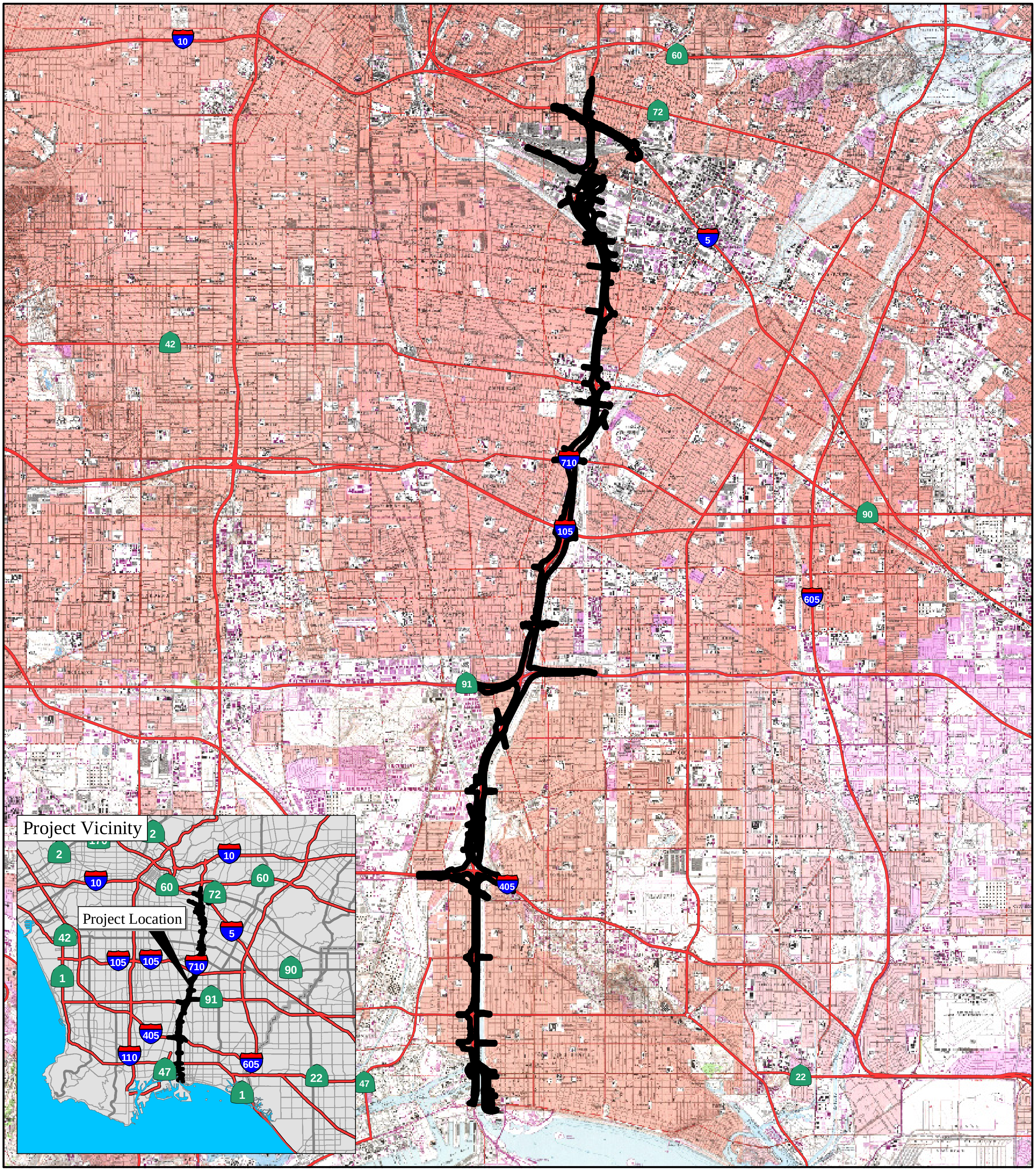
The Los Angeles River, which flows into the Pacific Ocean, runs parallel to I-710 throughout the BSA. Several drainages within the BSA are tributary to the Los Angeles River and are a mixture of man-made channels with natural earthen bottoms, concrete v-ditches, and concrete-lined channels. In addition, there are numerous roadside drainage ditches within the BSA that are not believed to convey flows at the present time or are not tributary to the Los Angeles River.

The Los Angeles River channel includes one section in the BSA where sufficient sediment has accumulated to support potential wetland waters of the U.S. Other potential wetland waters of the U.S. occur within Compton Creek and in isolated detention basins and/or man-made wetland areas.

DELINEATION RESULTS

The BSA contains a total of 75.22 acres of potential Section 404 jurisdictional nonwetland waters, of which 10.85 acres are tidally influenced. An additional 51.33 acres of nonwetland waters are in the USACE review area beyond the BSA. Additionally, the BSA contains a total of 3.14 acres of Section 404 wetland waters, of which 0.05 acre is tidally influenced. There are a total of 115.42 acres of streambed and associated riparian habitat within the BSA subject to the jurisdiction of CDFG under Section 1600 of the California Fish and Game Code and another 62.10 acres outside the BSA. RWQCB jurisdiction was primarily determined based on the presence of Section 404 jurisdiction, plus a water infiltration basin that is not under USACE jurisdiction. There are a total of 87.30 acres within the BSA under the potential jurisdiction of the RWQCB.

The findings and conclusions presented in this report, including the location and extent of wetlands and other waters subject to regulatory jurisdiction (or lack thereof), represent the professional opinion of the project biologist. These findings and conclusions should be considered preliminary until verified by the USACE and CDFG.



LEGEND

Project Limits

FIGURE 2

N

0 6250 12500

FEET

I-710 Corridor Project

07-LA-710- PM 4.9/24.9 EA 249900

Project Location Map

SOURCE: USGS 7.5' Quad. LONG BEACH ('81), SOUTH GATE ('81), LOS ANGELES ('81)

I:\URS0801\GIS\NES\JD_Proj_Loc_Map.mxd (1/5/11)

1.0 INTRODUCTION

The Los Angeles County Metropolitan Transportation Authority (Metro), in cooperation with the California Department of Transportation (Caltrans) District 7, the Gateway Cities Council of Governments (GCCOG), the Port of Los Angeles (POLA), the Port of Long Beach (POLB), the Southern California Association of Governments (SCAG), and the Interstate 5 Joint Powers Authority (I-5 JPA), proposes to improve Interstate 710 (I-710) in Los Angeles County from Ocean Blvd. in the City of Long Beach to State Route 60 (SR-60) in east Los Angeles. The proposed improvements are intended to improve traffic safety, update the freeway design to conform to modern safety standards, and accommodate projected traffic volumes forecast for 2035. The entire project area is located in Los Angeles County. As the owner/operator of I-710, Caltrans is the Lead Agency for compliance with both the National Environmental Policy Act (NEPA) and the California Environmental Quality Act (CEQA), and would be the applicant for future permit actions under Section 404 of the Federal Clean Water Act. Metro is the local agency sponsor and a Responsible Agency under CEQA.

2.0 PURPOSE AND NEED

The need for the proposed I-710 Corridor Project is as follows:

- I-710 experiences high heavy-duty truck volumes, resulting in high concentrations of diesel particulate emissions within the I-710 Corridor.
- I-710 experiences an accident rate that is well above the statewide average for freeways of this type.
- At many locations along I-710, the curves of on- and off-ramps do not meet current design standards and weaving sections between interchanges are of insufficient length.
- High volumes of both trucks and cars have led to traffic congestion throughout most of the day (6:00 a.m. to 7:00 p.m.) on I-710 as well as on the connecting freeways. This is projected to worsen over the next 25 years.
- Increases in population, employment, and goods movement between now and 2035 will lead to more traffic demand on I-710 and on the streets and roadways within the I-710 Corridor as a whole.

The purpose of the proposed I-710 Corridor Project is to achieve the following within the I-710 corridor:

- Improve air quality and public health;
- Improve traffic safety;
- Update the freeway design to conform to modern safety standards;
- Address projected traffic volumes; and
- Address projected growth in population, employment, and activities related to goods movement.

3.0 PROJECT DESCRIPTION AND STUDY AREA

3.1 PROJECT DESCRIPTION

This section describes the alternatives based on the Major Corridor Study that were developed by a multidisciplinary technical team to achieve the I-710 Corridor Project purpose and subsequently were reviewed and concurred upon by the various committees involved in the I-710 Corridor Project community participation framework. Alternatives 2, 3, and 4 were considered but withdrawn from further environmental study as stand-alone alternatives but elements of these alternatives have been included in Build Alternatives 5A, 6A, 6B, and 6C. The alternatives are Alternative 1 (No Build Alternative), Alternative 5A (I-710 Widening up to 10 General Purpose [GP] Lanes), Alternative 6A (10 GP Lanes plus a Four-Lane Freight Corridor), Alternative 6B (10 GP Lanes plus a Zero-Emissions Four-Lane Freight Corridor), and Alternative 6C (10 GP Lanes plus a Four-Lane Freight Corridor Tolled).

3.1.1 ALTERNATIVE 1 – NO BUILD ALTERNATIVE

The No Build Alternative does not include any improvements within the I-710 Corridor other than those projects that are already planned and committed to be constructed by or before the planning horizon year of 2035. The projects included in this alternative are based on Southern California Association of Governments (SCAG's) 2008 Regional Transportation Improvement Program (RTIP) project list, including freeway, arterial, and transit improvements within the SCAG region. This alternative also assumes that goods movement to and from the ports make maximum utilization of existing and planned railroad capacity within the I-710 Corridor. Alternative 1 is the baseline against which the Build Alternatives proposed for the I-710 Corridor Project will be assessed. The existing I-710 mainline generally consists of eight GP lanes north of I-405 and six GP lanes south of I-405.

3.1.2 ALTERNATIVE 5A – FREEWAY WIDENING UP TO 10 GP LANES

Alternative 5A proposes to widen the I-710 mainline to up to ten GP lanes (northbound [NB] I-710 and southbound [SB] I-710). This alternative will:

- Provide an updated design at the I-405 and State Route 91 (SR-91) interchanges (no improvements to the I-710/Interstate 5 [I-5] interchange are proposed under Alternative 5A)

- Reconfigure all local arterial interchanges within the project limits that may include realignment of on- and off-ramps, widening of on- and off-ramps, and reconfiguration of interchange geometry

- Eliminate local ramp connections over I-710 (9th St. to 6th St. and 7th St. to 10th St.) in the City of Long Beach
- Eliminate a local interchange at Wardlow Ave. in the City of Long Beach
- Add a local street connection under I-710 to Thunderbird Villas at Miller Wy. in the City of South Gate
- Add a local connection (bridge) over I-710 at Southern Ave. in the City of South Gate
- Add a local arterial interchange at NB and SB I-710/Slauson Ave. in the City of Maywood
- Shift the I-710 centerline at several locations to reduce right-of-way requirements.

Additionally, various structures such as freeway connectors, ramps, and local arterial overcrossings, structures over the Los Angeles River and structures over the two rail yards throughout the project limits will be replaced, widened, or added as part of Alternative 5A.

In addition to improvements to the I-710 mainline and the interchanges, Alternative 5A also includes Transportation Systems/Transportation Demand Management (TSM/TDM), Transit, and Intelligent Transportation Systems (ITS) improvements. TSM improvements include provision of or future provision of ramp metering at all locations and the addition of improved arterial signage for access to I-710. Parking restrictions during peak periods (7:00 a.m.–9:00 a.m.; 4:00 p.m.–7:00 p.m.) will be implemented on four arterial roadways: Atlantic Blvd. between Pacific Coast Hwy. and SR-60; Cherry Ave./Garfield Ave. between Pacific Coast Hwy. and SR-60; Eastern Ave. between Cherry Ave. and Atlantic Blvd.; and Long Beach Blvd. between San Antonio Dr. and Firestone Blvd. Transit improvements that will be provided as part of the I-710 Corridor Project include increased service on all Metro Rapid routes and local bus routes in the study area. ITS improvements include updated fiber-optic communications to interconnect traffic signals along major arterial streets to provide for continuous, real-time adjustment of signal timing to improve traffic flow as well as other technology improvements.

Alternative 5A also includes improvements to 42 local arterial intersections within the I-710 Corridor Project study area (see Figure 2). These improvements generally consist of lane restriping or minimal widening to provide additional intersection turn lanes that will reduce traffic delay and improve intersection operations for those intersections with projected Level of Service (LOS) F.

In addition to the transportation system improvements described above, Alternative 5A also includes:

- **Aesthetic Enhancements:** Landscaping and irrigation systems would be provided within the corridor where feasible. Urban design and aesthetic treatment concepts for community enhancement will be integrated into the design of the I-710 Corridor Project. These concepts will highlight unique community identities within a unified overall corridor theme; strengthen physical connections and access/mobility within and between communities; and implement new technologies and best practices to ensure maximum respect for the environment and natural resources. They will continue to evolve and be refined through future phases of project development.

- **Drainage/Water Quality Features:** Alternative 5A includes modifications to the Los Angeles River levee; new, extended, replacement, and additional bents and pier walls in the Los Angeles River; additional and extended bents and pier walls in the Compton Channel; modifications to existing pump stations or provision of additional pump stations; and detention basins and bioswales that will provide for treatment of surface water runoff prior to discharge into the storm drain system.

3.1.3 Alternative 6A – 10 GP Lanes plus a Four-Lane Freight Corridor

Alternative 6A includes all the components of Alternatives 1 and 5A described above. (The alignment of the GP lanes in Alternative 6A will be slightly different than Alternative 5A in a few locations.) In addition, this alternative includes a separated four-lane freight corridor (FC) from Ocean Blvd. northerly to its terminus near the UP and BNSF rail yards in the City of Commerce. The FC would be built to Caltrans highway design standards and would be restricted to the exclusive use of heavy-duty trucks (5+ axles). In Alternative 6A these trucks are assumed to be conventional" trucks (conventional trucks are defined to be newer [post-2007] diesel/fossil-fueled trucks [new or retrofitted engines required per new regulations and standards].

The FC would be both at-grade and on elevated structure with two lanes in each direction. There are exclusive, truck only ingress and egress ramps to and/or from the FC at the following locations:

- Harbor Scenic Dr. (NB ingress only)
- Ocean Blvd. (NB ingress only)
- Pico Ave. (NB ingress and SB egress only)
- Anaheim St. (NB ingress and SB egress only)
- SB I-710 GP lanes just south of Pacific Coast Hwy (SB egress only)
- NB I-710 GP lanes north of I-405 at 208th St. (NB ingress only)

- SB I-710 GP lanes north of I-405 at 208th St. (SB egress only)
- Eastbound (EB) SR-91 (NB egress only)
- Westbound (WB) SR-91 (SB ingress only)
- Patata St. (NB egress and SB ingress only)
- SB I-710 GP lanes at Bandini Blvd. (SB ingress only)
- NB I-710 GP lanes at Bandini Blvd. (NB egress only)
- Washington Blvd. – (NB egress ~~only~~ and SB ingress only) (Design Options 1 and 2)
- Washington Blvd. (NB egress and SB ingress via Indiana Ave) (Design Option 3)
- Sheila St. (NB egress only) (Design Option 3)

In addition to the FC feature, Alternative 6A includes:

- Partial modification to the I-5 interchange, notably the replacement of the NB I-710 to NB I-5 connector (right-side ramp replacement of left-side ramp) and a realigned SB I-5 to SB I-710 connector and 5 SB GP lanes from SR-60 to Washington Blvd.
- 3 NB GP lanes from I-5 to SR-60
- Retention of and modification to the I-710 SB on- and off-ramps at Eastern Ave. to slightly realign them.
- A local connection over I-710 at Patata St. in the cities of South Gate and Bell Gardens.

As with Alternative 5A, Alternative 6A will include additional aesthetic enhancements, and drainage/water quality features as follows:

Aesthetic Enhancements: In addition to the aesthetic enhancements described above for Alternative 5A, specific aesthetic treatments will be developed for the FC, including use of screen walls and masonry treatments on the FC structures (including soundwalls).

Drainage/water quality features: Alternative 6A includes features to capture and treat the additional surface water runoff from the FC, as well as some modifications to the Los Angeles River levees in order to accommodate electrical transmission line relocations.

3.1.4 ALTERNATIVE 6B – 10 GP LANES PLUS A ZERO-EMISSIONS FOUR-LANE FREIGHT CORRIDOR

Alternative 6B includes all the components of Alternative 6A as described above, but would restrict the use of the FC to zero-emission trucks rather than conventional trucks. This proposed zero emission truck technology is assumed to consist of trucks powered by electric motors in lieu of internal combustion engines and producing zero tailpipe emissions while traveling on the freight corridor. The specific type of electric motor is not defined, but feasible options include linear induction motors, linear synchronous motors or battery technology. The power systems for these electric propulsion trucks could include, but is not limited to, hybrid with dual-mode operation (ZEV Mode), Range Extender EV (Fuel Cell or Turbine with ZEV mode), Full EV (with fast charging or infrastructure power), road-connected power (e.g., overhead catenary electric power distribution system), alternative fuel hybrids, zero NO_X dedicated fuel engines (CNG, RNG, H2 ICE), and range extender EV (turbine). For purposes of the I-710 environmental studies, the zero-emission electric trucks are assumed to receive electric power while traveling along the FC via an overhead catenary electric power distribution system (road-connected power).

Alternative 6B also includes the assumption that all trucks using the FC will have an automated control system that will steer, brake, and accelerate the trucks under computer control while traveling on the FC. This will safely allow for trucks to travel in “platoons” (e.g., groups of 6–8 trucks) and increase the capacity of the FC from a nominal 2,350 passenger car equivalents per lane per hour (pces/ln/hr) (as defined in Alternative 6A) to 3,000 pces/ln/hr in Alternative 6B.

The design of the FC will also allow for possible future conversion, or be initially constructed, as feasible (which may require additional environmental analysis and approval), of a fixed-track guideway family of alternative freight transport technologies (e.g., Maglev). However, this fixed-track family of technologies has been screened out of this analysis for now, as they have been determined to be inferior to electric trucks in terms of cost and ability to readily serve the multitude of freight origins and destinations served by trucks using the I-710 corridor.

3.1.5 ALTERNATIVE 6C – 10 GP LANES PLUS A FOUR-LANE FREIGHT CORRIDOR WITH TOLLS

Alternative 6C includes all the components of Alternative 6B as described above, but would toll trucks using the FC. Although tolling trucks in the FC could be done under either Alternative 6A or 6B; for analytical purposes, tolling has only been evaluated for Alternative 6B as this alternative provides for higher FC capacity than Alternative 6A due to the automated guidance feature of Alternative 6B.

Tolls would be collected using electronic transponders which would require overhead sign bridges and transponder readers like the SR-91 toll lanes currently operating in Orange County, where no cash toll lanes are provided. The toll pricing structure would provide for collection of higher tolls during peak travel periods.

3.1.6 Design Options

For alternatives 6A, 6B, and 6C, three design options for the portion of I-710 between the I-710/Slauson Ave. interchange to just south of the I-710/I-5 interchange are under consideration. These configurations will be fully analyzed so that they can be considered in the future selection of a Preferred Alternative for the project. These options are as follows:

- **Design Option 1:** Design Option 1 applies to Alternatives 6A, 6B, and 6C and provides access to Washington Blvd. using three ramp intersections at Washington Blvd.

- **Design Option 2:** Design Option 2 applies to Alternatives 6A, 6B, and 6C and provides access to Washington Blvd. using two ramp intersections at Washington Blvd.

- **Design Option 3:** Design Option 3 applies only to Alternative 6B[1] and removes access to Washington Blvd. at its current location. The ramps at the I-710/Washington Blvd. interchange would be removed to accommodate the proposed FC ramps in and out of the rail yards. The SB off-ramp and NB-on-ramp access would be accommodated by Alternative 6B in the vicinity of the existing interchange by the proposed new SB off-ramp and NB on-ramp at Oak St. and Indiana St. These two ramps are proposed as mixed-flow ramps (freight connector ramps that would also allow automobile traffic). However, the SB on-ramp and NB off-ramp traffic that previously used the Washington Blvd. interchange would be required to access the Atlantic Blvd./Bandini Blvd. interchange located south of the existing Washington Blvd. interchange to ultimately reach I-710.

3.2 Biological Study Area

The biological study area (BSA) is approximately 18 linear miles along the I-710 corridor, from Ocean Blvd. to SR-60. The BSA also includes a portion of Interstate 405 (I-405), State Route 91 (SR-91), Interstate 105 (I-105), and I-5, to accommodate for proposed interchange improvements. Additionally, the BSA includes improvements to 42 local arterial intersections to improve intersection operations. The BSA includes the footprint of disturbance for potential direct and indirect effects on jurisdictional waters that could result from the proposed project alternatives. Where the BSA longitudinally bisects the Los Angeles River, the entire width of the river is included in this delineation, even though a portion of it is outside the BSA. The project area spans the Cities of Bell, Bell Gardens, Carson, Commerce, Compton, Cudahy, Downey, Huntington Park, Lakewood, Long Beach, Los Angeles, Lynwood, Maywood, Paramount, Signal Hill, South Gate, and Vernon in Los Angeles County (Figure 1). The BSA is located on the

[1] Design Option 3 only applies to Alternative 6B because it was not included in the travel demand modeling for either Alternative 6A or 6C.

United States Geological Survey (USGS) *Long Beach, South Gate,* and *Los Angeles, California* 7.5-minute series topographical quadrangles (Figure 2).

The entire BSA is located within the Los Angeles River Watershed, which has an overall size of 834 square miles (Los Angeles County Department of Public Works [LACDPW] 2009). The upper portion of the watershed is covered by forest or open space, while the remaining portion, including the project area, is highly developed with commercial, industrial, or residential uses. Two of the eight major tributaries to the Los Angeles River, Rio Hondo and Compton Creek, occur within the BSA. Rio Hondo joins the Los Angeles River in the City of South Gate from the east and Compton Creek joins the Los Angeles River in the City of Long Beach from the northwest. South of Compton Creek, the river flows within a concrete or rock channel into the estuary in Long Beach. The last several miles of the river are soft-bottom and lined with rock riprap.

The average annual rainfall for the lower Los Angeles watershed area is 9.9 inches.[1] During the 2008-2009 rain season, the area received approximately 9.25 inches of rainfall.[2]

The findings and conclusions presented in this report, including the location and extent of wetlands and other waters subject to regulatory jurisdiction, represent the professional opinion of the project biologist. These findings and conclusions should be considered preliminary until verified by the United States Army Corps of Engineers (USACE) and California Department of Fish and Game (CDFG).

[1] http://ladpw.org/wrd/precip/alert_rain/normal.cfm.

[2] http://ladpw.org/wrd/precip/alert_rain/index.cfm?cont=season.cfm, October 7, 2009.

4.0 REGULATORY SETTING

4.1 UNITED STATES ARMY CORPS OF ENGINEERS

The USACE regulates the discharge of dredged or fill material into waters of the United States (U.S.) under Section 404 of the Clean Water Act (CWA). These waters include wetlands and non-wetland waters of the U.S. that meet specific criteria. Waters of the U.S. is defined at 33 CFR 328.3 as:

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

Under Section 404 of the CWA, USACE jurisdiction over non-tidal waters of the U.S. extends laterally to the ordinary high water mark (OHWM) or beyond the OHWM to the delineated limit of adjacent wetlands, if present (33 CFR 328.4). The OHWM is defined as "that line on the shore established by the fluctuations of water and indicated by physical characteristics such as a clear natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding area" (33 CFR 328.3). Jurisdiction typically extends upstream to the point where the OHWM is no longer perceptible. For tidal waters, the limit of Section 404 jurisdiction extends to the high tide line, which means the line of intersection of the land with the water's surface at the maximum height reached by a rising tide. The line encompasses spring high tides and other high tides that occur with periodic frequency but does not include storm surges in which there is a departure from the normal or predicted reach of the tide due to the piling up of water against a coast by strong winds such as those accompanying hurricanes or other intense storms.

The CWA uses the term "navigable waters" which is defined as "waters of the U.S., including the territorial seas". Thus, Section 404 jurisdiction is defined as encompassing Section 10 waters plus their tributaries and adjacent wetlands and isolated waters where the use, degradation, or destruction of such waters could affect interstate or foreign commerce.

USACE regulatory jurisdiction under Section 404 of the CWA is founded on a direct or indirect connection between the water body in question and interstate or foreign commerce. In the past, an indirect nexus could potentially be established if isolated waters provided habitat for migratory birds, even in the absence of a surface connection to a navigable water of the U.S. The 1984 rule that enabled the USACE to expand its jurisdiction over isolated waters of this type became known as the Migratory Bird Rule. However, on January 9, 2001, the U.S. Supreme Court narrowly limited the USACE jurisdiction of "non-navigable, isolated, intrastate" waters based solely on the use of such waters by migratory birds and, particularly, the use of indirect indicators of interstate commerce (e.g., use by migratory birds that cross state lines) as a basis for jurisdiction. The Court's ruling derives from the case *Solid Waste Agency of Northern Cook County v. U.S. Army Corps of Engineers*, No. 99-1178 (SWANCC). The Supreme Court determined that the USACE exceeded its statutory authority by asserting CWA jurisdiction over an abandoned sand and gravel pit in northern Illinois that provides habitat for migratory birds.

Waters found to be isolated under SWANCC and not subject to Section 404 of the CWA jurisdiction may still be regulated by the Regional Water Quality Control Board (RWQCB) under the State Porter-Cologne Water Quality Control Act (Porter-Cologne Act).

In 2006, the U.S. Supreme Court further considered the USACE jurisdiction of "waters of the U.S." in the consolidated cases *Rapanos v. United States* and *Carabell v. United States* (126 S. Ct. 2208), collectively referred to as "Rapanos." The Supreme Court concluded that wetlands are "waters of the U.S." if they significantly affect the chemical, physical, and biological integrity of other covered waters more readily understood as navigable. On June 5, 2007, the USACE issued guidance regarding the Rapanos decision. This guidance states that the USACE will continue to assert jurisdiction over traditional navigable waters, wetlands adjacent to traditional navigable waters, relatively permanent non-navigable tributaries that have a continuous flow at least seasonally (typically three months), and wetlands that directly abut relatively permanent tributaries. The USACE will determine jurisdiction over waters that are non-navigable tributaries that are not relatively permanent and wetlands adjacent to non-navigable tributaries that are not relatively permanent only after making a significant nexus finding.

The USACE determines that a tributary has a significant nexus when it is demonstrated that the tributary and/or wetland, along with any other similarly situated wetlands, has "more than a speculative or insubstantial effect on the chemical, physical and biological integrity of a traditional navigable water." When necessary, the USACE conducts a significant nexus analysis in which it assesses the flow characteristics and functions of the tributary itself and the functions performed by all wetlands adjacent to the tributary to determine whether they significantly affect the chemical, physical, and biological integrity of downstream traditional navigable waters.

The recent USACE guidance states that the USACE generally will not assert jurisdiction over "swales or erosional features (e.g., gullies, small washes characterized by low volume, infrequent, or short duration flow)" and ditches "wholly in and draining only uplands and that do not carry a relatively permanent flow of water."

Furthermore, the preamble to the 1986 USACE regulations at 33 CFR Parts 320-330 (Federal Register, Regulatory Programs of the Corps of Engineers, Final Rule, p. 41217, November 13, 1986) states that the USACE does not generally consider the following waters to be waters of the U.S. The USACE does, however, reserve the right to regulate these waters on a case-by-case basis.

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

In addition, 33 CFR 328.3(a)(8) states 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 U.S.

Navigable waters of the U.S. are defined as those waters that are subject to the ebb and flow of the tide and/or are presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce. Under Section 10 of the Rivers and Harbors Act (RHA), USACE jurisdiction over navigable waters of the U.S. extends from the ordinary low tide three nautical miles seaward ("territorial seas") to the shoreward boundary of jurisdiction which extends to the line on the shore reached by the mean high water. This jurisdiction extends to this edge even though portions of the water body may be extremely shallow and are thus considered "navigable in law" although they may not be navigable in fact (33 CFR 329.12).

Work in, over, under, or affecting tidally influenced waters requires authorization under Section 10 of the RHA.

4.1.1 WETLANDS

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

The USACE and United States Environmental Protection Agency (EPA) define wetlands as follows:

> “Those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted to life in saturated soil conditions.”

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

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

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

4.1.1.1 Hydrophytic Vegetation

Hydrophytic vegetation is plant life that grows and is typically adapted for life in permanently or periodically saturated soils. The hydrophytic vegetation criterion is met if more than 50 percent of the dominant plant species from all strata (tree, shrub, herb, and woody vine layers) are considered hydrophytic. Hydrophytic species are those included on the *National List of Plant Species That Occur in Wetlands: California (Region 0)* (Reed 1988), published by the United States Fish and Wildlife Service (USFWS). Each species on the list is rated according to a wetland indicator category, as shown in Table A. To be considered hydrophytic, the species must have wetland indicator status (i.e., be rated as OBL, FACW, or FAC).

Table A Hydrophytic Vegetation

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

The delineation of hydrophytic vegetation is typically based on the most dominant species from each vegetative stratum (strata are considered separately); when more than 50 percent of these dominant species are hydrophytic (i.e., FAC, FACW, or OBL), the vegetation is considered hydrophytic. In particular, the USACE recommends the use of the “50/20” rule (also known as the dominance test) from the Regional Supplement for determining dominant species. Under this method, dominant species are the most abundant species that immediately exceed 50 percent of the total dominance measure for the stratum, plus any additional species composing 20 percent or more of the total dominance measure for the stratum. In cases where indicators of hydric soils and wetland hydrology are present but the vegetation initially fails the dominance test, the prevalence index must be used. The prevalence index is a weighted average of all plant species within a sampling plot. The prevalence index is particularly useful when communities only have one or two dominants, where species are present at roughly equal coverage, or when strata differ greatly in total plant cover. In addition, USACE guidance provides that morphological adaptations may be considered when determining hydrophytic vegetation when indicators of hydric soils and wetland hydrology are present (USACE 2008). If the plant community passes either the dominance test or prevalence index after reconsidering the indicator status of any plant species that exhibit morphological adaptations for life in wetlands, then the vegetation is considered hydrophytic.

4.1.1.2 HYDRIC SOILS[1]

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

1. All Histels except Folistels and Histosols except Folists; or
2. Soils that are frequently ponded for a long duration or very long duration[3] during the growing season; or
3. Soils that are frequently flooded for a long duration or very long duration during the growing season.

Hydric soils develop under conditions of saturation and inundation combined with microbial activity in the soil that causes a depletion of oxygen. While saturation may occur at any time of year, microbial activity is limited to the growing season, when soil temperature is above biologic zero (the soil temperature at a depth of 50 centimeters, below which the growth and function of locally adapted plants are negligible). Biogeochemical processes that occur under anaerobic conditions during the growing season result in the distinctive morphologic characteristics of hydric soils. Based on these criteria, a National List of Hydric Soils was created from the National Soil Information System (NASIS) database and is updated annually.

The Regional Supplement has a number of field indicators that may be used to identify hydric soils. The NRCS (2003) has also developed a number of field indicators that may demonstrate the presence of hydric soils. These indicators include hydrogen sulfide generation, accumulation of organic matter, and the reduction, translocation, and/or accumulation of iron and other

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

[2] Current definition as of 1994 (Federal Register, July 13, 1994).

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

reducible elements. These processes result in soil characteristics that persist during both wet and dry periods. Separate indicators have been developed for sandy soils and for loamy and clayey soils.

4.1.1.3 WETLAND HYDROLOGY

Under natural conditions, development of hydrophytic vegetation and hydric soils is dependent on a third characteristic: wetland hydrology. Areas with wetland hydrology are those where the presence of water has an overriding influence on vegetation and soil characteristics due to anaerobic and reducing conditions, respectively (Environmental Laboratory 1987). The wetland hydrology parameter is satisfied if the area is seasonally inundated or saturated to the surface for a minimum of 14 consecutive days during the growing season in most years (USACE 2008).

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

4.2 CALIFORNIA COASTAL COMMISSION

The California Coastal Commission (CCC), through provisions of the California Coastal Act (CCA), is empowered to issue a Coastal Development Permit (CDP) for many projects located within the Coastal Zone. In areas where a local entity has a certified Local Coastal Program (LCP), the local entity (e.g., the City of Long Beach) can issue a CDP only if it is consistent with the LCP. The CCC, however, has appeal authority for portions of LCPs and retains jurisdiction over certain public trust lands and in areas without an LCP.

The CCC's definition of wetlands, as defined in Section 30121 of the CCA and Title 14, Section 13577 of the CCC's regulations, is different from the USACE definition of wetlands. According to the CCC's regulations, wetlands are defined as "land where the water table is at, near, or above the land surface long enough to promote the formation of hydric soils or to support the growth of hydrophytes." Both definitions focus on three fundamental wetland characteristics: hydrology, soils, and vegetation. However, while the USACE's definition requires the existence of all three wetland characteristics for an area to be considered a wetland, the CCC's definition of wetlands is based on the existence of only two characteristics: wetland hydrology sufficient to either support a prevalence of hydrophytic vegetation or to promote the formation of hydric soils. (Exceptions include certain areas that lack wetland soils and vegetation.) It is noted that, under certain circumstances, reliable indicators of all required characteristics are not necessarily apparent, and areas may be delineated as wetlands by the USACE on the basis of indicators of only two of the three characteristics. The CCC routinely makes jurisdictional wetlands determinations based on the presence of one characteristic indicator (i.e., wetland soils or vegetation) under the assumption that wetland hydrology must be present in order for the indicator to be present. Nevertheless, the presence of wetland hydrology during some portion of most years is fundamental to the existence of any wetland, and the CCC will sometimes discount vegetation or soil indicators when there is sufficient evidence to conclusively refute the presumed presence of wetland hydrology.

4.3 CALIFORNIA DEPARTMENT OF FISH AND GAME

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

In obtaining CDFG agreements, the limits of wetlands are not typically determined. The reason for this is that the CDFG generally includes, within the jurisdictional limits of streams and lakes, any riparian habitat present. Riparian habitat includes willows, mulefat, and other vegetation typically associated with the banks of a stream or lake shorelines and may not be consistent with USACE definitions. In most situations, wetlands associated with a stream or lake would fall within the limits of riparian habitat. Thus, defining the limits of CDFG jurisdiction based on riparian habitat will automatically include any wetland areas and may include additional areas that do not meet USACE criteria for soils and/or hydrology (e.g., where riparian woodland canopy extends beyond the banks of a stream away from frequently saturated soils).

4.4 REGIONAL WATER QUALITY CONTROL BOARD

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

5.0 METHODOLOGY

The fieldwork for this evaluation was conducted by biologists Sarah Barrera, Stan Spencer, Liz Delk, Kristen Yee, Maria Lum, and Robert Steers on August 17, 18, 26, and 27 and September 4, 2009. Additional areas included in the revised BSA were visited by biologists Sarah Barrera and Stan Spencer on August 2, 2011 and Sarah Barrera and Liz Hohertz (formerly Delk) on August 8, 2011. Areas of potential jurisdiction within the BSA were evaluated according to USACE, CCC, and CDFG criteria. The boundaries of the potential jurisdictional areas were observed in the field and mapped on a series of aerial photographs (each with a scale of one inch = approximately 300 feet), which together show the entire BSA. Areas that were inaccessible by foot were observed from the nearest accessible point using binoculars. Aerial photographs of inaccessible areas were also used to verify the presence or absence of potential jurisdictional areas. No potential jurisdictional areas were observed in inaccessible areas. Measurements of Federal and State jurisdictional areas mapped during the course of the field investigation were determined by a combination of direct measurements taken in the field and measurements taken from the aerial photographs. National Oceanic and Atmospheric Administration (NOAA) tide prediction tables for Los Angeles (Station ID 9410660) were used to determine the extent of Section 404 and Section 10 jurisdiction in tidally influenced portions of the Los Angeles River.[1]

Areas supporting plant species potentially indicative of wetlands were evaluated according to routine wetland delineation procedures described in the Regional Supplement (USACE 2008). Representative sample plots were selected and examined in the field in those areas where wetland jurisdiction was in question or needed to be confirmed. The locations of sample plots and the potential jurisdictional areas are shown on figures in Appendix A. At each sample plot, the dominant and subdominant plant species were identified and their wetland indicator status noted (Reed 1988). When possible, a small sample pit (approximately 24 inches deep) was dug at each plot to examine soil characteristics and composition. Soil matrix colors were classified according to the Munsell Soil Color Charts (Munsell Color 2000). Hydrological conditions, including any surface inundation, saturated soils, groundwater levels, and/or other wetland hydrology indicators, were noted. General site characteristics were also noted. Standard data forms were completed for each sample plot of this report. Larger scale plan views of jurisdictional areas in tidal waters are provided in Appendix B. Cross-section views of jurisdictional areas in tidal waters are provided in Appendix C. Copies of standard data forms are included in Appendix D. An analysis of the functions and values of each of the drainages is

[1] NOAA Tide Prediction Tables for Station 9410660 (Los Angeles) acquired from http://tidesandcurrents.noaa.gov//.jsp?Stationid=9410660.

included in Appendix E. Representative site photos are provided in Appendix F. A summary of acreages of jurisdictional areas for all drainages is provided in Appendix G.

6.0 RESULTS

6.1 USACE JURISDICTION: TRADITIONAL NAVIGABLE WATERS

The Los Angeles River runs parallel to I-710 throughout the BSA (i.e., review area). Based on the findings presented in the July 6, 2010 letter from the U.S. Environmental Protection Agency (EPA) Region IX Administrator to Colonel Mark Toy, P.E., the Los Angeles River has been designated a "traditional navigable water" from its origins at the confluence of Arroyo Calabasas and Bell Creek to San Pedro Bay at the Pacific Ocean, a distance of approximately 51 miles. The EPA letter documents the CWA jurisdictional determination for the Los Angeles River based on a "Special Case" made by EPA Region IX pursuant to the EPA-USACE 1989 Memorandum of Agreement regarding coordination on matters of geographic jurisdiction. The discharge of dredged or fill material into the Los Angeles River requires USACE authorization under Section 404 of the CWA, unless the activity is exempted or otherwise not regulated by the USACE.

6.2 POTENTIAL NON-WETLAND WATERS OF THE U.S.

Four unnamed ephemeral drainage features occur within the BSA, which are manmade, concrete-lined structures that either directly or indirectly convey surface flows to the Los Angeles River (e.g., v-ditches and concrete-lined channels). All of these drainages are non-relatively permanent waters (RPWs) and therefore, require a site-specific evaluation to establish whether a significant nexus to the downstream traditional navigable water (TNW) exists (see Appendix E).

In addition, there are 13 unnamed ephemeral drainage features that either lack evidence of an OHWM and/or are non-tidal drainage ditches that were excavated/constructed on dry lands that drain uplands. Many of these drainage ditches are located entirely within the I-710 freeway on- and off-ramps ("cloverleafs"), and apparently were constructed for the purpose of collecting surface runoff from the roadway and/or irrigation water from freeway landscaping. As such, these drainage features are believed to be nonjurisdictional under Section 404 of the CWA based on USACE regulations and guidance and/or because the drainage features fail to meet the definition of a waters of the U.S., including wetlands, pursuant to 33 CFR 328.3.

Three RPWs occur within the BSA, namely: Compton Creek, Rio Hondo and the Los Cerritos Channel. These drainage features support perennial or at least seasonal flows, and therefore, a significant nexus evaluation is not required. The discharge of dredged or fill material into these waterbodies requires USACE authorization under Section 404 of the CWA, unless the activity is exempted or otherwise not regulated.

The total acreage of potential USACE non-wetland waters of the U.S. within the jurisdictional review area is 126.55 acres, of which 10.85 acres are tidally influenced. See Appendix A for details regarding the locations of these potential nonwetland areas.

6.3 Potential Wetland Waters of the U.S.

The Los Angeles River channel contains one section of the BSA where sufficient sediment has accumulated to support potential wetland waters of the U.S. Other potential wetland waters of the U.S. occur within Compton Creek. Finally, potential wetland areas are adjacent to two upland detention basins that were constructed for the primary purposes of water treatment, groundwater recharge, habitat value, and passive recreation; however, these are not necessarily waters of the U.S. Wetland sample plots were conducted in portions of the BSA where potential wetlands were present to determine whether these areas meet the three parameters of USACE jurisdictional wetlands. The total acreage of potential USACE wetland waters of the U.S. within the BSA and jurisdictional review area is 3.14 acres, of which 0.05 acre is tidally influenced. See the following drainage descriptions, and Appendices A and D for details regarding the locations of these potential wetland areas and the wetland data forms, respectively.

6.4 Drainage Descriptions

During report preparation, the BSA was assessed and each drainage was assigned a number in ascending order from north to south and east to west on the connector freeways. The drainages are discussed below based on the project biologist's opinion of whether or not each drainage qualifies as a potential USACE jurisdictional drainage or nonjurisdictional drainage; these opinions were informed by consultation with USACE regulatory personnel. Potential USACE wetlands are discussed as well.

6.4.1 Los Angeles River (See Appendix A; Sheets 1–3 and 5–14)

The Los Angeles River is a historically natural drainage that is currently concrete-lined along most of its length for flood control purposes. Within the BSA, a small portion of the Los Angeles River south of Willow St. in Long Beach has a natural bottom and supports riparian vegetation. The current flow in the river originates at its headwaters near the confluence of Arroyo Calabasas and Bell Creek, with substantial flow contributions along its entire length from runoff from adjacent commercial, industrial, and residential developments.

The Los Angeles River parallels I-710 throughout much of the BSA and for the most part is an unvegetated, concrete- and riprap-lined trapezoidal channel within the BSA. In one portion of the BSA, the width of the channels and the USACE review area extend beyond the BSA (Sheets 12 and 13 of Appendix A). The OHWM was determined by the presence of concrete staining, which extended to the outer limits of the channel. In one location within the BSA, denoted as “LA River-A” on Sheet 2 of Appendix A, sufficient sediment has collected on the channel revetment on both sides of the river to support hydrophytic vegetation and create potential wetlands. Sample plots were conducted in these areas to determine whether the three USACE wetland parameters were met. Sample plots SB090401 and SB090402 were conducted where State Route 1 (SR-1; Pacific Coast Hwy.) crosses over the Los Angeles River (Appendix A, Sheet 2). The data collected at these sample points indicate that hydrophytic vegetation dominates this area and that the soil is hydric. There are several secondary indicators of wetland hydrology. The total wetland acreage within the BSA at LA River-A is 0.6 acre, of which approximately 0.05 acre is within Section 10 jurisdiction. The Los Angeles River flows directly to the Pacific Ocean approximately one mile south of the BSA and is tidally influenced from its confluence with the Pacific Ocean upstream to an approximate boundary located south of Willow St. Figures showing the relative extent of Section 404 and Section 10 jurisdiction in the BSA are provided in Appendices A and B. The highest predicted high tide, plotted at approximately seven feet elevation (NAVD88 datum) based on tide tables for Los Angeles Harbor, essentially corresponded with visible OHWM and was used to determine the extent of Section 404 jurisdiction in tidally influenced portions of the Los Angeles River. The mean high tide, plotted at 4.5 feet elevation based on the tide chart for Los Angeles Harbor, was used to determine the extent of Section 10 jurisdiction in tidally influenced portions of the Los Angeles River, which is approximately 1,200 feet south of the Willow Street Bridge

6.4.2 Drainage 1 (See Appendix A, Sheet 5)

Drainage 1 is a concrete-lined v-ditch located at the bottom of a slope between southbound I-405 and an adjacent residential neighborhood. Flows are conveyed to the west and into an underground storm drain that is believed to reach the Los Angeles River. Within the BSA, the drainage course is approximately 1 foot wide and 650 feet long, and approximately 2,200 feet from the TNW at the Los Angeles River. According to historical aerial imagery, the drainage appears as if it may have once conveyed sheet flows to the Los Angeles River prior to construction of I-405. The v-ditch is unvegetated and the OHWM was determined by the presence of concrete staining. Due to concrete lining and the lack of riparian vegetation, this area was not classified as a wetland. Due to the presence of an OHWM, the proximity of the drainage to the Los Angeles River, and the drainage’s historical potential as a natural drainage area, it is the project biologist’s opinion that this drainage would be considered jurisdictional by the USACE under Section 404 of the CWA. Because Drainage 1 is not an RPW, a significant nexus evaluation will be required.

6.4.3 Drainage 2 (See Appendix A, Sheet 5)

Drainage 2 is a concrete-lined v-ditch located at the bottom of a slope between northbound I-405 and an adjacent residential neighborhood. Flows are conveyed to the west and into an underground storm drain and are believed to reach the Los Angeles River prior to treatment. Within the BSA, the drainage course is approximately 1 foot wide and 850 feet long, and approximately 1,900 feet from the TNW at the Los Angeles River. According to historical aerial imagery, the drainage appears as if it may have once drained a low-lying area and may have conveyed sheet flows to the Los Angeles River prior to construction of I-405. The v-ditch is unvegetated and the OHWM was determined by the presence of concrete staining. Due to the lack of riparian vegetation and concrete lining, this area was not classified as a wetland. Due to the presence of an OHWM, the proximity of the drainage to the Los Angeles River, and the drainage's historical potential as a natural drainage area, it is the project biologist's opinion that this drainage would be considered jurisdictional by the USACE under Section 404 of the CWA. Because Drainage 2 is not an RPW, a significant nexus evaluation will be required.

6.4.4 Drainage 3 (See Appendix A, Sheet 5)

Drainage feature 3 is located east of I-710, just north of the northbound I-405 connector to northbound I-710. This drainage feature consists of two geographically separated basins located just west of the Los Angeles River and together they function as part of an artificially-created wetlands complex, referred to as the "Dominguez Gap West Basin". While the basins are physically separated they are hydrologically connected via a culvert and both support riparian vegetation around their perimeter. The West Basin periodically receives overflow from the Dominguez Gap Wetlands East Basin via a 42-inch siphon located underneath the Los Angeles River.

Drainage feature 3 is part of the Dominguez Gap Wetlands project implemented by the Los Angeles County Flood Control District in 2008 to provide flood protection, as well as water quality treatment, groundwater recharge, native habitat, and recreational opportunities. Primary water quality treatment at the Dominquez Gap East Basin focuses on treating nitrogen, metals, fecal coliform, phosphorous, and suspended solids; and ideally, once treated, excess flows are conveyed to the West Basin for groundwater recharge. The West Basin was designed as an infiltration basin and receives runoff that is conveyed underneath the Los Angeles River from the East Basin of the Dominguez Gap Wetlands. According to the Draft *Joint Dominguez Gap and DeForest Treatment Wetlands Project Environmental Impact Report* (DEIR), the Dominguez Gap system is designed to transfer water from the East Basin to the West Basin to the extent that water will percolate through the West Basin. Any water in the East Basin in excess of what can be infiltrated within the West Basin is shunted from the East Basin to the Dominguez Gap Pump Station and discharged into the Los Angeles River. No water that enters the West Basin is returned to the Los Angeles River. Water within the West Basin permeates into the underground aquifer of the West Coast Groundwater Basin.[1] Vegetation around the perimeter of the larger West Basin consists of mule fat and willows, as well as several

[1] Dominguez Gap Wetlands information acquired from http://dpw.lacounty.gov/wmd/documents/DominguezGap_article.cfm and the Draft Joint Dominguez Gap and DeForest Treatment Wetlands Project Environmental Impact Report (DEIR), 2005.

herbaceous riparian species. The vegetation in the smaller basin segment to the south includes a mix of upland and riparian species. No sample plots were conducted in the Dominguez Gap Wetlands area, and the limits of wetland and non-wetland area were determined based on the presence, or lack of, riparian vegetation. Two sample plots (Sample Plots SB090403 and SB090404) were conducted in the southern basin to determine the extent of wetlands present in this area. No OHWM was visible in the southern basin segment due to the presence of vegetation. The limit of the wetland area is mapped in Appendix A, Sheet 5. Based upon 33 CFR 328.3, the USACE generally does not consider constructed water treatment ponds designed to meet CWA requirements to be a waters of the U.S., and hence, generally does not assert regulatory jurisdiction over such features.

6.4.5 DRAINAGE 4 (SEE APPENDIX A, SHEET 4)

Drainage 4 is a concrete v-ditch that originates south of I-405, just north of Wardlow Rd. It appears to receive surface runoff from Wardlow Rd. and adjacent businesses. Within the BSA, the drainage course ranges from approximately 8 feet to 40 feet wide and 3,500 feet long, and approximately 1,000 feet from the TNW at the Los Angeles River. While no vegetation occurs within Drainage 4, plant species surrounding the channel are ornamental and/or opportunistic/disturbed. Drainage 4 conveys flows north and into a reinforced concrete box culvert comprised of three 18-inch-high sections that pass under the I-405 freeway. From this juncture, Drainage 4 flows east, parallel to I-405, and north, parallel to I-710. Flows in this drainage feature are then conveyed into an unnamed concrete channel located outside of the BSA that undergrounds at Carson St. Ultimately, flows in this channel empty into the Los Angeles River or the Dominguez Channel, both of which eventually reach the Pacific Ocean. Due to the concrete bottom and lack of vegetation, this area is not considered a wetland. An OHWM was determined by the presence of concrete staining. Due to the presence of an OHWM, the proximity of the drainage to the TNW, and the drainage's historical potential as a natural drainage area, it is the project biologist's opinion that this drainage would be considered jurisdictional by the USACE under Section 404 of the CWA. Because Drainage 4 is not an RPW, a significant nexus evaluation will be required.

6.4.6 DRAINAGE 5 (SEE APPENDIX A, SHEET 4)

Drainage 5 is a concrete v-ditch that conveys runoff flows from a parking lot into an underground storm drain. The channel, which is approximately 450 feet long and 2 feet wide in the BSA, is unvegetated and the OHWM was determined by the presence of concrete staining. Drainage 5 is located in uplands, approximately 2,900 feet from the TNW at the Los Angeles River, and based on its geomorphological characteristics it does not appear to be a natural drainage feature nor does it appear to have ever been a natural drainage feature; historical aerial imagery supports this finding. In addition, due to the absence of hydrophytic (riparian) vegetation and hydric soils, this area was not classified as a wetland. Because t Drainage 5 is a non-tidal drainage ditch excavated on dry land and wholly drains uplands, it is the project biologist's opinion that this drainage feature should not be considered jurisdictional by the USACE.

6.4.7 Drainage 6 (Compton Creek) (See Appendix A, Sheet 6)

Within the BSA, Compton Creek is a trapezoidal channel with an earthen bottom and concrete and grouted riprap banks. The channel terminates at the Los Angeles River south of Del Amo Blvd. An OHWM was observed and determined by evidence of concrete staining. Compton Creek supports riparian vegetation and perennial flows throughout all portions within the BSA. Six sample soil pits were conducted in three areas within Compton Creek to determine the extent of USACE jurisdictional wetlands within the channel (see Appendix A, Sheet 6). Indicators of hydrophytic vegetation, hydric soils, and wetland hydrology were observed at all three areas. Vegetation within the drainage is cleared annually for flood control purposes, but the cleared condition is not considered the normal condition within the Creek. USACE jurisdictional wetlands are mapped in Appendix A. Wetland Area 6A, at the Del Amo bridge, is a 0.35-acre area that supported a predominance of ruderal hydrophytic plants in soil that exhibited hydric soil indicators. Wetland hydrology was evidenced by inundation at the time of the sampling in August. Similarly, Wetland Area 6B, under the I-710, was inundated and dominated by obligate wetland plants (cat-tails and bulrush) growing in hydric soil. This area is approximately 2.19 acres. Based on the presence of an OHWM and the presence of all three wetland indicators in some portions of Compton Creek, it is the project biologist's opinion that Compton Creek supports both wetlands and non-wetland waters of the U.S., subject to USACE jurisdiction under Section 404 of the CWA. Drainage 6 is an RPW that flows directly into a TNW; therefore, a significant nexus finding will not be required.

6.4.8 Drainage 7 (See Appendix A, Sheet 7)

Drainage 7 is an approximately 200-foot-long depression of variable width located in a utility corridor on the east side of I-710, just north of Long Beach Blvd. The depression is approximately 150 feet from the TNW at the Los Angeles River, but does not have any signs of water flow or an OHWM. At the time of the initial site visit, the depression had standing water and vegetation. A sample plot was conducted at a later date within the depression to determine the extent of USACE jurisdictional wetlands. Hydrophytic vegetation was present based on the Prevalence Index, but not the Dominance Test. Wetland hydrology was present based on the presence of a dry-season water table, saturation visible on aerial imagery (2008), and a FAC-Neutral test, all of which are secondary hydrology indicators. However, the area did not exhibit any hydric soils indicators. Based on the lack of hydric soils and a review of historical aerial imagery, it is the project biologist's opinion that this area does not meet USACE wetland parameters. The presence of water is likely due to a high water table that does not persist for a continuous period of time long enough to create wetland conditions. Due to the absence of hydric soils, Drainage 7 is not a wetland, and therefore, it is the project biologist's opinion that this feature should not be considered jurisdictional by the USACE.

6.4.9 DRAINAGE 8 (SEE APPENDIX A, SHEET 10)

Drainage 8 is an unvegetated concrete v-ditch, approximately 80 feet long and 10 feet wide in the BSA, located in the I-105/I-710 interchange, approximately 150 feet east of the Los Angeles River. It conveys runoff from a residential and freeway area into the Los Angeles River. An OHWM was determined based on the presence of concrete staining. Due to the lack of riparian vegetation, this area was not classified as a wetland. Based on historic aerial imagery, this drainage appears to have been constructed in uplands sometime between 1972 and 1994. It was most likely constructed at the time of the I-105 construction to convey roadway runoff. Prior to construction of I-105, the surrounding area was an undeveloped, flat parcel, with no apparent drainage patterns. Therefore, it is the project biologist's opinion that this drainage should not be considered jurisdictional by the USACE.

6.4.10 DRAINAGE 9 (SEE APPENDIX A, SHEET 11)

Drainage 9 is an unvegetated concrete v-ditch constructed in uplands that appears to have once conveyed surface runoff from I-710 into the Los Angeles River. The drainage structure in the BSA is approximately 15 feet wide and 900 feet long. However, an OHWM was not visible at the time of the survey, and field evidence, or the lack thereof, indicates this drainage no longer conveys flows. The drainage is approximately 150 feet from the Los Angeles River. Since Drainage 9 does not exhibit an OHWM and it is a non-tidal drainage ditch excavated on dry land and wholly drains uplands, it is the project biologist's opinion that this drainage should not be considered jurisdictional by the USACE.

6.4.11 DRAINAGE 10 (SEE APPENDIX A, SHEET 11)

Drainage 10 is an unvegetated concrete v-ditch located within the northwestern cloverleaf of the I-710/Imperial Hwy. intersection. It is approximately 200 feet long and 2 feet wide in the BSA, ending approximately 800 feet from the Los Angeles River. It appears that flows within this drainage originate as surface runoff (sheet flows) from the I-710 and are contained wholly within the cloverleaf since there is no evidence of an outlet to a storm drain or any other drainage channel. Since Drainage 10 is a non-tidal drainage ditch excavated on dry land and wholly drains uplands, it is the project biologist's opinion that this drainage should not be considered jurisdictional by the USACE.

6.4.12 DRAINAGE 11 (SEE APPENDIX A, SHEET 11)

Drainage 11 is an unvegetated concrete v-ditch, approximately 1,100 feet long and 15 feet wide in the BSA, that historically conveyed surface runoff (sheet flows) from the I-710 freeway into Drainage 9 south of Imperial Hwy. Based on aerial imagery, it appears that flows from this drainage, which parallels the Los Angeles River approximately 150 feet away, would have originated from I-710 and would not have flowed directly into the Los Angeles River. However, an OHWM was not visible at the time of the survey, and it appears that this drainage no longer conveys flows. Due to the lack of an OHWM and because it is a non-tidal drainage ditch excavated on dry land and wholly drains uplands, it is the project biologist's opinion that this drainage should not be considered jurisdictional by the USACE.

6.4.13 Drainage 12 (Rio Hondo) (See Appendix A, Sheet 11)

Within the BSA, the Rio Hondo is an unvegetated rectangular concrete channel, approximately 150 feet long and 100 feet wide. The river originates north of the BSA and terminates into the Los Angeles River just north of Imperial Hwy. An OHWM was determined based on evidence of concrete staining. Due to the lack of hydrophytic vegetation, this area is not considered a wetland. The Rio Hondo is a tributary to the Los Angeles River and supports low volumes of urban runoff throughout most of the year, based on the presence of water during August surveys. Therefore, Drainage 12 is an RPW, and a significant nexus evaluation will not be required.

6.4.14 Drainage 13 (See Appendix A, Sheets 11 and 12)

Drainage 13 is an unvegetated rectangular concrete-lined channel located at the proposed extension of Southern Ave. and Frontage Rd., west of I-710. Within the BSA it is approximately 1,350 feet long and 35 feet wide, ending at the Los Angeles River. A portion of the channel width extends beyond the BSA but is included in the jurisdictional review area. Drainage 13 conveys urban runoff flows from the north into the Los Angeles River, approximately 0.2 mile south of the BSA. Based on a review of historic aerial imagery, this drainage was constructed prior to 1954. Aerial imagery prior to 1954 was not available, so the project biologist was unable to determine the topography or natural drainage patterns of the surrounding area prior to human alteration. Concrete staining showed evidence of an OHWM. Because Drainage 13 is not an RPW, a significant nexus evaluation will be required.

6.4.15 Drainage 14 (See Appendix A, Sheet 12)

Drainage 14 consists of an erosional swale and associated riparian vegetation located in the southbound exit cloverleaf of the I-710 freeway at Firestone Blvd., approximately 500 feet from the Los Angeles River. The 100-foot-long area of various width contains an approximately 40-foot-long by 30-foot-wide patch of dead or dying vegetation dominated by cattails (*Typha* spp.) and an unvegetated earthen-bottom swale located between two culverts. The water source for the patch of vegetation was determined to be a broken sprinkler located at the top of the slope of the cloverleaf. An erosional channel from the base of the sprinkler down into the swale was present, indicating that a large amount of water had at one time drained down the slope and collected in the swale. The sprinkler had been repaired at the time of the field survey and water was no longer collecting in the bottom of the swale. No other source of water, natural or artificial, was evident to support this area as being a wetland. Additionally, no OHWM was observed in the earthen-bottom swale located between the two culverts. The culverts were likely installed as a Best Management Practice (BMP) during construction of the freeway off-ramp, there are no signs that this feature conveys flows sufficient to provide a hydrologic connection to the swale. Due to the discontinuation of the artificial water source within the patch of vegetation and the lack of an OHWM between the two culverts, it is the project biologist's opinion that Drainage 14 is not a waters of the U.S. pursuant to 33 CFR 328.3 and should not be considered jurisdictional by the USACE.

6.4.16 Drainage 15 (See Appendix A, Sheet 12)

Drainage 15 is an unvegetated concrete v-ditch located between two culverts in an open area located between I-710 and the northbound off-ramp from I-710 at Firestone Blvd., approximately 700 feet from the Los Angeles River. No OHWM was observed in the v-ditch, which is approximately 60 feet long and 3 feet wide. The culverts were likely installed as a BMP during off-ramp construction but do not convey flows sufficient to run across the v-ditch. Due to the absence of an OHWM between the two culverts and the fact this feature is a non-tidal drainage ditch excavated on dry lands and wholly drains uplands, it is the project biologist's opinion that Drainage 15 should not be considered jurisdictional by the USACE.

6.4.17 Drainage 16 (See Appendix A, Sheet 12)

Drainage 16 is a 650-foot-long by 10-foot-wide concrete-lined channel that receives surface runoff from I-710, Firestone Blvd, and adjacent developments. It is located east of I-710 and south of Firestone Blvd., approximately 900 feet from the Los Angeles River. Drainage 16 conveys flows south and into an underground storm drain where flows eventually empty into the Los Angeles River. Vegetation adjacent to this drainage consists of upland ruderal and ornamental vegetation in the northeastern portion of the channel. Sediment has accumulated in the western portion of the channel, nearest to I-710, and supports vegetation consisting of an almost monotypic stand of Johnson grass (*Sorghum halepense*). Based on a review of historical aerial imagery, this drainage was constructed between 1972 and 1980 in order to convey runoff associated with adjacent development. Prior to its development, the surrounding area was an upland and had no apparent drainage features or patterns. Drainage 16 is a non-tidal drainage ditch excavated on dry land that wholly drains uplands and accordingly, it is the project biologist's opinion that this drainage should not be considered jurisdictional by the USACE.

6.4.18 Drainage 17 (See Appendix A, Sheet 12)

Drainage 17 is an unvegetated concrete v-ditch, approximately 1,200-foot-long and 1-foot-wide in the BSA, that receives surface runoff from I-710 and from adjacent upland developments. It is located on the northbound side of I-710, just north of Firestone Blvd., approximately 500 feet from the Los Angeles River. Drainage 17 conveys flows south into an underground drain. Albeit faint, concrete staining was observed and indicated the presence of an OHWM. Vegetation adjacent to this drainage consisted of upland ruderal and ornamental vegetation. Water in this drainage appears to originate solely from I-710 and paved areas associated with adjacent businesses. Because Drainage 17 is a non-tidal drainage ditch that is excavated on dry land and wholly drains adjacent uplands. Therefore, it is the project biologist's opinion that this drainage should not be considered jurisdictional by the USACE.

6.4.19 DRAINAGE 18 (SEE APPENDIX A, SHEETS 12 AND 13)

Drainage 18 is an unvegetated concrete v-ditch that is approximately 650 feet long and 1 foot wide in the BSA; it receives runoff flows from I-710. It is located on the northbound side of I-710, north of Drainage 17, approximately 400 feet from the Los Angeles River. Vegetation adjacent to this drainage consists of upland ruderal and ornamental vegetation. Flows from Drainage 18 appear to be conveyed through a concrete channel at the north end of the v-ditch that is the northward extension of Drainage 13. However, there was no evidence of an OHWM and it appears that this ditch no longer conveys flows. Due to the lack of an OHWM and because the drainage ditch was excavated on dry lands and wholly drains uplands, it is the project biologist's opinion that this drainage should not be considered jurisdictional by the USACE.

6.4.20 DRAINAGE 19 (SEE APPENDIX A, SHEET 1)

Drainage 19 is an unvegetated concrete v-ditch that receives runoff flows from urban areas adjacent to the Los Angeles River, which is approximately 150 feet from the drainage. The 290-foot-long by 5-foot-wide ditch is located on the northbound side of I-710, north of Ocean Blvd. Flows from Drainage 19 appear to be conveyed into the storm drain system, which then most likely flows directly to the Los Angeles River. Based on a review of historic aerial imagery, this drainage was constructed between 1972 and 1980 to convey runoff from an industrial developed area directly into the storm drain system. Prior to development, the area consisted of uplands, and no natural drainage features or patterns were observable. Therefore, it is the project biologist's opinion that this drainage should not be considered jurisdictional by the USACE.

6.4.21 DRAINAGE 20 (LOS CERRITOS CHANNEL) (SEE APPENDIX A, SHEET 15)

The Los Cerritos Channel is a perennial concrete-lined storm drain channel that drains urban flows within the City of Long Beach. Within the BSA, it parallels Del Amo Blvd. near the arterial intersection of Del Amo Blvd. and Lakewood Blvd. Due to the concrete lining and lack of hydrophytic plant species, this area was not classified as a wetland. Concrete staining showed evidence of an OHWM. The Los Cerritos Channel connects directly to Alamitos Bayat the Pacific Ocean. Drainage 20 is an RPW that flows into a TNW; therefore, a significant nexus evaluation will not be required.

7.0 CONCLUSIONS

7.1 USACE JURISDICTION

7.1.1 USACE SECTION 404 JURISDICTION

The Los Angeles River is designated a “traditionally navigable water” (TNW) from San Pedro Bay at the Pacific Ocean upstream to its origins at the confluence of Arroyo Calabasas and Bell Creek. Accordingly, the discharge of dredged or fill material into the Los Angeles River will require USACE authorization, unless the activity is exempt or otherwise not regulated by the USACE.

While the majority of the ephemeral drainage features occurring within the BSA (review area) either support a direct or indirect hydrologic connection to the Los Angeles River, most are manmade non-tidal drainage ditches constructed on dry land for the sole purpose of draining or collecting surface runoff (sheet flow) from the I-710, I-5, SR-91 and I-405 freeways, and adjacent upland areas (e.g., residential, commercial or industrial developments). The USACE typically does not assert jurisdiction over these types of non-tidal manmade drainage ditches that have been constructed in uplands and that drain uplands. However, the USACE reserves the right to regulate these waters on a case-by-case basis. The locations of these drainages are shown in Appendix A.

In addition, man-altered and constructed drainages, where existing or historical topography supports the likelihood or potential that a “natural” drainage with a defined bed and bank had been or would be present if the transportation facilities did not exist, are considered to be potentially jurisdictional features, depending on whether a significant nexus to the TNW exists. These drainage features are also shown in Appendix A.

Table B shows the total USACE jurisdictional areas within the jurisdictional review area. Of this total, 51.33 acres are outside the BSA.

Table B Potential USACE Jurisdictional and Nonjurisdictional Waters

	USACE Jurisdictional Waters (acres)
Nonwetland	126.55
Wetland	3.14
Total	**129.69**

USACE = United States Army Corps of Engineers

7.1.2 USACE Section 10 Jurisdiction

The lower reach of the Los Angeles River between an area just south of Willow St. and the Pacific Ocean is subject to daily tidal influences and is, therefore, a navigable water of the U.S.[1], subject to USACE jurisdiction under Section 10 of the RHA. Any work in, over, under, or affecting this river reach will require USACE authorization unless the activity is exempted or otherwise not regulated by the USACE.

For Section 10 activities, the landward limit of jurisdiction is established by the mean high water line, for which some locations the elevation of this line is calculated by the National Ocean Service (NOS), Office of Ocean and Earth Science, and is based on a 19-year mean of all high-tide events. NOS tidal information for the Los Angeles station was used to determine the mean high water information for the BSA. The mean high water calculated by NOS for the Los Angeles Station is 4.8 feet above the mean low water,[2] or 4.4 feet in elevation as adjusted for the NAVD88 datum. The mean high water line was then plotted within the BSA using topographical data provided by the project engineer and geographical information system (GIS) software. Based on these data, the mean high water line was approximated to occur between the Willow St. Bridge and the SR-1 Bridge. This upstream limit of Section 10 jurisdiction is an approximation due to the nature of the available data for the BSA.

The BSA includes a total of 10.90 acres of waters subject to USACE jurisdiction, pursuant to Section 10 of the Rivers and Harbors Act (Sheets 1 and 2 of Appendix A).

7.2 CCC Jurisdiction

Potential for CCC jurisdiction exists as a portion of the BSA is located within the Coastal Zone. The portion of the BSA south of Ocean Blvd. and east of the Los Angeles River is within the City of Long Beach LCP and is within the Downtown Shoreline Planning Area. The portion of the BSA south of Anaheim St. and west of the Los Angeles River is not within an area for which an LCP has been prepared. Areas within the Coastal Zone satisfying the USACE jurisdictional criteria for waters and wetlands of the U.S., as described above, would also be subject to CCC jurisdiction as wetlands pursuant to the CCA. A portion of the BSA is located within the Coastal Zone; however, there are no USACE waters or wetlands within the Coastal Zone portion of the BSA (see Appendix A, Sheets 1 and 2). Additionally, there are no other areas where hydrophytic vegetation or hydric soils indicators or wetland hydrology occur in the Coastal Zone. Therefore, there are no CCC jurisdictional wetlands within the BSA.

1 USACE. Memorandum for Chief, Regulatory Division, 20 March 2008. Subject: Determination of TNW Status of the Los Angeles River (File No. 2008-218-AJs).

2 NOS. Tides & Currents. http://co-ops.nos.noaa.gov/epoch_datum_check.shtml?stnid=9410660.

7.3 CDFG Jurisdiction

All of the areas satisfying the USACE jurisdictional criteria for waters of the U.S. and adjacent wetlands, as described above, are also subject to CDFG jurisdiction pursuant to Section 1602 of the California Fish and Game Code. In addition, streambed banks and adjacent riparian areas extending beyond the limits of the USACE jurisdiction are considered subject to CDFG jurisdiction. See Appendix A for the extent of CDFG jurisdiction. The total acreage of CDFG jurisdiction within the jurisdictional review area is 177.52 acres, which exceeds the total area delineated as USACE jurisdiction by 47.83 acres. The area within the BSA is 115.42 acres.

7.4 RWQCB Jurisdiction

Since there is no public guidance on determining RWQCB jurisdictional areas, jurisdiction was determined based on the Federal definition of wetlands (three parameter) and other waters of the U.S. (OHWM) as recommended by the RWQCB's September 2004 Workplan: Filling the Gaps in Wetland Protection. However, the RWQCB will likely assert jurisdiction over the Dominguez Gap West Basin because it is used to recharge groundwater even though it is not tributary to a TNW. The total area of potential RWQCB jurisdiction is 138.64 acres, of which 87.30 acres is in the BSA; similar to the USACE, the RWQCB asserts jurisdiction over the roadside drainage ditches on a case-by-case basis.

The findings and conclusions presented in this report, including the location and extent of wetlands and other waters subject to regulatory jurisdiction (or lack thereof), represent the professional opinion of the project biologist. These findings and conclusions should be considered preliminary until verified by the USACE and CDFG.

8.0 LIST OF PREPARERS

Sarah Barrera – Senior Biologist

Art Homrighausen – Principal Biologist

Meredith Canterbury – GIS/Graphics

Keith Swavely – GIS/Graphics

9.0 REFERENCES

CH2MHill. 2005. *Joint Dominguez Gap and DeForest Treatment Wetlands Project Draft Environmental Impact Report.* June.

Environmental Laboratory. 1987. *Corps of Engineers Wetlands Delineation Manual*. Technical Report Y-87-1. United States Army Engineer Waterways Experiment Station, Vicksburg, MS.

Federal Interagency Committee for Wetland Delineation. 1989. *Federal Manual for Identifying and Delineating Jurisdictional Wetlands*. United States Army Corps of Engineers, United States Environmental Protection Agency, United States Fish and Wildlife Service, and United States Department of Agriculture Soil Conservation Service, Washington, D.C. Cooperative Technical publication. 76 pp. plus appendices.

Hickman, J.C., ed. 1993. *The Jepson Manual: Higher Plants of California*. University of California Press, Berkeley and Los Angeles, CA. 1,400 pp.

Munsell Color. 2000 (rev. ed.). *Munsell Soil Color Charts*. Macbeth Division of Kollmorgen Instruments Corporation, New Windsor, NY.

Reed, P.B., Jr. 1988. *National List of Plant Species that Occur in Wetlands: California (Region 0)*. United States Fish and Wildlife Service Biological Report 88 (26.10). 135 pp.

State Water Resources Control Board. 2004. *Workplan: Filling the Gaps in Wetland Protection.* September.

United States Army Corps of Engineers. 2008. *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0)*, U.S. Army Corps of Engineers. ERDC/EL TR-08-28. Vicksburg, MS: United States Army Engineer Research and Development Center.

___. 2008. CESPL-CO-R Memorandum: Determination of TNW Status of the Los Angeles River.

___. 2007. *CECW-OR Memorandum: Clean Water Act Jurisdiction Following the United States Supreme Court's Decision in Rapanos v. United States & Carabell v. United States.*

___. 1992. CECW-OR Memorandum: Clarification and Interpretation of the 1987 Manual.

___. 1991. CECW-OR Memorandum: Questions and Answers on the 1987 Manual.

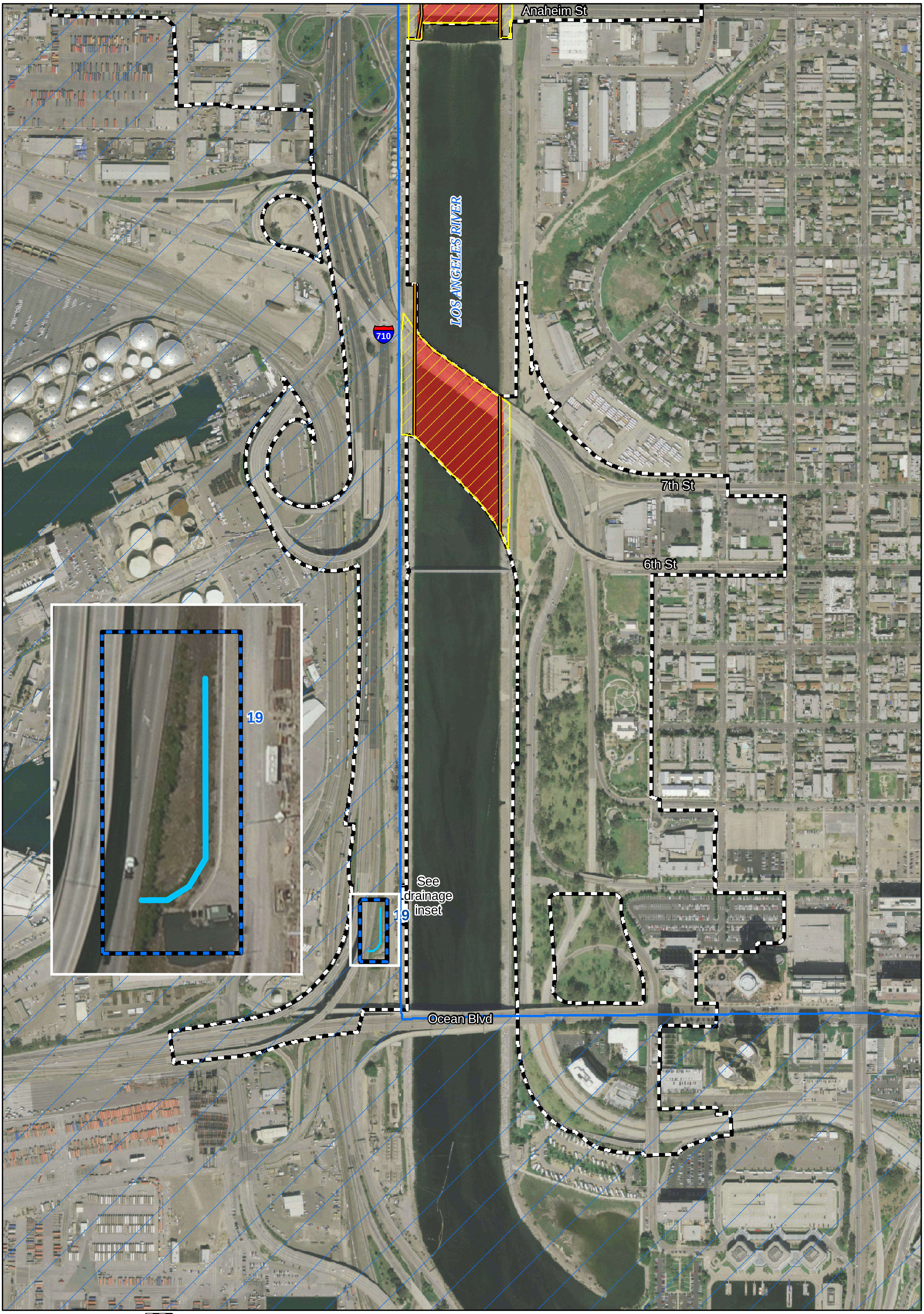
United States Department of Agriculture, Soil Survey Staff. 1975. *Soil Taxonomy*. Agriculture Handbook No. 436. United States Government Printing Office, Washington, D.C. 754 pp.

United States Department of Agriculture. 1969. *Report and General Soil Map, Los Angeles County, California*. United States Department of Agriculture, Soil Conservation Service.

Wetland Research and Technology Center. 1993. Draft Training Package, Wetland Delineator Certification Program. Environmental Laboratory, EP-W, Vicksburg, MS.

APPENDIX A

POTENTIAL USACE JURISDICTIONAL AREAS



Biological Study Area
CDFG
USACE Section 404 Jurisdictional Wetland Waters
USACE Section 404 Jurisdictional Non Wetland Waters
Non-jurisdictional Non Wetland Waters
Non-jurisdictional Wetland Waters

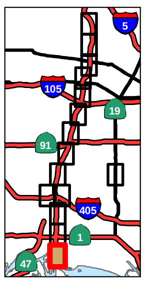
USACE Section 10 Jurisdictional Waters
Sample Point
Coastal Zone
Drainage Box (With ID)

No drainage ID has been given to the jurisdictional waters within the Los Angeles River that coincide with the Biological Study Area.

N

0 250 500
FEET

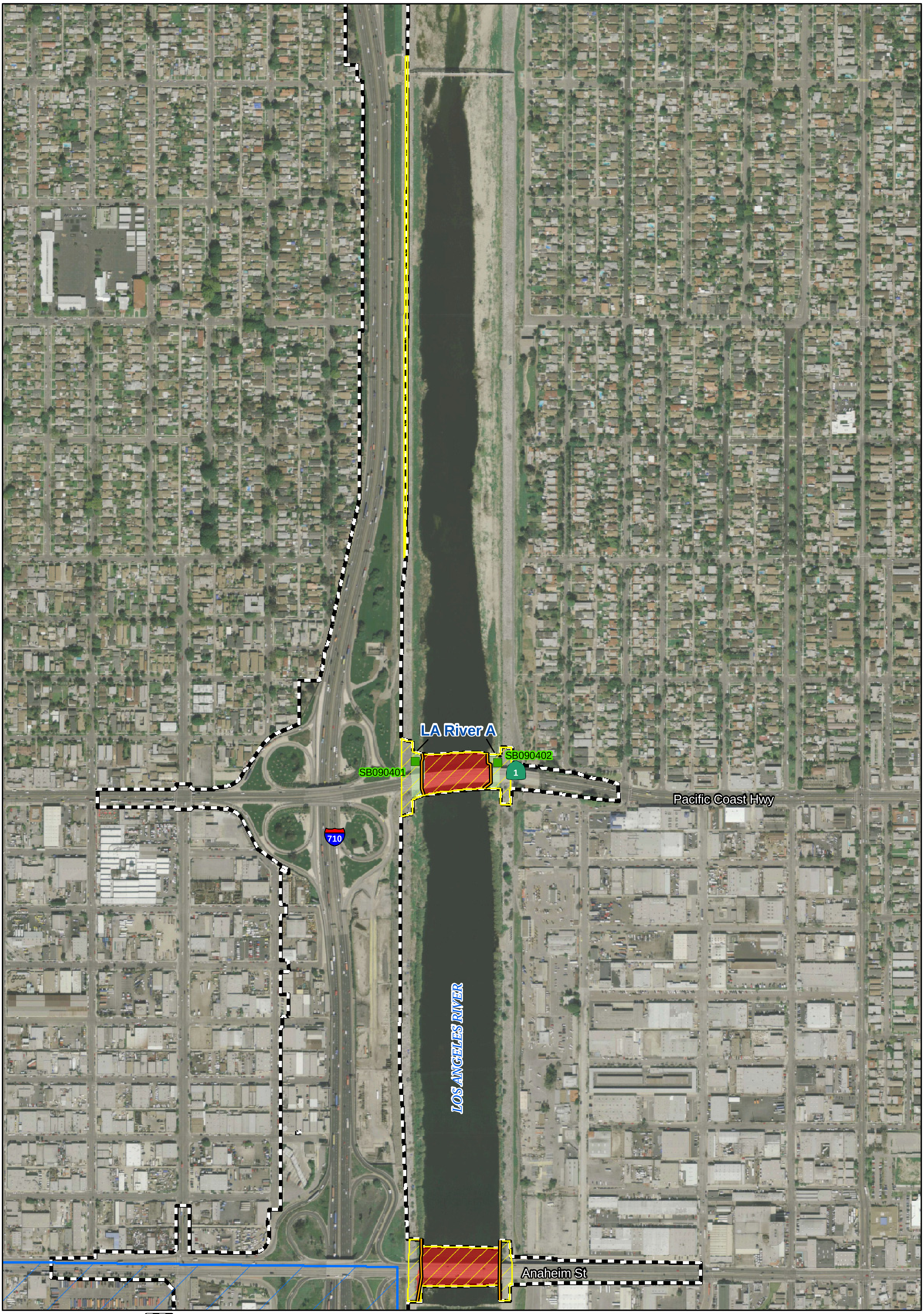
SOURCE: DigitalGlobe (4/08); TBM (2008)



APPENDIX A
Sheet 1 of 15

I-710 Corridor Project
Jurisdictional Delineation
PM 4.9/24.9
EA 249900

I:\URS0801A\GIS\BIO\JD_Mapbook.mxd (5/21/12)



Biological Study Area
CDFG
USACE Section 404 Jurisdictional Wetland Waters
USACE Section 404 Jurisdictional Non Wetland Waters
Non-jurisdictional Non Wetland Waters
Non-jurisdictional Wetland Waters

USACE Section 10 Jurisdictional Waters
Sample Point
Coastal Zone
Drainage Box (With ID)

No drainage ID has been given to the jurisdictional waters within the Los Angeles River that coincide with the Biological Study Area.

0 250 500
FEET

SOURCE: DigitalGlobe (4/08); TBM (2008)

I:\URS0801A\GIS\BIO\JD_Mapbook.mxd (5/25/12)

APPENDIX A

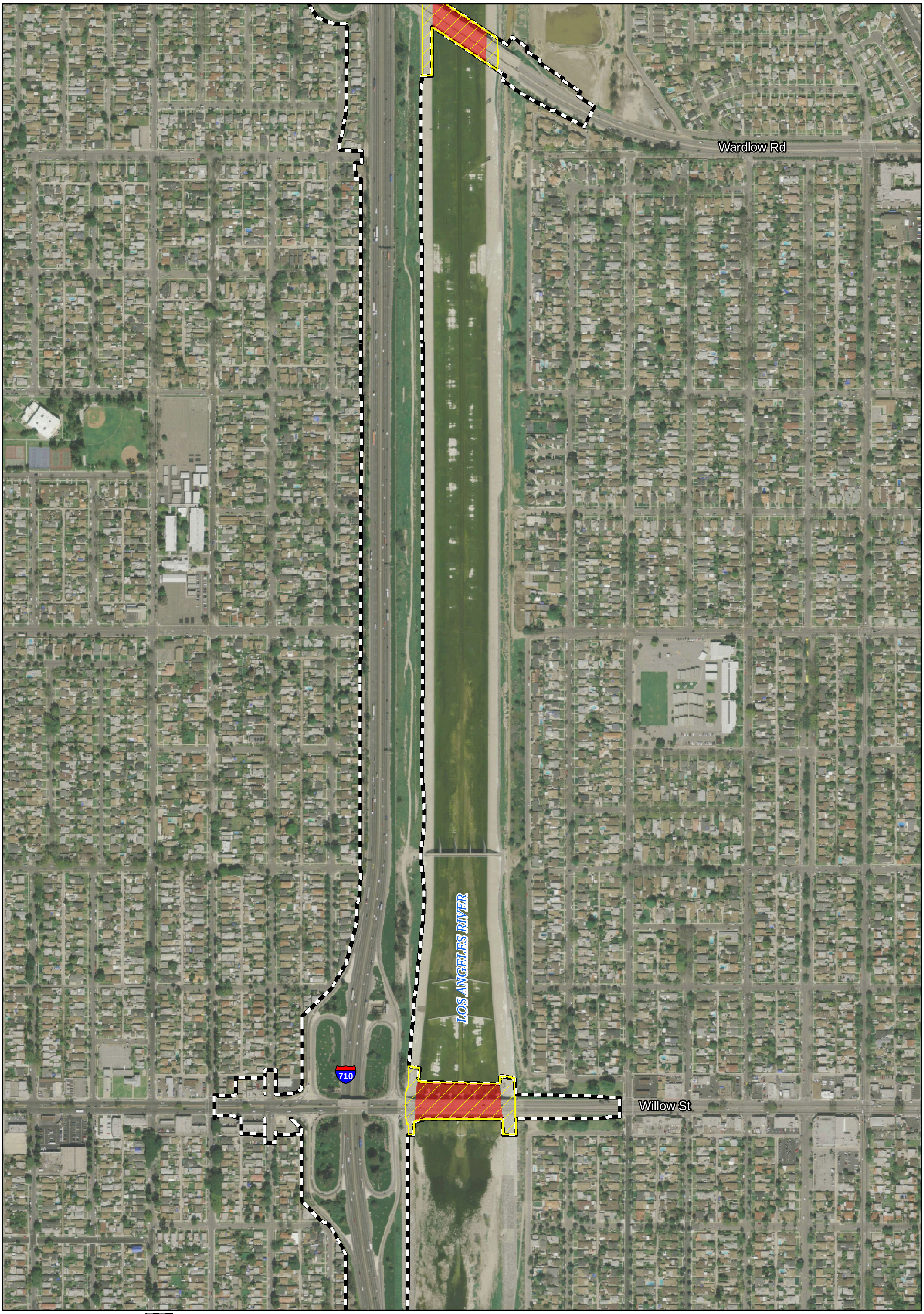
Sheet 2 of 15

I-710 Corridor Project

Jurisdictional Delineation

PM 4.9/24.9

EA 249900



Biological Study Area
CDFG
USACE Section 404 Jurisdictional Wetland Waters
USACE Section 404 Jurisdictional Non Wetland Waters
Non-jurisdictional Non Wetland Waters
Non-jurisdictional Wetland Waters

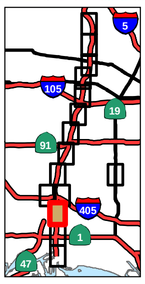
N

0 250 500
FEET

SOURCE: DigitalGlobe (4/08); TBM (2008)

USACE Section 10
Jurisdictional Waters
Sample Point
Coastal Zone
Drainage Box (With ID)

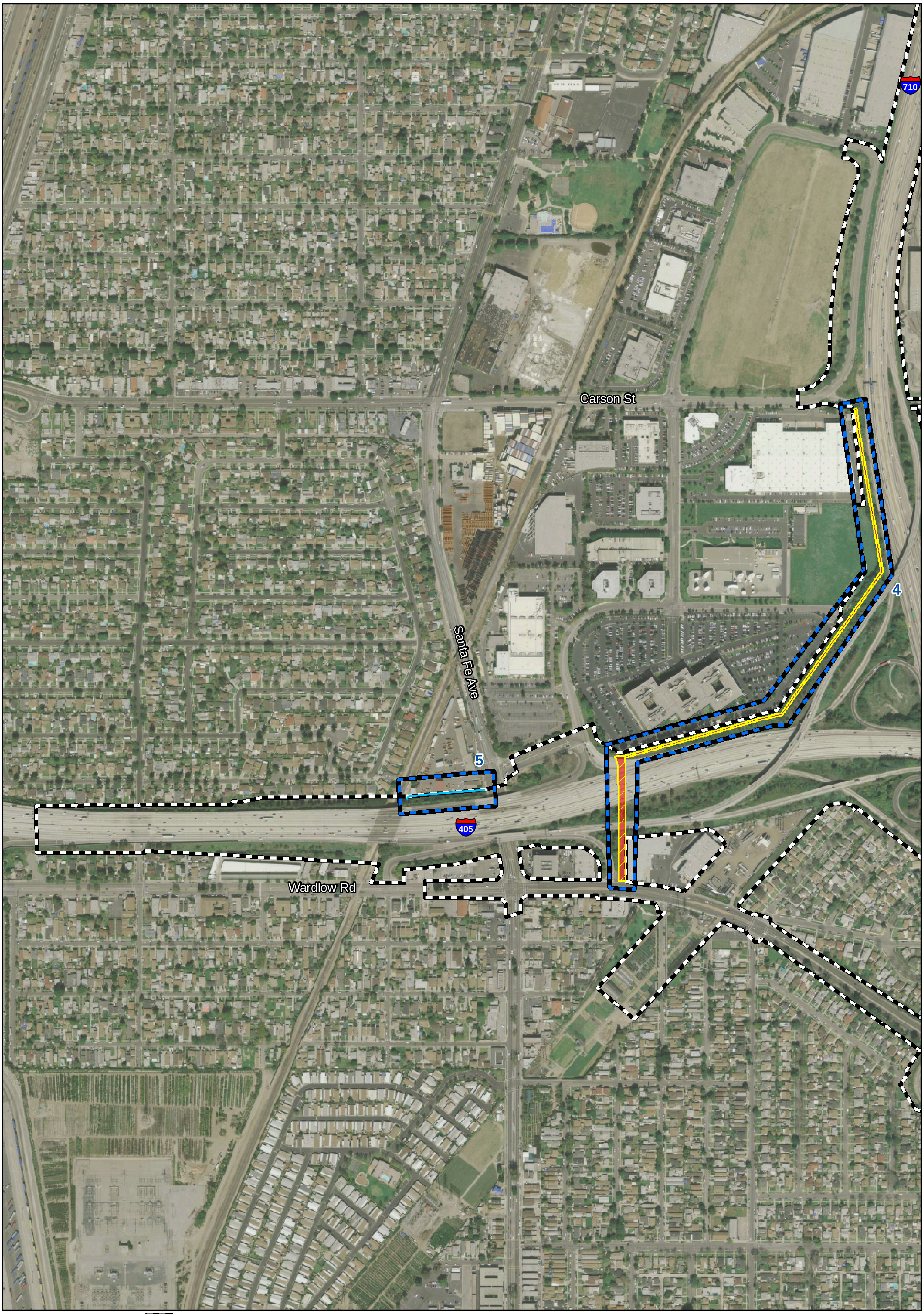
No drainage ID has been given
to the jurisdictional waters within
the Los Angeles River that coincide
with the Biological Study Area.



APPENDIX A
Sheet 3 of 15

I-710 Corridor Project
Jurisdictional Delineation
PM 4.9/24.9
EA 249900

I:\URS0801A\GIS\BIO\JD_Mapbook.mxd (5/21/12)



Biological Study Area
CDFG
USACE Section 404 Jurisdictional Wetland Waters
USACE Section 404 Jurisdictional Non Wetland Waters
Non-jurisdictional Non Wetland Waters
Non-jurisdictional Wetland Waters

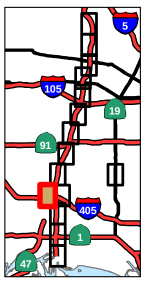
USACE Section 10
Jurisdictional Waters
Sample Point
Coastal Zone
Drainage Box (With ID)

No drainage ID has been given
to the jurisdictional waters within
the Los Angeles River that coincide
with the Biological Study Area.

N

0 250 500
FEET

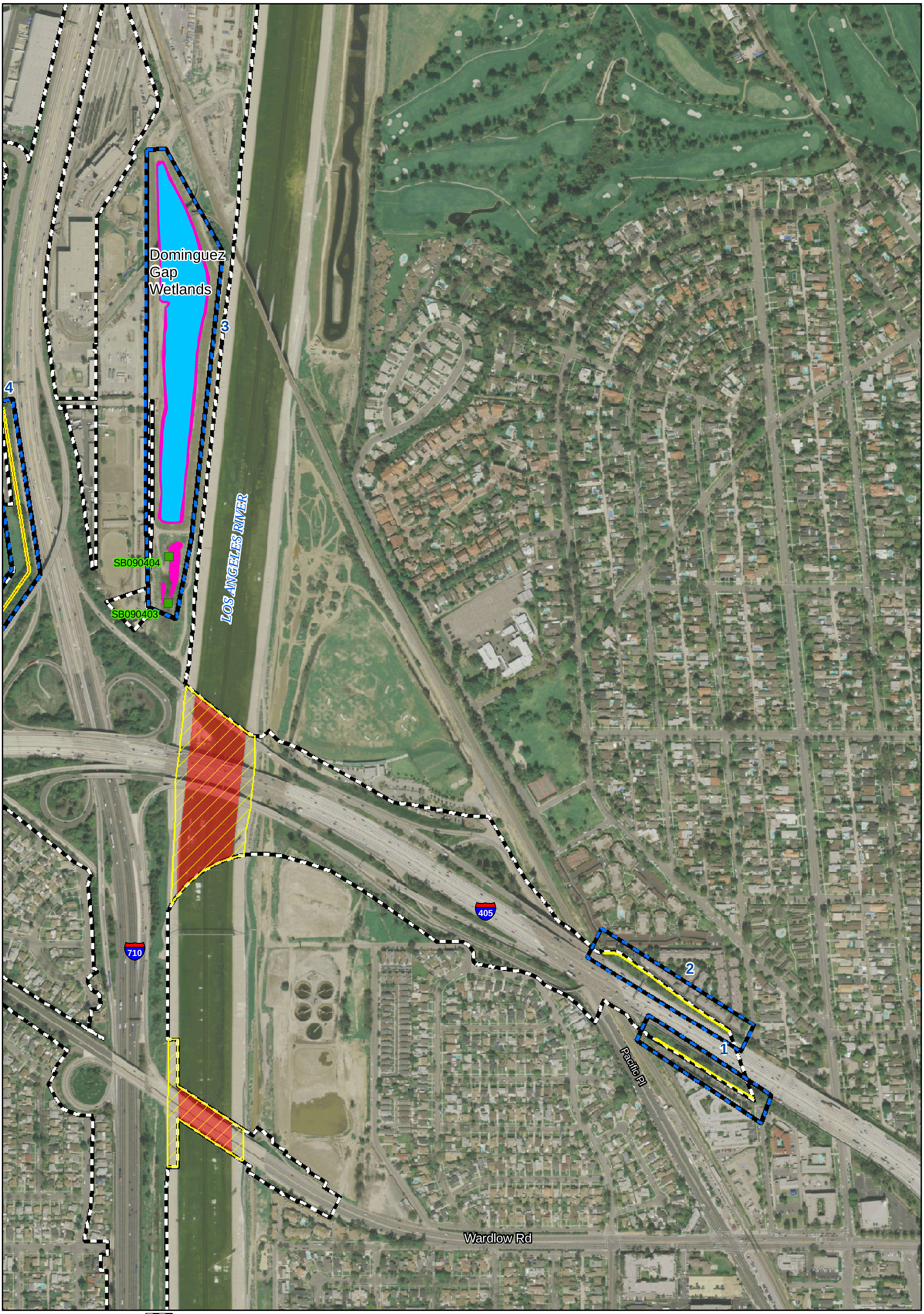
SOURCE: DigitalGlobe (4/08); TBM (2008)



APPENDIX A
Sheet 4 of 15

I-710 Corridor Project
Jurisdictional Delineation
PM 4.9/24.9
EA 249900

I:\URS0801A\GIS\BIO\JD_Mapbook.mxd (5/21/12)



Biological Study Area
CDFG
USACE Section 404 Jurisdictional Wetland Waters
USACE Section 404 Jurisdictional Non Wetland Waters
Non-jurisdictional Non Wetland Waters
Non-jurisdictional Wetland Waters

USACE Section 10 Jurisdictional Waters
Sample Point
Coastal Zone
Drainage Box (With ID)

No drainage ID has been given to the jurisdictional waters within the Los Angeles River that coincide with the Biological Study Area.

N

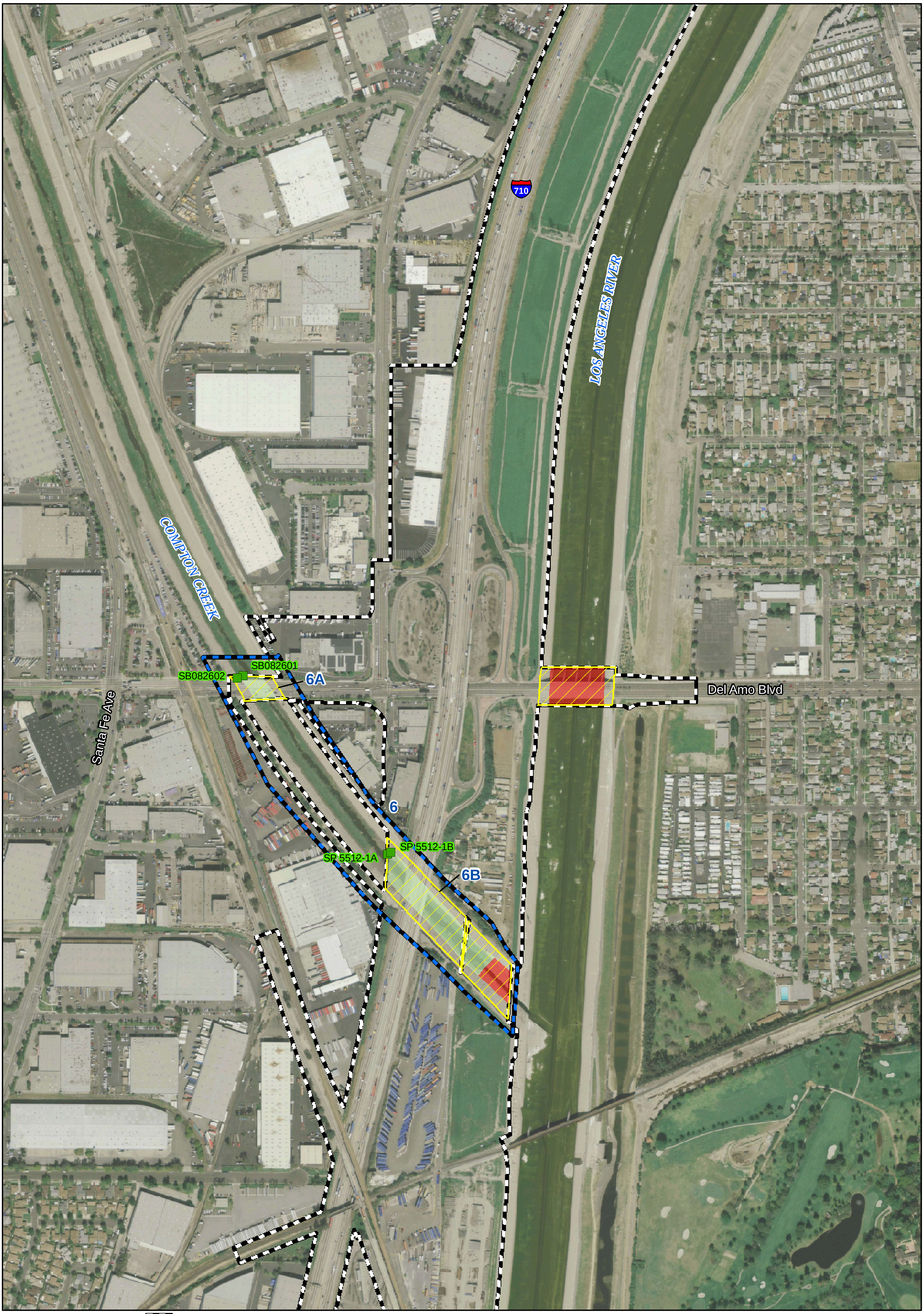
0 250 500
FEET

SOURCE: DigitalGlobe (4/08); TBM (2008)

I:\URS0801A\GIS\BIO\JD_Mapbook.mxd (5/21/12)

APPENDIX A
Sheet 5 of 15

I-710 Corridor Project
Jurisdictional Delineation
PM 4.9/24.9
EA 249900



Biological Study Area
CDFG
USACE Section 404 Jurisdictional Wetland Waters
USACE Section 404 Jurisdictional Non Wetland Waters
Non-jurisdictional Non Wetland Waters
Non-jurisdictional Wetland Waters
USACE Section 10 Jurisdictional Waters
Sample Point
Coastal Zone
Drainage Box (With ID)

No drainage ID has been given to the jurisdictional waters within the Los Angeles River that coincide with the Biological Study Area.

N

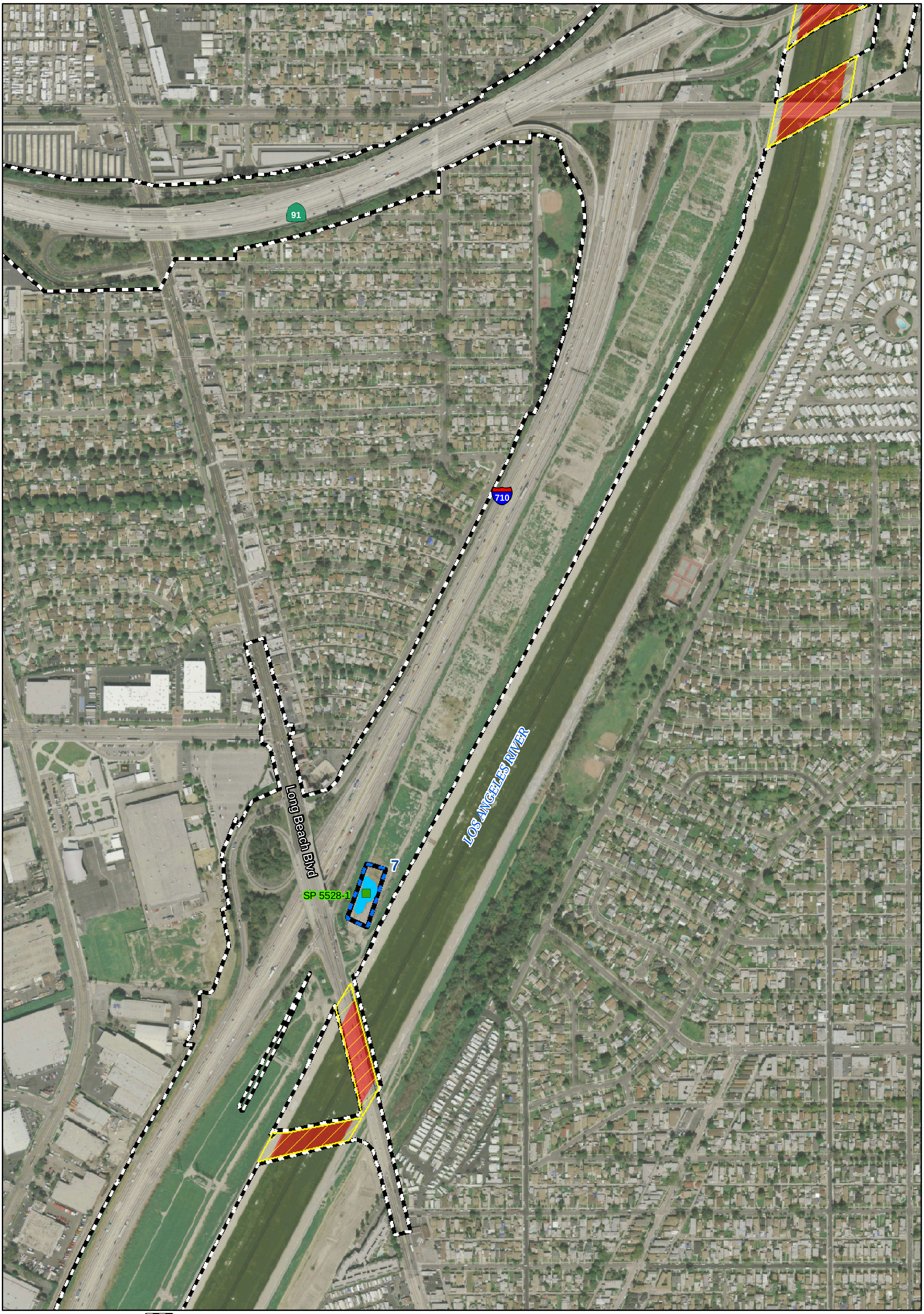
0 250 500
FEET

SOURCE: DigitalGlobe (4/08); TBM (2008)

I:\URS0801A\GIS\BIO\JD_Mapbook.mxd (5/25/12)

APPENDIX A
Sheet 6 of 15

I-710 Corridor Project
Jurisdictional Delineation
PM 4.9/24.9
EA 249900



Biological Study Area
CDFG
USACE Section 404 Jurisdictional Wetland Waters
USACE Section 404 Jurisdictional Non Wetland Waters
Non-jurisdictional Non Wetland Waters
Non-jurisdictional Wetland Waters

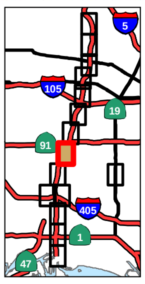
USACE Section 10 Jurisdictional Waters
Sample Point
Coastal Zone
Drainage Box (With ID)

No drainage ID has been given to the jurisdictional waters within the Los Angeles River that coincide with the Biological Study Area.

N

0 250 500
FEET

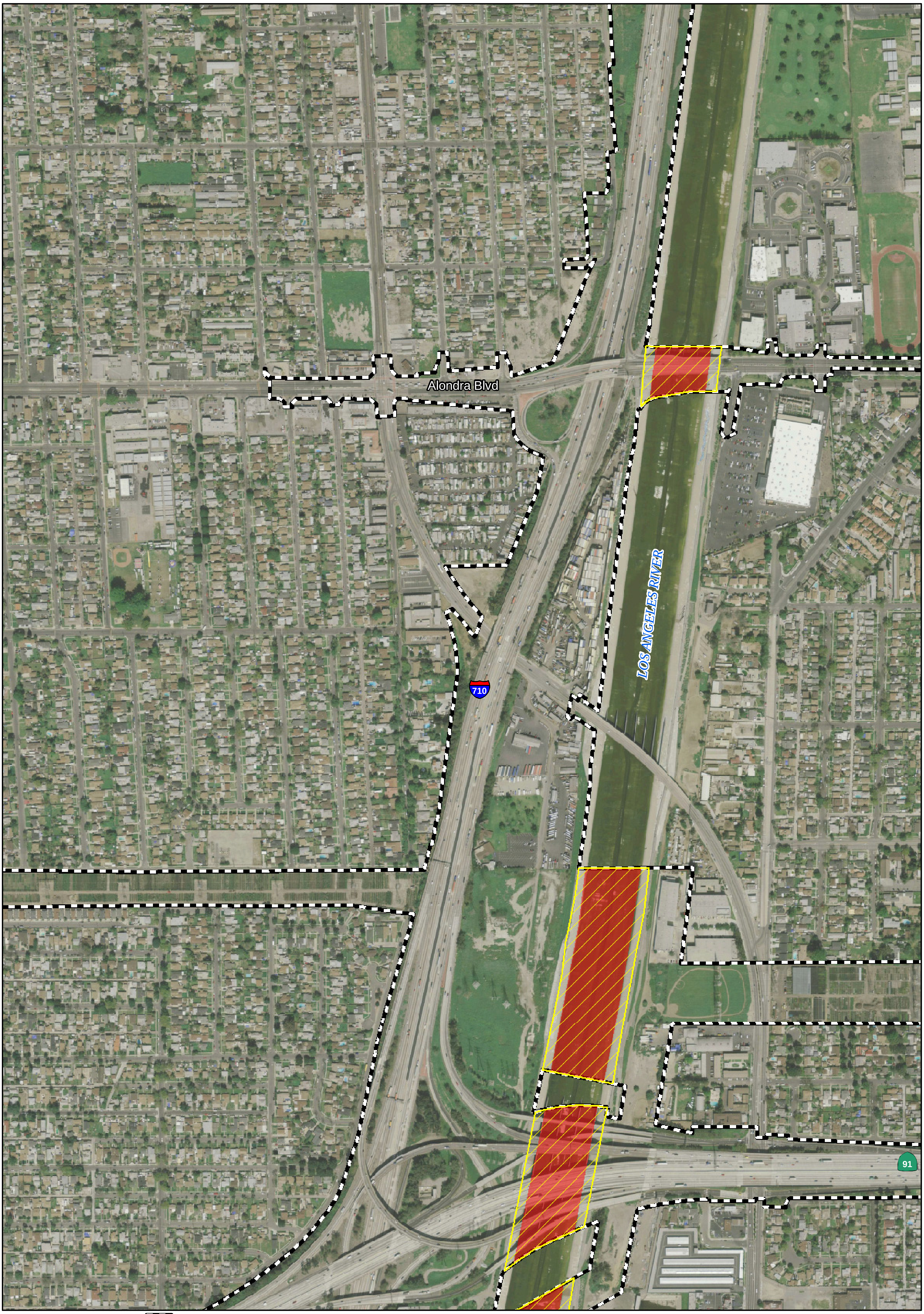
SOURCE: DigitalGlobe (4/08); TBM (2008)



APPENDIX A
Sheet 7 of 15

I-710 Corridor Project
Jurisdictional Delineation
PM 4.9/24.9
EA 249900

I:\URS0801A\GIS\BIO\JD_Mapbook.mxd (5/21/12)



Biological Study Area

CDFG

USACE Section 404 Jurisdictional Wetland Waters

USACE Section 404 Jurisdictional Non Wetland Waters

Non-jurisdictional Non Wetland Waters

Non-jurisdictional Wetland Waters

USACE Section 10 Jurisdictional Waters

Sample Point

Coastal Zone

Drainage Box (With ID)

No drainage ID has been given to the jurisdictional waters within the Los Angeles River that coincide with the Biological Study Area.

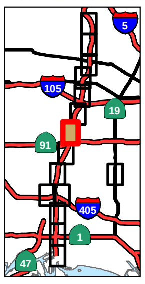
N

0 250 500

FEET

SOURCE: DigitalGlobe (4/08); TBM (2008)

I:\URS0801A\GIS\BIO\JD_Mapbook.mxd (5/21/12)



APPENDIX A

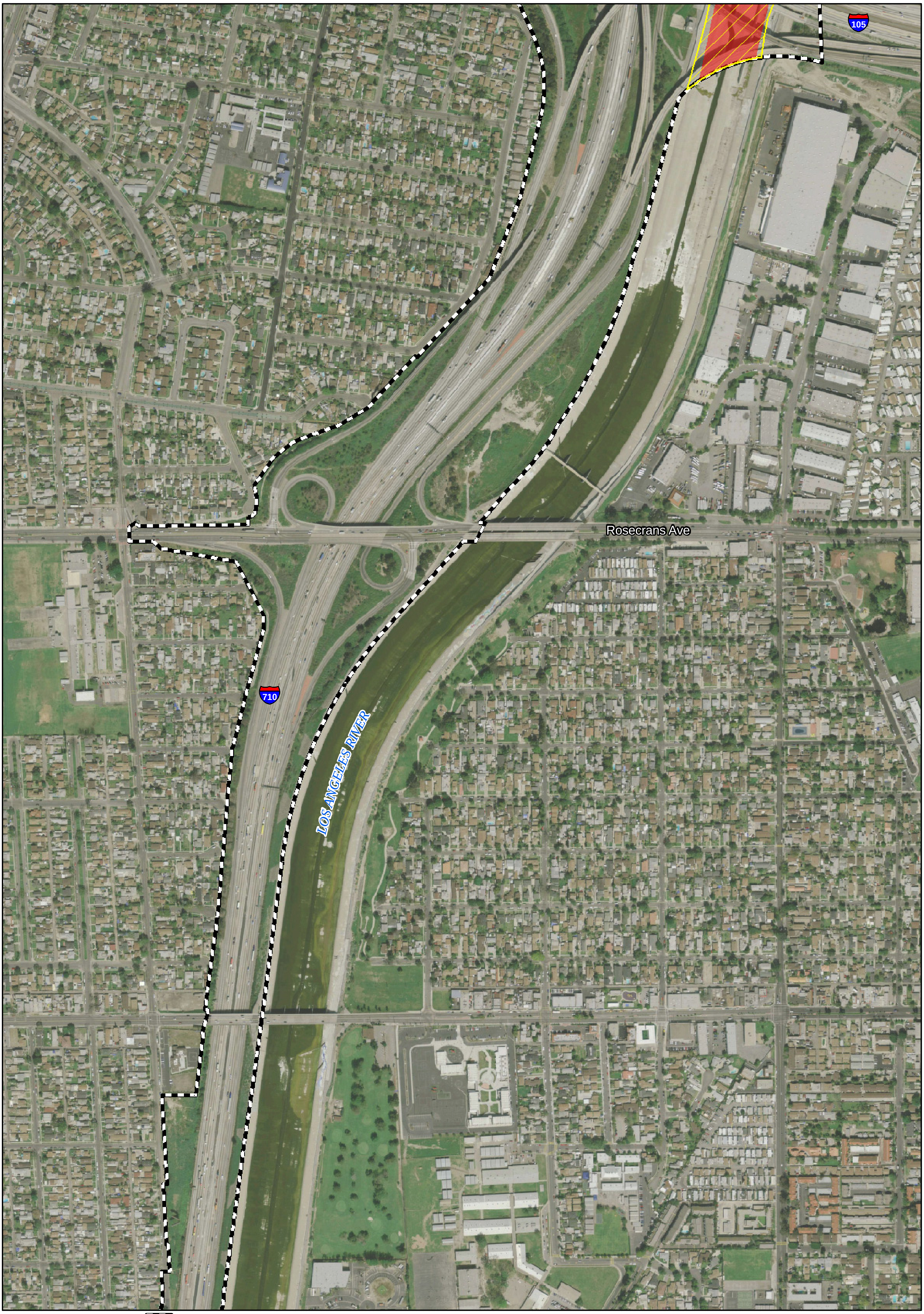
Sheet 8 of 15

I-710 Corridor Project

Jurisdictional Delineation

PM 4.9/24.9

EA 249900



Biological Study Area
CDFG
USACE Section 404 Jurisdictional Wetland Waters
USACE Section 404 Jurisdictional Non Wetland Waters
Non-jurisdictional Non Wetland Waters
Non-jurisdictional Wetland Waters

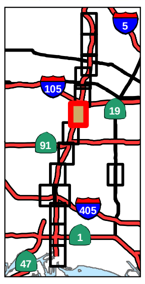
USACE Section 10 Jurisdictional Waters
Sample Point
Coastal Zone
Drainage Box (With ID)

No drainage ID has been given to the jurisdictional waters within the Los Angeles River that coincide with the Biological Study Area.

N

0 250 500
FEET

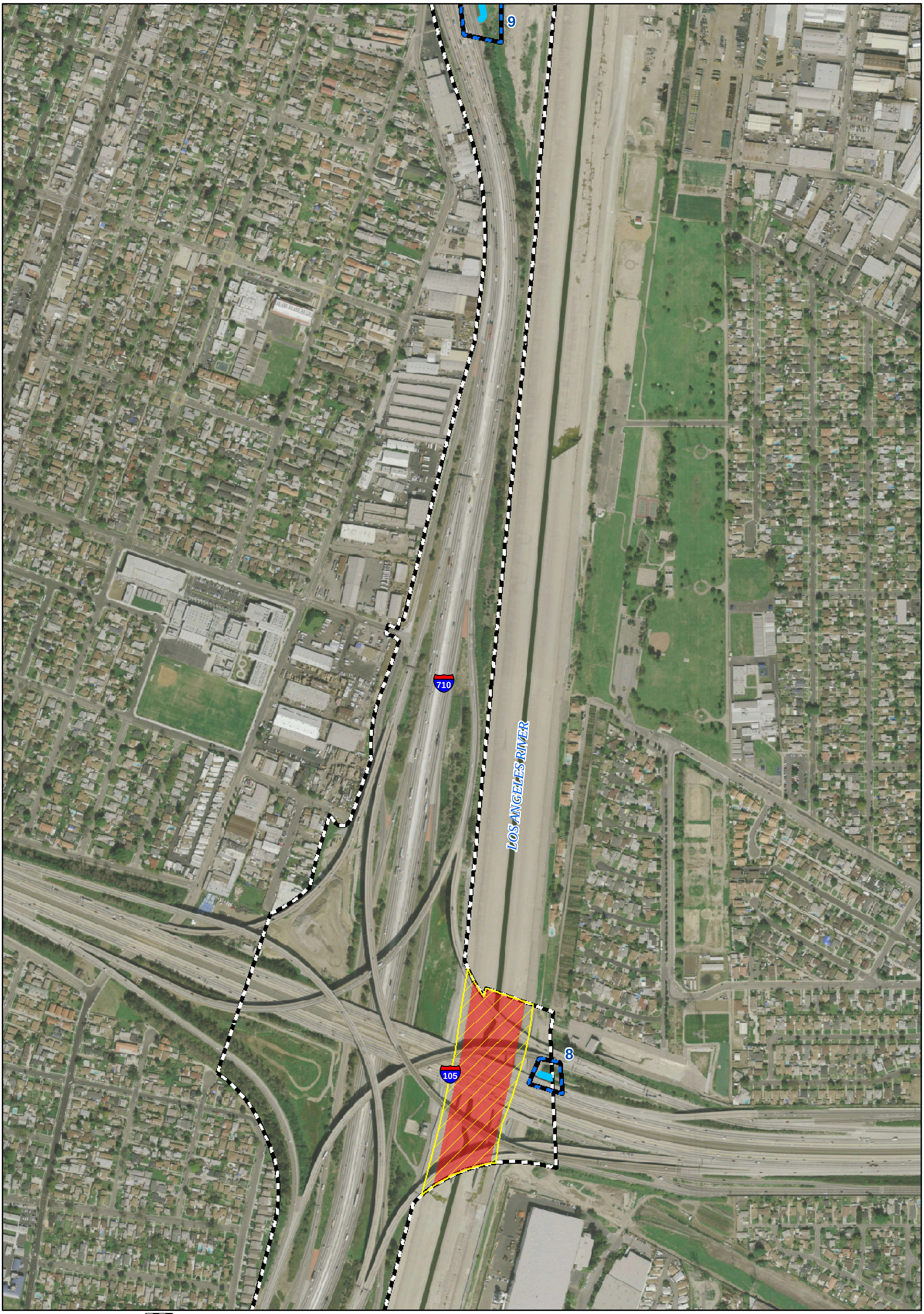
SOURCE: DigitalGlobe (4/08); TBM (2008)



APPENDIX A
Sheet 9 of 15

I-710 Corridor Project
Jurisdictional Delineation
PM 4.9/24.9
EA 249900

I:\URS0801A\GIS\BIO\JD_Mapbook.mxd (5/21/12)



Biological Study Area
CDFG
USACE Section 404 Jurisdictional Wetland Waters
USACE Section 404 Jurisdictional Non Wetland Waters
Non-jurisdictional Non Wetland Waters
Non-jurisdictional Wetland Waters

USACE Section 10 Jurisdictional Waters
Sample Point
Coastal Zone
Drainage Box (With ID)

No drainage ID has been given to the jurisdictional waters within the Los Angeles River that coincide with the Biological Study Area.

N

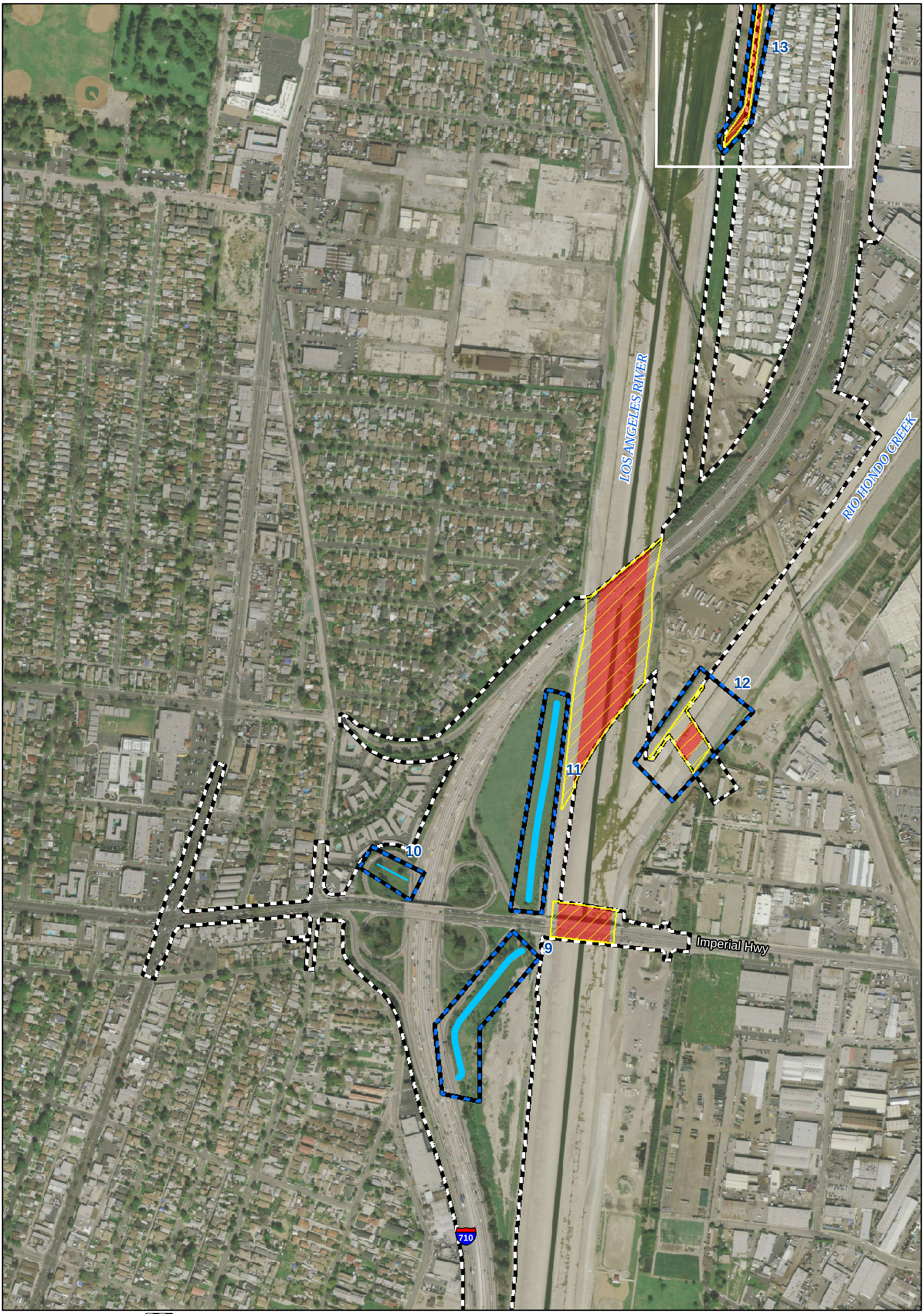
0 250 500
FEET

SOURCE: DigitalGlobe (4/08); TBM (2008)

I:\URS0801A\GIS\BIO\JD_Mapbook.mxd (5/21/12)

APPENDIX A
Sheet 10 of 15

I-710 Corridor Project
Jurisdictional Delineation
PM 4.9/24.9
EA 249900



Biological Study Area
CDFG
USACE Section 404 Jurisdictional Wetland Waters
USACE Section 404 Jurisdictional Non Wetland Waters
Non-jurisdictional Non Wetland Waters
Non-jurisdictional Wetland Waters

USACE Section 10 Jurisdictional Waters
Sample Point
Coastal Zone
Drainage Box (With ID)

No drainage ID has been given to the jurisdictional waters within the Los Angeles River that coincide with the Biological Study Area.

N

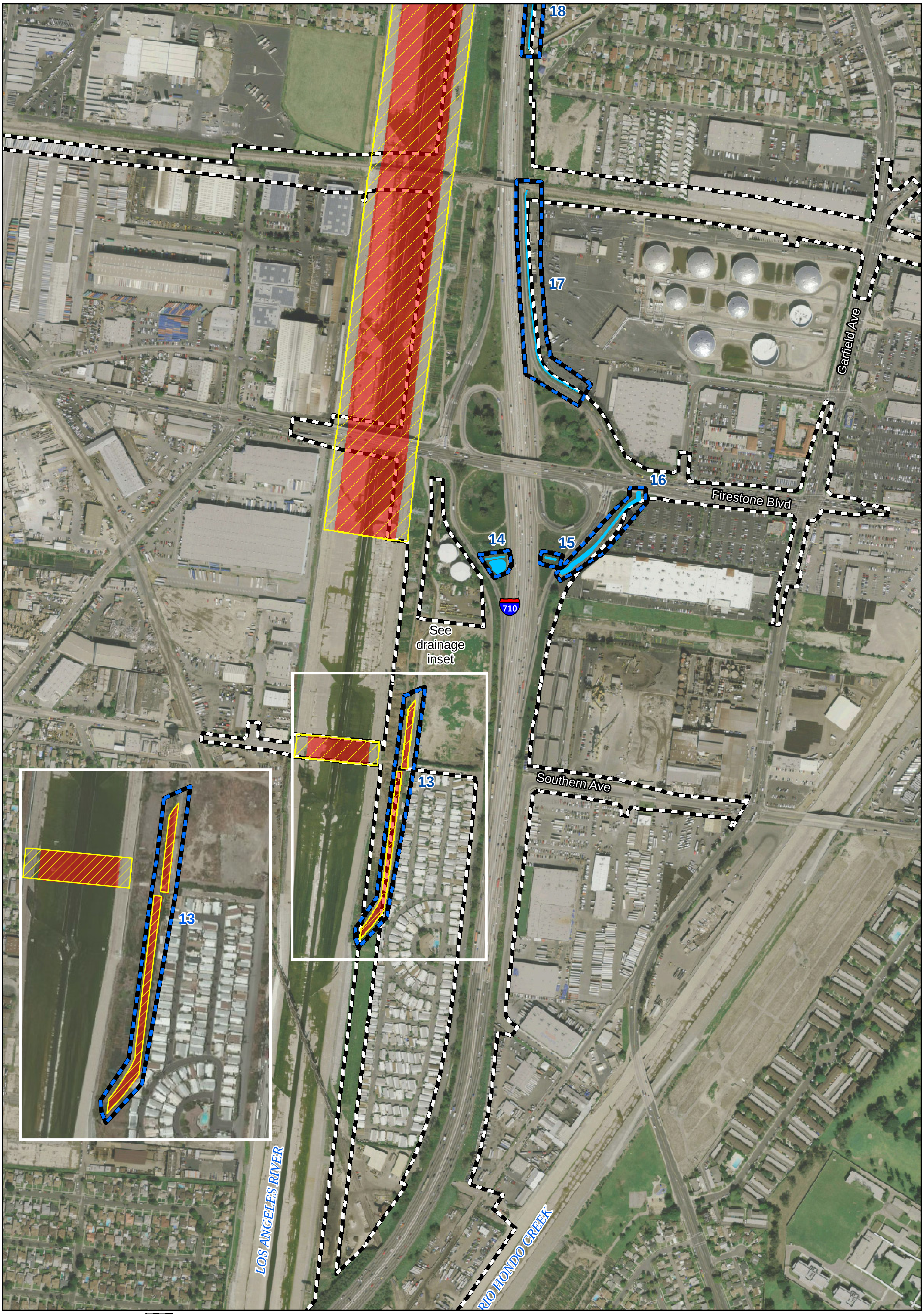
0 250 500
FEET

SOURCE: DigitalGlobe (4/08); TBM (2008)

I:\URS0801A\GIS\BIO\JD_Mapbook.mxd (6/4/12)

APPENDIX A
Sheet 11 of 15

I-710 Corridor Project
Jurisdictional Delineation
PM 4.9/24.9
EA 249900



Biological Study Area
CDFG
USACE Section 404 Jurisdictional Wetland Waters
USACE Section 404 Jurisdictional Non Wetland Waters
Non-jurisdictional Non Wetland Waters
Non-jurisdictional Wetland Waters

USACE Section 10 Jurisdictional Waters
Sample Point
Coastal Zone
Drainage Box (With ID)

No drainage ID has been given to the jurisdictional waters within the Los Angeles River that coincide with the Biological Study Area.

N

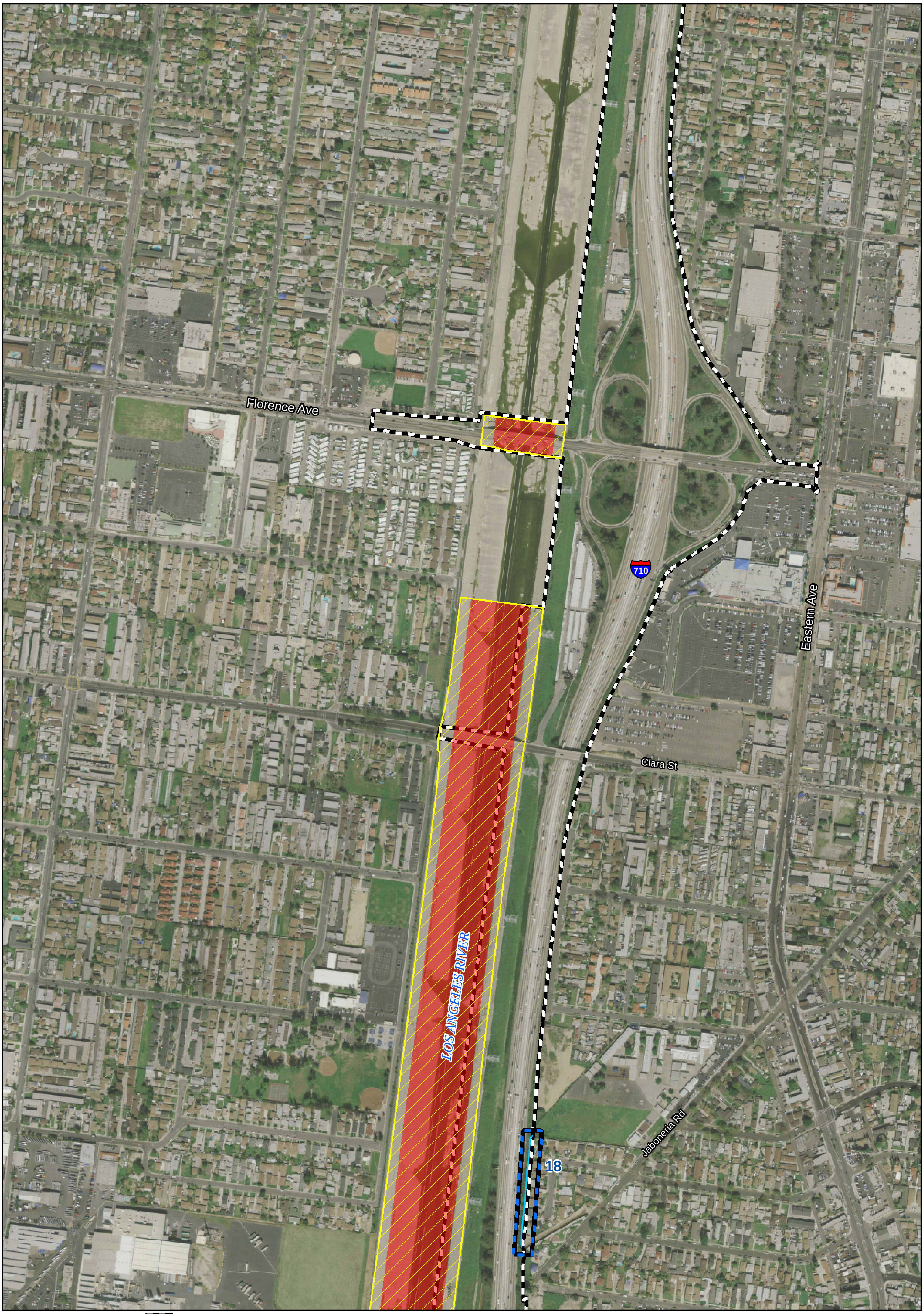
0 250 500
FEET

SOURCE: DigitalGlobe (4/08); TBM (2008)

APPENDIX A
Sheet 12 of 15

I-710 Corridor Project
Jurisdictional Delineation
PM 4.9/24.9
EA 249900

I:\URS0801A\GIS\BIO\JD_Mapbook.mxd (6/4/12)



Biological Study Area
CDFG
USACE Section 404 Jurisdictional Wetland Waters
USACE Section 404 Jurisdictional Non Wetland Waters
Non-jurisdictional Non Wetland Waters
Non-jurisdictional Wetland Waters

USACE Section 10 Jurisdictional Waters
Sample Point
Coastal Zone
Drainage Box (With ID)

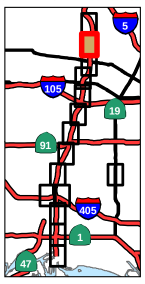
No drainage ID has been given to the jurisdictional waters within the Los Angeles River that coincide with the Biological Study Area.

N

0 250 500
FEET

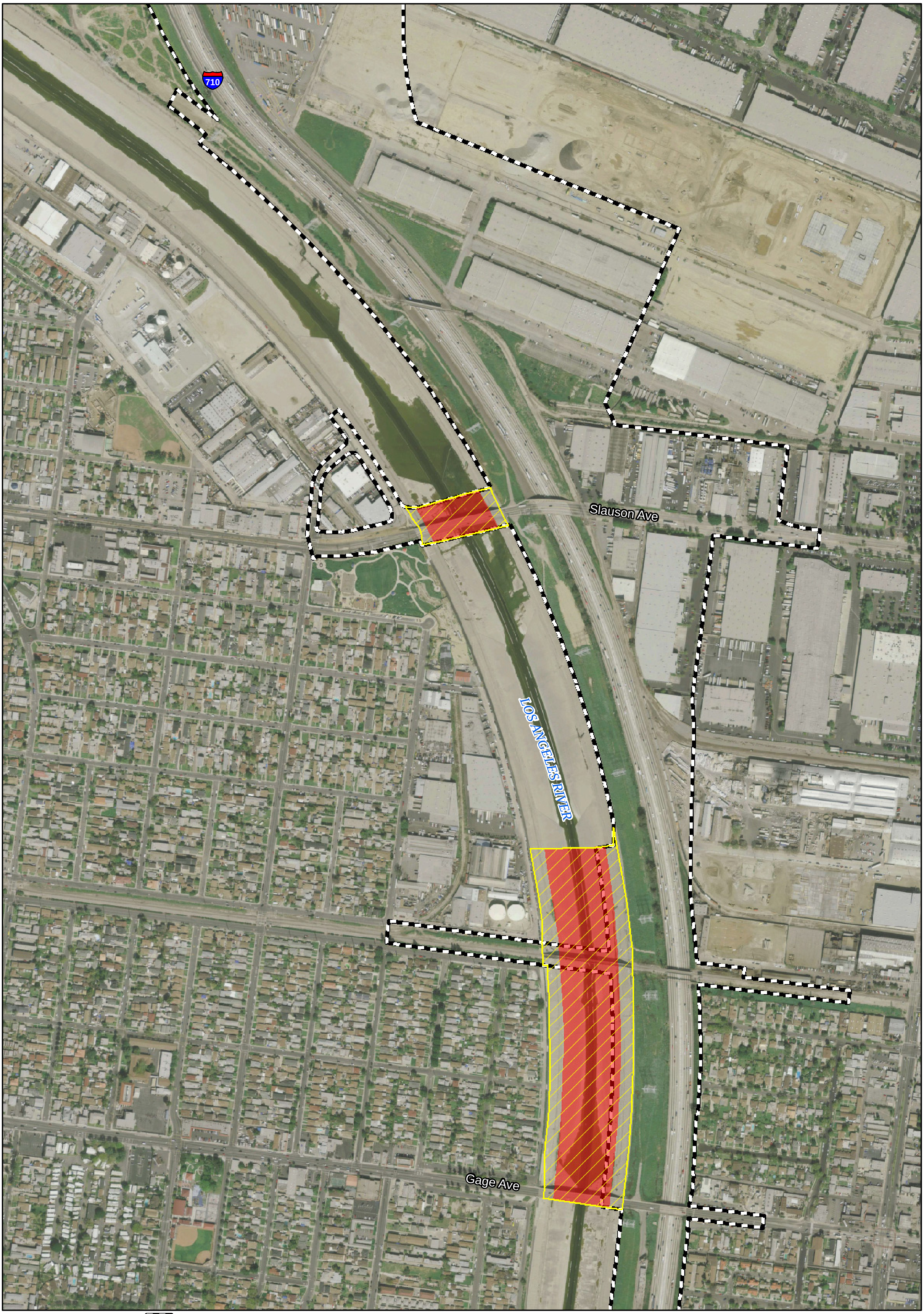
SOURCE: DigitalGlobe (4/08); TBM (2008)

I:\URS0801A\GIS\BIO\JD_Mapbook.mxd (5/22/12)



APPENDIX A
Sheet 13 of 15

I-710 Corridor Project
Jurisdictional Delineation
PM 4.9/24.9
EA 249900



Biological Study Area
CDFG
USACE Section 404 Jurisdictional Wetland Waters
USACE Section 404 Jurisdictional Non Wetland Waters
Non-jurisdictional Non Wetland Waters
Non-jurisdictional Wetland Waters

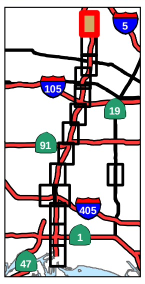
USACE Section 10 Jurisdictional Waters
Sample Point
Coastal Zone
Drainage Box (With ID)

No drainage ID has been given to the jurisdictional waters within the Los Angeles River that coincide with the Biological Study Area.

N

0 250 500
FEET

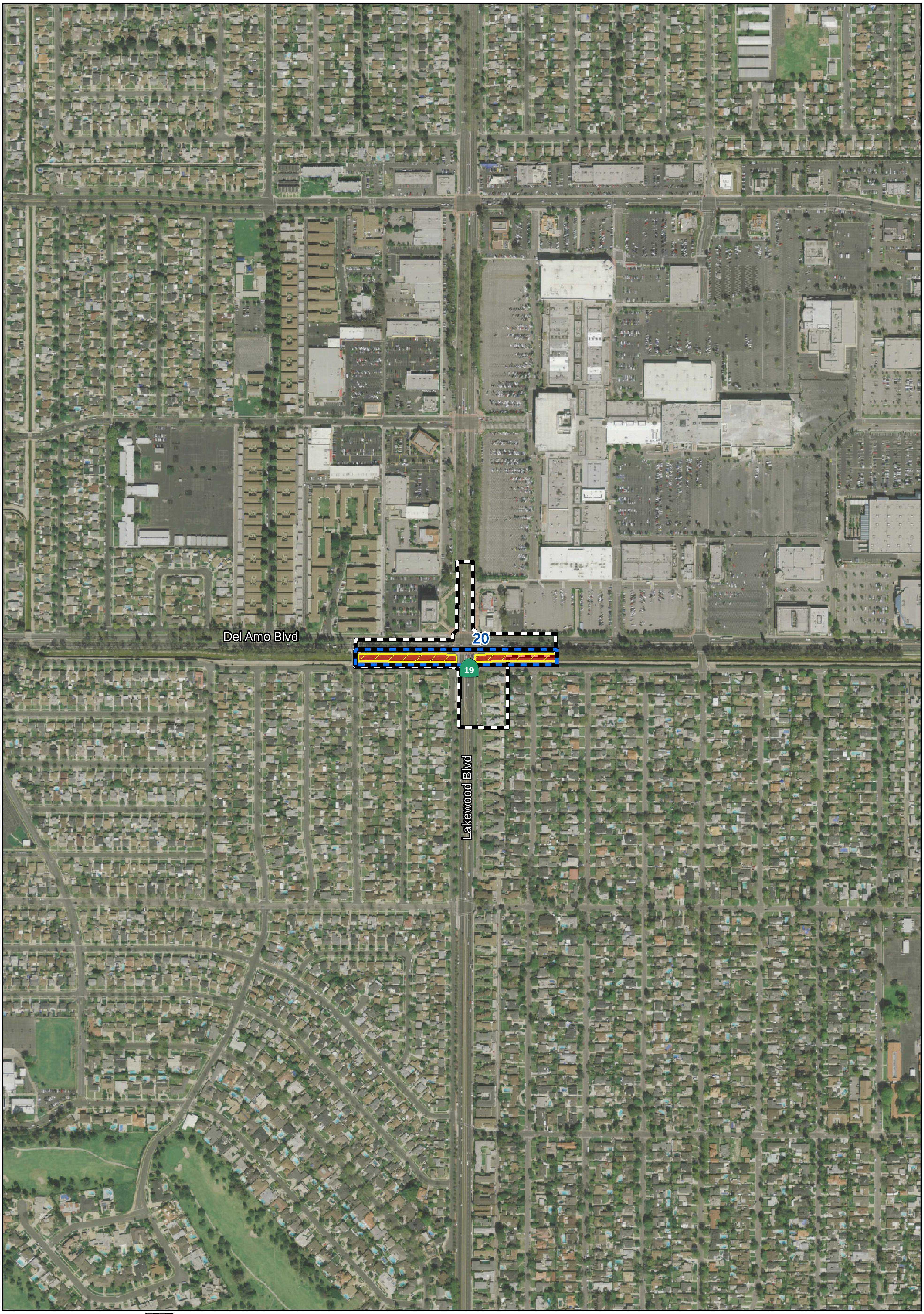
SOURCE: DigitalGlobe (4/08); TBM (2008)



APPENDIX A
Sheet 14 of 15

I-710 Corridor Project
Jurisdictional Delineation
PM 4.9/24.9
EA 249900

I:\URS0801A\GIS\BIO\JD_Mapbook.mxd (5/22/12)



Biological Study Area
CDFG
USACE Section 404 Jurisdictional Wetland Waters
USACE Section 404 Jurisdictional Non Wetland Waters
Non-jurisdictional Non Wetland Waters
Non-jurisdictional Wetland Waters

USACE Section 10 Jurisdictional Waters
Sample Point
Coastal Zone
Drainage Box (With ID)

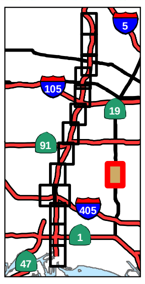
No drainage ID has been given to the jurisdictional waters within the Los Angeles River that coincide with the Biological Study Area.

N

0 250 500
FEET

SOURCE: DigitalGlobe (4/08); TBM (2008)

I:\URS0801A\GIS\BIO\JD_Mapbook.mxd (5/21/12)

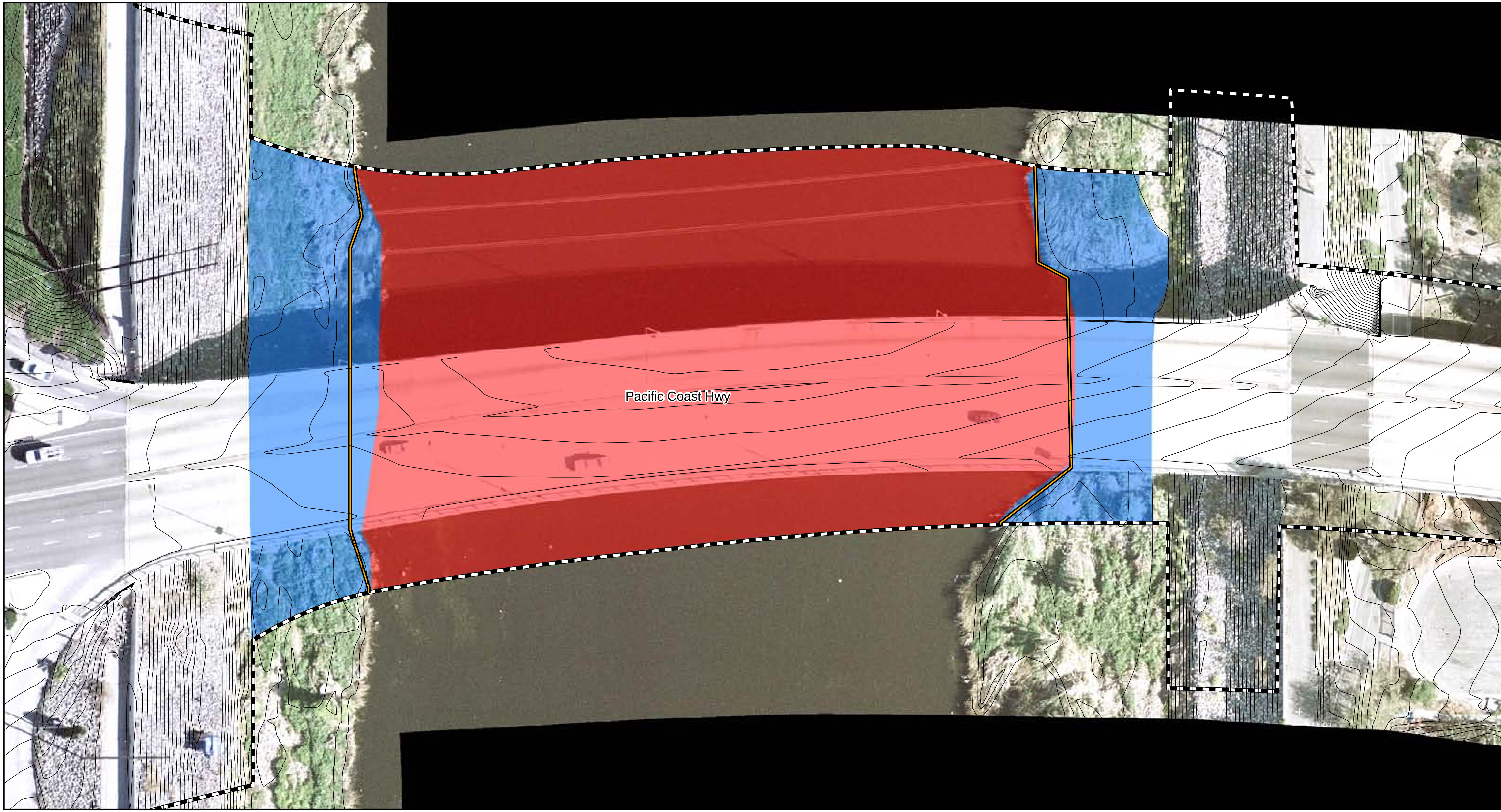


APPENDIX A
Sheet 15 of 15

I-710 Corridor Project
Jurisdictional Delineation
PM 4.9/24.9
EA 249900

APPENDIX B

PLAN-VIEW OF POTENTIAL USACE JURISDICTIONAL AREAS IN TIDAL WATERS



LSA

LEGEND

Biological Study Area

USACE Section 404 Potentially Jurisdictional Wetland Waters (Approximate elevation 7 ft)

USACE Section 404 Potentially Jurisdictional Non Wetland Waters

USACE Section 10 Potentially Jurisdictional Waters (Approximate elevation 4.5 ft)

1 ft Contours (starting at 5 ft)

0 25 50

FEET

SOURCE:

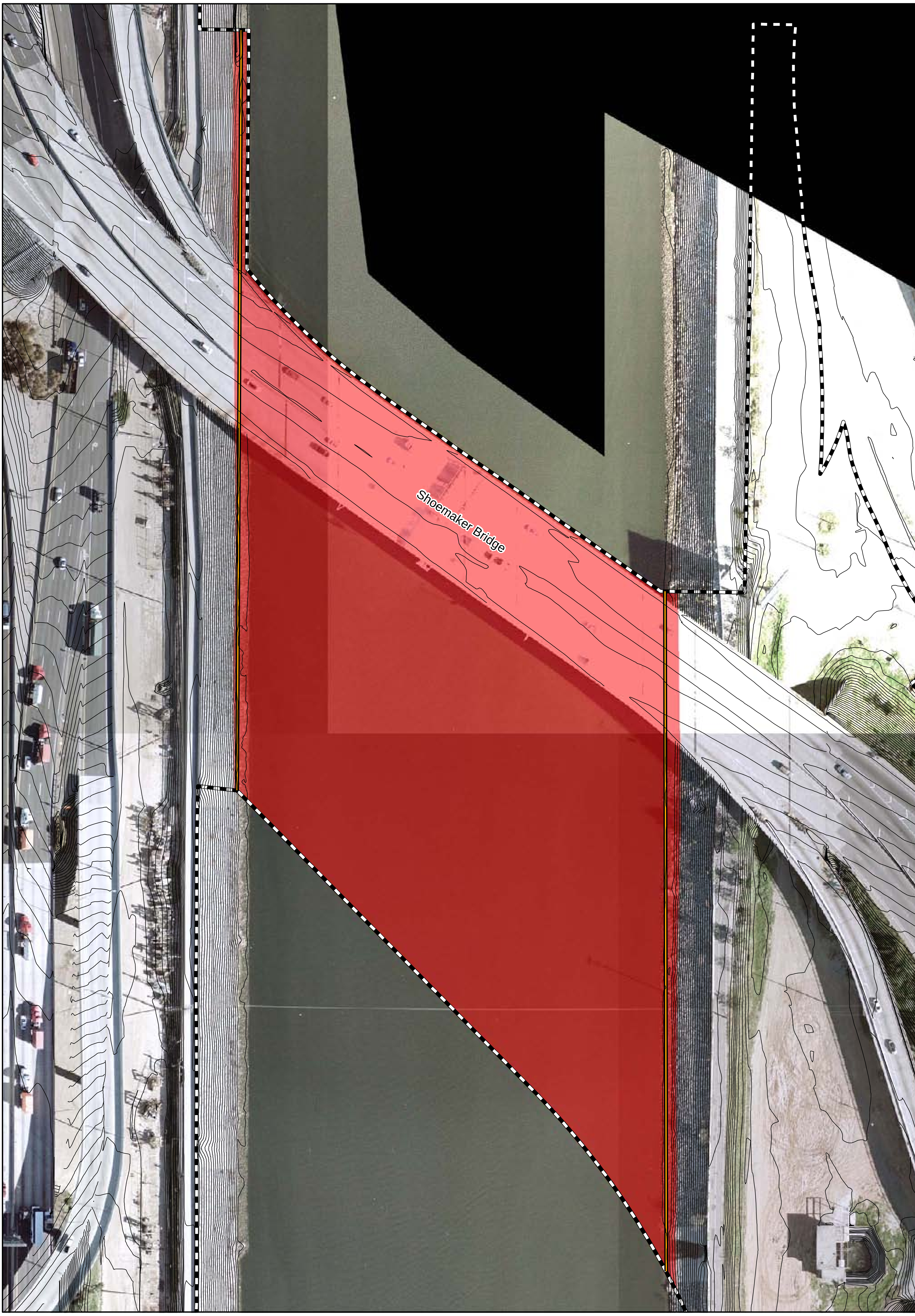
FIGURE

I-710 Corridor Project

USACE Jurisdictional Delineation
Detail at Pacific Coast Highway

PM 4.9/24.9
EA 249900

I:\URS0801A\GIS\BIO\JD_PCH_Detail.mxd (3/15/12)



LEGEND

Biological Study Area

USACE Section 404 Potentially Jurisdictional Wetland Waters

USACE Section 404 Potentially Jurisdictional Non Wetland Waters (Approximate elevation 7 ft)

USACE Section 10 Potentially Jurisdictional Waters (Approximate elevation 4.5 ft)

1 ft Contours (starting at 4 ft)

N

0 50 100

FEET

SOURCE:

FIGURE

I-710 Corridor Project

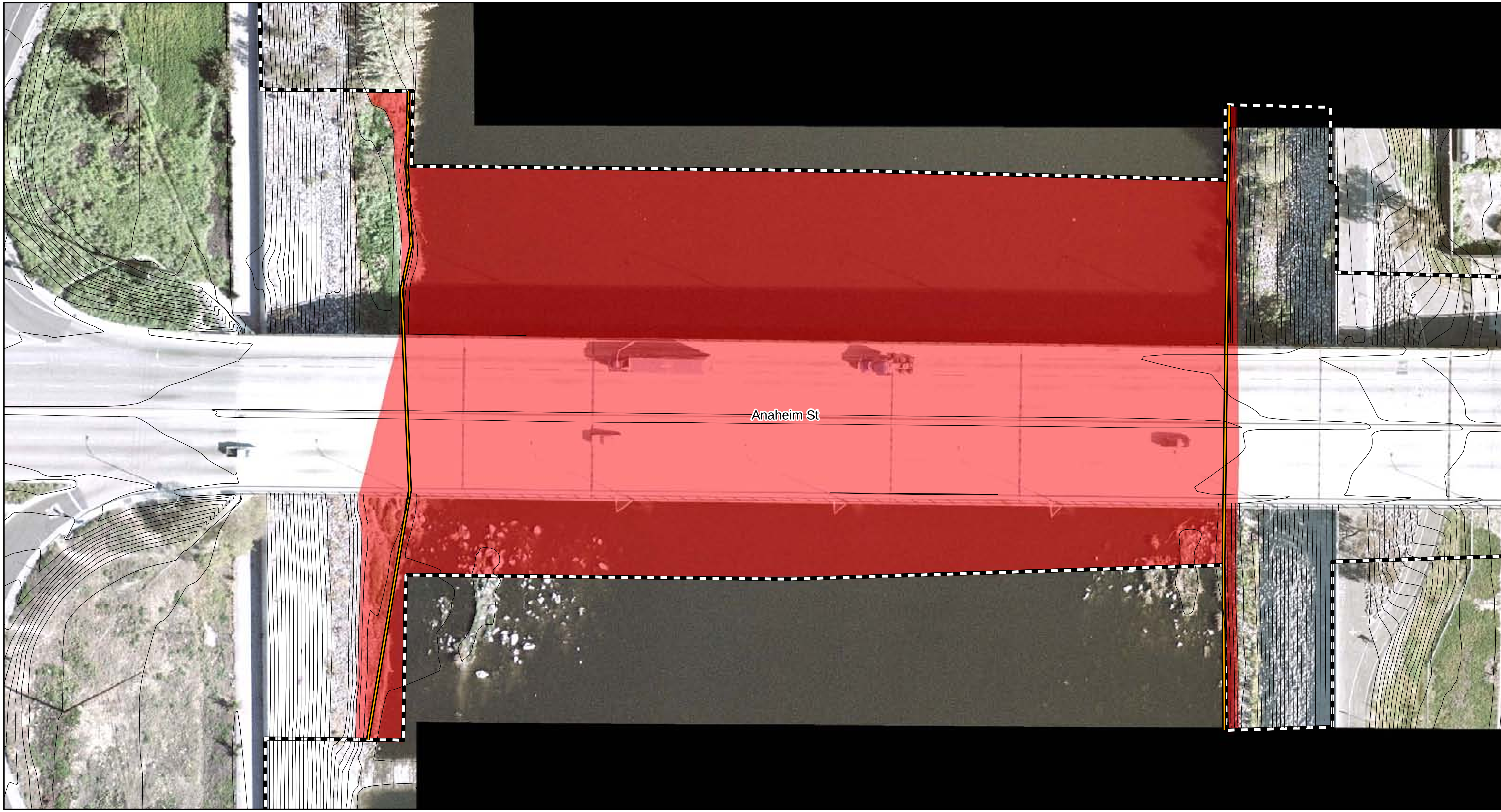
USACE Jurisdictional Delineation

Detail at Shoemaker Bridge

PM 4.9/24.9

EA 249900

I:\URS0801A\GIS\BIO\JD_Shoemaker_Detail.mxd (3/15/12)



LSA

LEGEND

Biological Study Area

USACE Section 404 Potentially Jurisdictional Wetland Waters

USACE Section 404 Potentially Jurisdictional Non Wetland Waters (Approximate elevation 7 ft)

USACE Section 10 Potentially Jurisdictional Waters (Approximate elevation 4.5 ft)

1 ft Contours (starting at 4 ft)

N

0 25 50

FEET

SOURCE:

I:\URS0801A\GIS\BIO\JD_Anaheim_Detail.mxd (3/15/12)

FIGURE

I-710 Corridor Project

USACE Jurisdictional Delineation

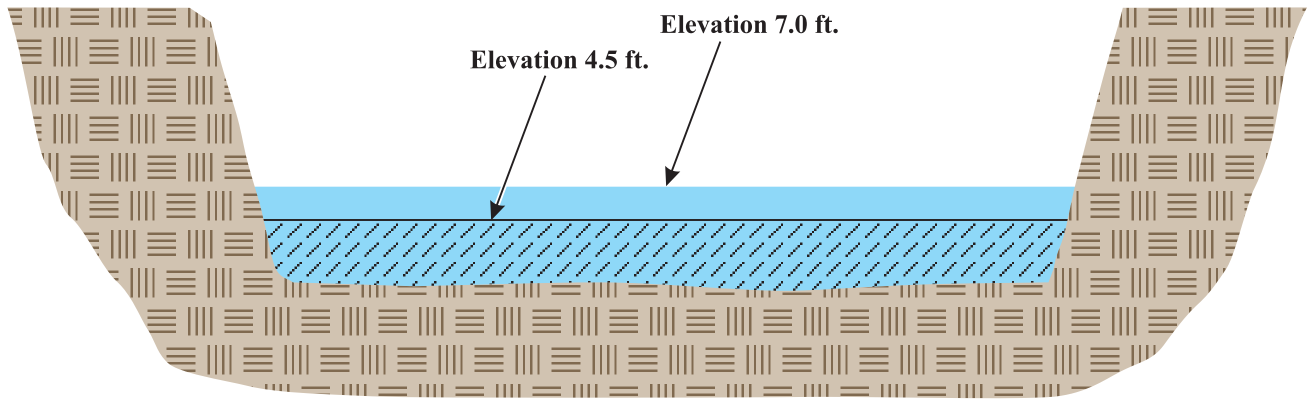
Detail at Anaheim St

PM 4.9/24.9

EA 249900

APPENDIX C

CROSS-SECTION VIEW OF POTENTIAL USACE JURISDICTIONAL AREAS IN TIDAL WATERS



Key Map

LEGEND

Highest Tide - Section 404 Jurisdiction

Mean High Water - Section 10 Jurisdiction

SCALE:
Vertical - 1" = 16'
Horizontal - 1" = 120'

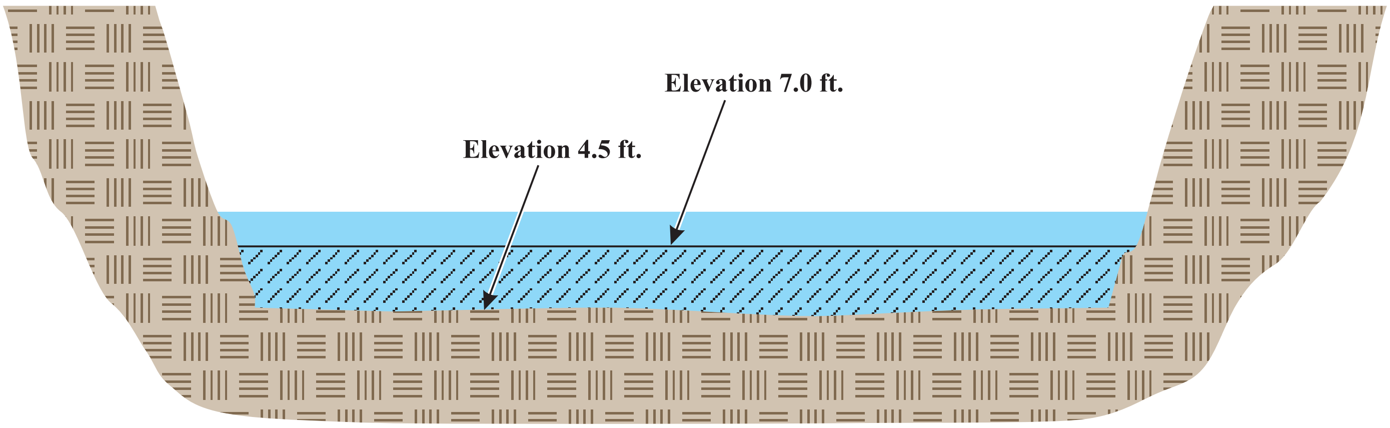
FIGURE 1

PRE-DELIBERATIVE DRAFT

I-710 Corridor Project

Los Angeles River
Cross Section at Shoemaker Bridge

I:\URS0801\G\LA River Cross Section-Shoemaker.cdr (3/19/12)



Key Map

LEGEND

Highest Tide - Section 404 Jurisdiction

Mean High Water - Section 10 Jurisdiction

SCALE:
Vertical - 1" = 16'
Horizontal - 1" = 120'

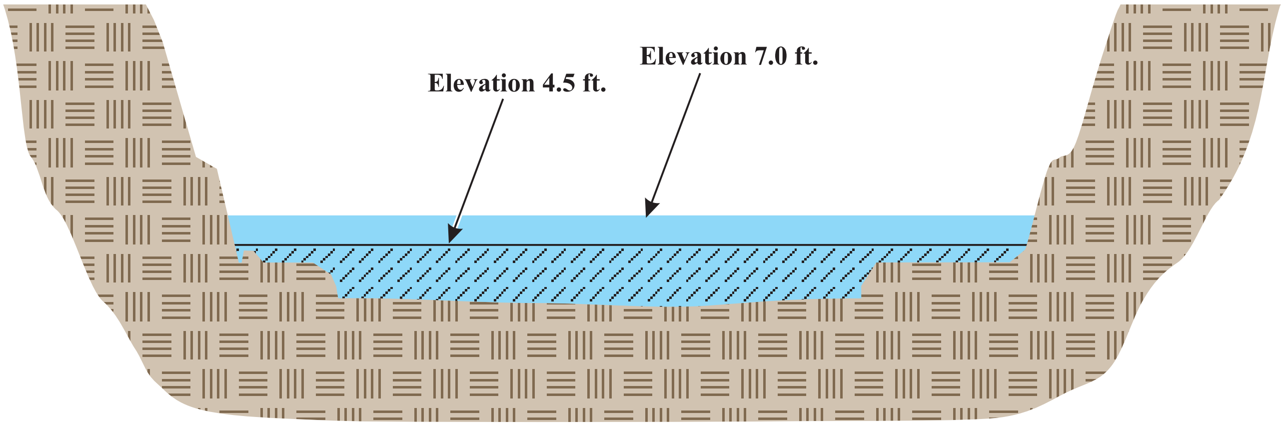
FIGURE 2

PRE-DELIBERATIVE DRAFT

I-710 Corridor Project

Los Angeles River
Cross Section at Anaheim Street Bridge

I:\URS0801\G\LA River Cross Section-Anaheim.cdr (3/16/12)



Key Map

LEGEND

FIGURE 3

PRE-DELIBERATIVE DRAFT

Highest Tide - Section 404 Jurisdiction

Mean High Water - Section 10 Jurisdiction

SCALE:
Vertical - 1" = 16'
Horizontal - 1" = 120'

I-710 Corridor Project

Los Angeles River
Cross Section at Pacific Coast Highway Bridge

I:\URS0801\G\LA River Cross Section-PCH.cdr (3/16/12)

APPENDIX D

COPIES OF WETLAND DATA FORMS

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: URS0801 710 City/County: LA Co Sampling Date: 8/12/09

Applicant/Owner: ______ State: ______ Sampling Point: SS12-1A

Investigator(s): Stan Spencer Section, Township, Range: ______

Landform (hillslope, terrace, etc.): channel w/ concrete sides Local relief (concave, convex, none): channel Slope (%): ______

Subregion (LRR): ______ Lat: ______ Long: ______ Datum: ______

Soil Map Unit Name: ______ NWI classification: ______

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

Are Vegetation ______, Soil ______, or Hydrology ______ significantly disturbed? Are "Normal Circumstances" present? Yes X 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 X	No ______
Hydric Soil Present?	Yes X	No ______
Wetland Hydrology Present?	Yes X	No ______

Is the Sampled Area within a Wetland? Yes X No ______

Remarks:
Pit location is ± 80' W of Bridge on N side of creek just inside water edge. (710 Southbound)

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ______)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
= Total Cover			
Sapling/Shrub Stratum (Plot size: ______)			
1.			
2.			
3.			
4.			
5.			
= Total Cover			
Herb Stratum (Plot size: ______)			
1. Typha sp.	20	Y	OBL
2. Schoenoplectus (Scirpus) californicus	30	Y	OBL
3. Ludwigia peploides	10	Y	OBL
4.			
5.			
6.			
7.			
8.			
= Total Cover	50		
Woody Vine Stratum (Plot size: ______)			
1.			
2.			
= Total Cover			

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

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (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:

X 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 X No ______

Remarks:
Water in center of channel is included in calculations of % cover because of floating Ludwigia covering ± 1/3 of the water.

SOIL

Sampling Point: 5512-1A

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-3	2.5Y 2.5/1						Sand	
3-9	10Y 3/1						silty clay loam	Gley

[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)
- X 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 X No ___

Remarks:

Inundated

HYDROLOGY

Wetland Hydrology Indicators:

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

- X 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)
- X 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 X No ___ Depth (inches): ___

Water Table Present? Yes ___ No ___ Depth (inches): ___

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

Wetland Hydrology Present? Yes X No ___

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

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: URS0801 710 City/County: LA Co Sampling Date: 8/12/09

Applicant/Owner: ______ State: CA Sampling Point: SS12-1B

Investigator(s): ______ Section, Township, Range: ______

Landform (hillslope, terrace, etc.): channel with concrete sides Local relief (concave, convex, none): ______ Slope (%): ______

Subregion (LRR): ______ Lat: ______ Long: ______ Datum: ______

Soil Map Unit Name: ______ NWI classification: ______

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

Are Vegetation ______, Soil ______, or Hydrology ______ significantly disturbed? Are "Normal Circumstances" present? Yes X 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 X	Is the Sampled Area within a Wetland? Yes ______ No X
Hydric Soil Present?	Yes X No ______	
Wetland Hydrology Present?	Yes Y No ______	

Remarks: Pit located ± 80' W of Bridge (710 Southbound) on N side of Creek, ± 5' out from SS12-1A

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: ______)			
1.			
2.			
3.			
4.			
= Total Cover			
Sapling/Shrub Stratum (Plot size: ______)			
1.			
2.			
3.			
4.			
5.			
= Total Cover			
Herb Stratum (Plot size: ______)			
1. Melilotus albus	65	Y	FACU
2. Helianthus annuus	15	N	FAC-
3. Conyza canadensis	10	N	FAC
4. Plantago lanceolata	5	N	FAC-
5. Raphanus sativus	5	N	UPL
6.			
7.			
8.			
= Total Cover	100		
Woody Vine Stratum (Plot size: ______)			
1.			
2.			
= Total Cover			

% Bare Ground in Herb Stratum <1% % 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: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species	0	x 1 = 0
FACW species	0	x 2 = 0
FAC species	.30	x 3 = .90
FACU species	.65	x 4 = 2.60
UPL species	.05	x 5 = .25
Column Totals:	1.0 (A)	3.75 (B)

Prevalence Index = B/A = 3.75

Hydrophytic Vegetation Indicators:

No 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)

No 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 X

Remarks:

SOIL

Sampling Point: ____________

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
0-7	7.5YR 3/2		7.5 YR 3/4	5	C	PL	Sand	55
7-10	10YR 5/3		7.5 YR 3/4	5	C	PL	Silty clay 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)
- X 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 X 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**)
- X 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 X No ______

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

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: URS0801 - I-710 Widening City/County: LA County Sampling Date: 8/17/09

Applicant/Owner: Caltrans State: ______ Sampling Point: ~~[illegible]~~ SB080701

Investigator(s): K. Yee, L. Delk, S. Barrera Section, Township, Range: ______

Landform (hillslope, terrace, etc.): Compton Creek Local relief (concave, convex, none): ______ Slope (%): ______

Subregion (LRR): C Lat: 33.8732° Long: -118.2173° Datum: WGS84

Soil Map Unit Name: ______ NWI classification: ______

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

Are Vegetation X, Soil X, or Hydrology ______ significantly disturbed? Are "Normal Circumstances" present? Yes X 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 X	
Hydric Soil Present?	Yes ______ No X	Is the Sampled Area within a Wetland? Yes ______ No X
Wetland Hydrology Present?	Yes ______ No X	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ______)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
= Total Cover			
Sapling/Shrub Stratum (Plot size: ______)			
1.			
2.			
3.			
4.			
5.			
= Total Cover			
Herb Stratum (Plot size: ______)			
1. Ricinus communis	50	X	FACU
2. Raphanus sativus	35	X	—
3. Arundo donax	7		FACW
4. Xanthium strumarium	15		FAC+
5. Symphyotrichum subulatum	1		FACW
6. Ipomoea sp.	4		
7.			
8.			
= Total Cover			
Woody Vine Stratum (Plot size: ______)			
1.			
2.			
= Total Cover			

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

Dominance Test worksheet:

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

Total Number of Dominant Species Across All Strata: 0 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species	0	x 1 = 0
FACW species	8	x 2 = 16
FAC species	15	x 3 = 45
FACU species	50	x 4 = 200
UPL species		x 5 =
Column Totals:	73 (A)	261 (B)

Prevalence Index = B/A = 261/73 = 3.58

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: SB080701

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-6	2.5Y3/1	100					Sandy loam	
0-12	2.5Y 3/1	100					sandy clay 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 X

Remarks:

Urban trash buried throughout soil layers

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 X

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

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: URS080 – I-710 Widening City/County: Los Angeles Sampling Date: 8/17/09

Applicant/Owner: Caltrans State: CA Sampling Point: SB080702

Investigator(s): K. Yee, S. Spencer, S. Barrera, L. Delk Section, Township, Range: ______

Landform (hillslope, terrace, etc.): Compton Ck. Local relief (concave, convex, none): none Slope (%): ______

Subregion (LRR): C Lat: 33.8728° Long: -118.2169° Datum: WGS84

Soil Map Unit Name: ______ NWI classification: ______

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 X	No ______
Hydric Soil Present?	Yes ______	No X
Wetland Hydrology Present?	Yes X	No ______

Is the Sampled Area within a Wetland? Yes ______ No X

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ______)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: ______)			
1.			
2.			
3.			
4.			
5.			
		= Total Cover	
Herb Stratum (Plot size: ______)			
1. Polypogon monspeliensis	20	Y	FACW-
2. Pseudognaphalium luteo-album	<1	N	FACW-
3. Cynodon dactylon	<1	N	FAC
4.			
5.			
6.			
7.			
8.			
	21	= Total Cover	
Woody Vine Stratum (Plot size: ______)			
1.			
2.			
		= Total Cover	

% Bare Ground in Herb Stratum 79 % 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 (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:

X 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 X No ______

Remarks:

SOIL

Sampling Point: SB080702

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 4/3		N/A				clay loam	
6-12	10YR 4/3		N/A				clay 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 X

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**)
- X 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 X No ___

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

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: URS0801 – I-710 Widening City/County: ______ Sampling Date: 08/26/09

Applicant/Owner: Caltrans State: ______ Sampling Point: SB082601

Investigator(s): S. Barrera, M. Lum Section, Township, Range: ______

Landform (hillslope, terrace, etc.): Channelized Creek Local relief (concave, convex, none): none Slope (%): ______

Subregion (LRR): C – Mediterranean Lat: 33.8468° Long: -118.2093° Datum: ______

Soil Map Unit Name: ______ NWI classification: ______

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 ______	Is the Sampled Area within a Wetland? Yes ✓ No ______
Hydric Soil Present?	Yes ✓	No ______	
Wetland Hydrology Present?	Yes ✓	No ______	

Remarks:
Compton Creek @ Del Amo, north of Bridge in wet area

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: ______)			
1.			
2.			
3.			
4.			
= Total Cover			
Sapling/Shrub Stratum (Plot size: ______)			
1.			
2.			
3.			
4.			
5.			
= Total Cover			
Herb Stratum (Plot size: ______)			
1. Picris echiodes	35	Y	FAC
2. Conyza canadensis	30	Y	FAC
3. Polygonum aviculare	2	N	—
4. Cyperus eragrostis	2	N	FACW
5. Raphanus sativus	2	N	—
6. Cotula coronopifolia	1	N	FACW
7.			
8.			
= Total Cover	72		
Woody Vine Stratum (Plot size: ______)			
1.			
2.			
= Total Cover			

% Bare Ground in Herb Stratum 28 % Cover of Biotic Crust ______

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	3	x 2 = 6
FAC species	65	x 3 = 195
FACU species		x 4 =
UPL species	3	x 5 = 45
Column Totals:	71 (A)	246 (B)

Prevalence Index = B/A = 3.46

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:
Vegetation is cleared annually for flood control purposes (Sept / Oct)

SOIL

Sampling Point: SB082601

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	Gley 1 3.5/10Y	100					fine 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: ___

Depth (inches): ___

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): 4"

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: URS0801 – I-710 Widening City/County: L.A. County Sampling Date: 8/26/09

Applicant/Owner: Caltrans State: CA Sampling Point: SB082602

Investigator(s): S. Barrera, M. Lum Section, Township, Range: ______

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

Subregion (LRR): C-Mediterranean Lat: 33.8468° Long: -118.2094° Datum: ______

Soil Map Unit Name: Tujunga Fine Sandy Loam NWI classification: Hydric

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

Remarks: Compton Ck @ Del Amo, northside in drier area

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: ______)			
1. —			
2.			
3.			
4.			
= Total Cover			
Sapling/Shrub Stratum (Plot size: ______)			
1. —			
2.			
3.			
4.			
5.			
= Total Cover			
Herb Stratum (Plot size: ______)			
1. Plantago ~~lanceolata~~ lanceolata	75	Y	FAC
2. Picris echioides	10	N	FAC
3.			
4.			
5.			
6.			
7.			
8.			
= Total Cover	85		
Woody Vine Stratum (Plot size: ______)			
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: ~~2~~ 1 (A)

Total Number of Dominant Species Across All Strata: ~~4~~ 1 (B)

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

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species	0	x 1 =
FACW species	0	x 2 =
FAC species	85	x 3 = 255
FACU species	0	x 4 =
UPL species	0	x 5 =
Column Totals:	85 (A)	255 (B)

Prevalence Index = B/A = 3.0

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: Vegetation in Compton Ck is cleared annually (Sept/Oct) for flood control, ∴ no shrub or tree development.

SOIL

Sampling Point: SB08 2402

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-2	7.5 YR 3/2	95	7.5 YR 3/4	5	C	M	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: ______

Depth (inches): ______

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

Remarks:

Soil is too compacted to dig deeper than 2". Reddish mottles, ~ ~~10~~ 5% observed in top 2" soil. Hydric determination based on soil map. Tujunga fine sandy loam = hydric

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:

Hydrology ~~was to~~ determined based on water staining on concrete bridge footing.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: URS0801 Hwy 710 City/County: LA Co. Sampling Date: 5/28/09

Applicant/Owner: ______ State: CA Sampling Point: SS28-1

Investigator(s): Stan Spencer, Robert Steers Section, Township, Range: ______

Landform (hillslope, terrace, etc.): depression Local relief (concave, convex, none): concave Slope (%): ±0

Subregion (LRR): ______ Lat: ______ Long: ______ Datum: ______

Soil Map Unit Name: ______ NWI classification: ______

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

Are Vegetation ___, Soil ___, or Hydrology ___ significantly disturbed? Are "Normal Circumstances" present? Yes X 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?		X	Is the Sampled Area within a Wetland? Yes ___ No X
Hydric Soil Present?		X	
Wetland Hydrology Present?	X		

Remarks:
Wetland Hydrology based on secondary indicators. No primary indicators observed.

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: ______)			
1.			
2.			
3.			
4.			
= Total Cover			
Sapling/Shrub Stratum (Plot size: ______)			
1.			
2.			
3.			
4.			
5.			
= Total Cover			
Herb Stratum (Plot size: ______)			
1. Persicaria lapathifolia	40	Y	OBL
2. Bassia hyssopifolia	50	Y	FAC
3. Polygonum aviculare	5	N	UPL
4. Amaranthus albus	1	N	FACU
5. Salsola tragus	1	N	FACU
6.			
7.			
8.			
= Total Cover	97		
Woody Vine Stratum (Plot size: ______)			
1.			
2.			
= Total Cover			

% Bare Ground in Herb Stratum 3 % 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: 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 X

Remarks:
*Prevalence Index not used because hydric soil indicators not present.

SOIL

Sampling Point: ___________

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-2							(silty)	mulch mixed with soil
2-8	2.5 YR 3/2		7.5 YR 4/4	1%			Loam	% redox too low for F8
8-12	10 YR 3/1		None				silty clay 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 X

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)
- X Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- X Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): ___________

Water Table Present? Yes _____ No X Depth (inches): ___________

Saturation Present? (includes capillary fringe) Yes _____ No X Depth (inches): ___________

Wetland Hydrology Present? Yes _____ No X

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

Remarks:

C2: Standing water present during previous (8/11/09) site visit.
C9: 2005 Aerial
Formerly a nursery (plants).

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: URS080' - I-710 Widening City/County: LA County Sampling Date: 9/4/09
Applicant/Owner: ______ State: CA Sampling Point: SB090401
Investigator(s): S. Barrera, R. Steers Section, Township, Range: ______
Landform (hillslope, terrace, etc.): LA River Local relief (concave, convex, none): none Slope (%): 0
Subregion (LRR): C Lat: 33.7904° Long: -118.2064 Datum: ______
Soil Map Unit Name: Tujunga Fine Sandy Loam NWI classification: Hydric
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 ______	**Is the Sampled Area within a Wetland?** Yes ✓ No ______
Hydric Soil Present?	Yes ✓ No ______	
Wetland Hydrology Present?	Yes ✓ No ______	

Remarks:
LA River @ PCH (Hwy 1) on northwest side of bridge. Conducted at outer edge of vegetation.

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: ______)			
1.			
2.			
3.			
4.			
= Total Cover			
Sapling/Shrub Stratum (Plot size: ______)			
1.			
2.			
3.			
4.			
5.			
= Total Cover			
Herb Stratum (Plot size: ______)			
1. Typha sp.	Y	20	OBL
2. Schoenoplectus californicus	Y	~~10~~ 12	OBL
3. Helianthus annuus	N	2	FAC-
4. Persicaria sp.	N	4	OBL
5. Atriplex triangularis	Y	12	FACW
6.			
7.			
8.			
= Total Cover	52		
Woody Vine Stratum (Plot size: ______)			
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: 3 (A)
Total Number of Dominant Species Across All Strata: 3 (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 Y No ______

Remarks:

SOIL

Sampling Point: SB090401

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks

[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: Asphalt/Large gravel chunks
Depth (inches): 2"

Hydric Soil Present? Yes ✓ No ___

Remarks:
Assumed hydric soils based on presence of hydric soils on soil map – Tujunga Fine Sandy Loam

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: UR30B01 - I-710 Widening City/County: LA County Sampling Date: 9/4/09

Applicant/Owner: Caltrans State: CA Sampling Point: SB090402

Investigator(s): S. Barrera, R. Stevens Section, Township, Range: ~~[illegible]~~

Landform (hillslope, terrace, etc.): LA River channel Local relief (concave, convex, none): none Slope (%): ______

Subregion (LRR): C Lat: 33.7904° Long: -118.2049° Datum: ______

Soil Map Unit Name: Tujunga Fine Sandy Loam NWI classification: ______

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

Remarks: L.A. River at PCH. Northeast side of channel

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ______)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
= Total Cover			
Sapling/Shrub Stratum (Plot size: ______)			
1.			
2.			
3.			
4.			
5.			
= Total Cover			
Herb Stratum (Plot size: ______)			
1. Atriplex triangularis	25	Y	FACW
2. Euthamnia	10	Y	OBL
3. Baccharis salicifolia	8	Y	FACW-
4. Ricinus communis	5	Y	FACU
5. Helianthus annuus	5	Y	FAC-
6. Lepidium latifolium	5	Y	FACW
7. Raphanus sativus	2	N	UPL
8.			
= Total Cover	~~58~~ 60		
Woody Vine Stratum (Plot size: ______)			
1.			
2.			
= Total Cover			

% Bare Ground in Herb Stratum ~~42~~ 40 % Cover of Biotic Crust ______

Remarks:

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 83% (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 ______

SOIL

Sampling Point: SB090402

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks

[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: Chunks of asphalt/gravel

Depth (inches): ______

Hydric Soil Present? Yes ✓ No ___

Remarks:

Can't dig deeper than 2". Moist soil >1" deep
Assumed hydric soils based on soil map data

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: UR30801- I-710 Widening City/County: LA County Sampling Date: 09/04/09
Applicant/Owner: Caltrans State: CA Sampling Point: SB090403
Investigator(s): S. Barrera, R. Steers Section, Township, Range: ______
Landform (hillslope, terrace, etc.): Detention Basin/Artificial Local relief (concave, convex, none): Concave Slope (%): ______
Subregion (LRR): C Lat: 33.8287° Long: -118.2062° Datum: ______
Soil Map Unit Name: Tujunga Fine Sandy loam NWI classification: Hydric
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:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ______)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
= Total Cover			
Sapling/Shrub Stratum (Plot size: ______)			
1.			
2.			
3.			
4.			
5.			
= Total Cover			
Herb Stratum (Plot size: ______)			
1. Xanthium strumarium	80		~~[illegible]~~ FAC
2. Persicaria sp.	10		OBL
3. Chamaesyce maculata	10		FACU
4. ~~[illegible]~~			
5.			
6.			
7.			
8.			
= Total Cover	100		
Woody Vine Stratum (Plot size: ______)			
1.			
2.			
= Total Cover			

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

Dominance Test worksheet:

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

Total Number of Dominant Species Across All Strata: 1 (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: SB090403

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
0-1	organic leaf litter. Dry, water-stained						~~sand~~	
1-12	10YR 8/2	88	5YR4/6	12	C	PL, M	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): ______

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: URS0801 - I-710 Widening City/County: LA County Sampling Date: 9/4/09
Applicant/Owner: Caltrans State: CA Sampling Point: SB090404
Investigator(s): S. Barrera, R. Steers Section, Township, Range: ______
Landform (hillslope, terrace, etc.): Artificial Basin Local relief (concave, convex, none): Concave Slope (%): ______
Subregion (LRR): C Lat: 33.8294° Long: -118.2062° Datum: ______
Soil Map Unit Name: Tujunga Fine Sandy Loam NWI classification: Hydric
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 ______	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.

Tree Stratum (Plot size: ______)	Absolute % Cover	Dominant Species?	Indicator Status
1. Salix goodingii	~~40~~ 20	Y	OBL
2.			
3.			
4.			
	20	= Total Cover	
Sapling/Shrub Stratum (Plot size: ______)			
1. ~~Schoenoplectus californica~~	~~80~~		
2.			
3.			
4.			
5.			
	~~80~~	= Total Cover	
Herb Stratum (Plot size: ______)			
1. Schoenoplectus californica	80	Y	OBL
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	80	= Total Cover	
Woody Vine Stratum (Plot size: ______)			
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: 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: SB090404

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
0-0.5	organic matter, slightly greasy							
0.5-5	7.5YR 2.5/1	98	5YR 4/6	2	C	PL	~~loamy~~ sandy loam	
5-14	2.5Y 4/2	98	10YR 5/6	2	C	M	loamy sand	

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: ______________________

Depth (inches): ______________________

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) faint
- ___ 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 E

FUNCTIONS AND VALUES ANALYSIS

Analysis of the Functions and Values of Wetlands and Other Waters

The following is an assessment of the functions and values attributable to the identified wetlands and other potential jurisdictional waters in the biological study area (BSA). All wetlands and other waters have some degree of functionality, and no single wetland can perform all of the functions considered below. The following functions are analyzed at low, moderate, or high value levels. Each drainage is analyzed in Table E-1 (below) based on the criteria outlined below.

Table E-1 Functions and Values of Drainages within the BSA

Drainage Number	Hydrologic Regime	Flood Storage and Flood Flow Modification	Sediment Retention	Nutrient Retention and Transformation	Toxicant Trapping	Social Significance	Wildlife Habitat	Aquatic Habitat
Los Angeles River*	Low/	High	Low/	Low/Moderate	Low/	Moderate/	Low/High	Low/High
1	Low	Moderate	Low	Low	Low	Low	Low	Low
2	Low	Moderate	Low	Low	Low	Low	Low	Low
3	Moderate	High	High	High	High	High	High	High
4	Low	Moderate	Low	Low	Low	Low	Low	Low
5	Low	Moderate	Low	Low	Low	Low	Low	Low
6	Moderate	High	Moderate	Moderate	Moderate	Low	Moderate	Moderate
7	Low	Low	Low	Low	Low	Low	Low	Low
8	Low	Moderate	Low	Low	Low	Low	Low	Low
9	Low	Low	Low	Low	Low	Low	Low	Low
10	Low	Low	Low	Low	Low	Low	Low	Low
11	Low	Low	Low	Low	Low	Low	Low	Low
12	Low	High	Low	Low	Low	Low	Low	Low
13	Low	High	Low	Low	Low	Low	Low	Low
14	Low	Low	Low	Low	Low	Low	Low	Low
15	Low	Low	Low	Low	Low	Low	Low	Low
16	Low	Moderate	Low	Low	Low	Low	Low	Low
17	Low	Low	Low	Low	Low	Low	Low	Low
18	Low	Low	Low	Low	Low	Low	Low	Low
19	Low	Low	Low	Low	Low	Low	Low	Low
20	Low	High	Low	Low	Low	Moderate	Low	Low

* The Los Angeles River exhibits the higher functions and values noted south of Willow St., where the channel has a natural bottom that allows development of wetlands, shorebird habitat, and high recreational opportunities.
BSA = biological study area

Hydrologic Regime

This function is the ability of a wetland or stream to absorb and store water below ground. The degree of this saturation is dependent on the soil composition and is affected by prior flooding events. For example, clay soils possess more pore space than sandy soils. However, the smaller pore size slows the rate at which water is absorbed and released, and therefore, clay soil has a lower capacity to store water than sandy soils. The storage of water below ground allows for the fluctuation between anaerobic and aerobic conditions that benefit environmental conditions necessary for microbial cycling.

Flood Storage and Flood Flow Modification

This function is determined based on the ability of a wetland or stream at which the peak flow in a watershed can be attenuated during major storm events and during peak domestic flows to take in surface water that may otherwise cause flooding. This is dependent on the size of the wetland or stream, the amount of water it can hold, and its location in the watershed. For instance, larger wetlands or streams that have a greater capacity to receive waters have a greater ability to reduce flooding. In addition, areas high in the watershed may have more ability to reduce flooding in downstream areas, but areas lower in the watershed may have greater benefits to a specific area. Vegetation, shape, and the configuration of the wetland or stream may also affect flood storage by dissipating the energy of flows during flood events.

Sediment Retention

Removal of sediment is the process that keeps sediments from migrating downstream. This is accomplished through the natural process of sediment retention and entrapment. This function is dependent on the sediment load being delivered by runoff into the watershed. Similar to above, the vegetation, shape, and configuration of a wetland will also affect sediment retention if water is detained for long durations, as would be the case with dense vegetation, a bowl-shaped watershed, or slow-moving water. This function would be demonstrated (i.e., high) if the turbidity of the incoming water is greater than that of the outgoing water.

Nutrient Retention and Transformation

Nutrient cycling consists of two variables: uptake of nutrients by plants and detritus turnover, in which nutrients are released for uptake by plants downstream. Wetland systems in general are much more productive with regard to nutrients than upland habitats. The regular availability of water associated with the wetland or stream may cause the growth of plants (nutrient uptake) and associated detritivores and generate nutrients that may be utilized by a variety of aquatic and terrestrial wildlife downstream.

TOXICANT TRAPPING

The major processes by which wetlands remove nutrients and toxicants are as follows: (1) by trapping sediments rich in nutrients and toxicants, (2) by absorption to soils high in clay content or organic matter, and (3) through nitrification and denitrification in alternating oxic and anoxic conditions. Removal of nutrients and toxicants is closely tied to the processes that provide for sediment removal.

SOCIAL SIGNIFICANCE

This is a measure of the probability that a wetland or stream will be utilized by the public because of its natural features, economic value, official status, and/or location. This includes its being utilized by the public for recreational uses, such as boating, fishing, birding, walking, and other passive recreational activities. In addition, a wetland or stream that is utilized as an outdoor classroom, is a location for scientific study, or is near a nature center would have a higher social significance standing.

WILDLIFE HABITAT

General habitat suitability is the ability of a wetland to provide habitat for a wide range of wildlife. Vegetation is a large component of wildlife habitat. As plant community diversity increases along with connectivity with other habitats, so does potential wildlife diversity. In addition, a variety of open water, intermittent ponding, and perennial ponding is also an important habitat element for wildlife.

AQUATIC HABITAT

The ability of a wetland or stream to support aquatic species requires that there be ample food supply, pool and riffle complexes, and sufficient soil substrate. Food supply is typically in the form of aquatic invertebrates and detrital matter from nearby vegetation. Pool and riffle complexes provide a variety of habitats for species diversity as well as habitat for breeding and rearing activities. Species diversity is directly related to the complexity of the habitat structure.

APPENDIX F

REPRESENTATIVE SITE PHOTOS

PHOTOGRAPH 1: *View of wetland area in Los Angeles River (Drainage 1) at Pacific Coast Highway, from north to south.*

PHOTOGRAPH 2: *View of concrete channel with little to no sediment in the Los Angeles River (Drainage 1) just north of Pacific Coast Highway, from west to east. This area is comparable to the majority of the Los Angeles River in the study area.*

PHOTOGRAPH 3: *View of a wetland sample plot conducted at the northern end of Drainage 4. Vegetation hydrology and soils all displayed wetland indicators.*

PHOTOGRAPH 4: *View of Compton Creek (Drainage 7) at Del Amo Boulevard showing indicators of wetland hydrology and hydrophytic indicator plant species.*

PHOTOGRAPH 5: *View of wetland area located in Compton Creek (Drainage 7) at SR-91.*

PHOTOGRAPH 6: *View of north end of Drainage 11, showing overgrowth of upland vegetation and lack of OHWM.*

PHOTOGRAPH 7: *View of the earthen swale in the cloverleaf at Firestone Boulevard and I-710 (Drainage 16) with no signs of OHWM. This swale is similar to those found within on and off-ramps throughout the study area.*

APPENDIX G

POTENTIAL USACE, CDFG, AND RWQCB JURISDICTIONAL AREAS BY DRAINAGE

Potential USACE, CDFG, and RWQCB Jurisdictional Areas by Drainage

Drainage Number	Description	USACE					CDFG		RWQCB	
		Likely Jurisdictional Status[1]	Section 404 Nonwetland Waters (acres)	Section 404 Wetland (acres)	Total Section 404 Area (acres)	Total Section 10 Area (acres)	Likely Jurisdictional Status	Total Potential Area (acres)	Likely Jurisdictional Status	Total Potential Area (acres)
-	Los Angeles River	Jurisdictional	122.657[1]	0.599	123.256[1]	10.900	Jurisdictional	168.4[1]	Jurisdictional	123.256[1]
1	Concrete ditch at bottom of slope	Jurisdictional	0.029	0.000	0.029	0.000	Jurisdictional	0.059	Jurisdictional	0.029
2	Concrete ditch at bottom of slope	Jurisdictional	0.038	0.000	0.038	0.000	Jurisdictional	0.115	Jurisdictional	0.038
3	Artificially created basin	Nonjurisdictional	0.000	0.000	0.000	0.000	Nonjurisdictional	0.000	Jurisdictional	8.940
4	Concrete ditch	Jurisdictional	1.036	0.000	1.036	0.000	Jurisdictional	1.429	Jurisdictional	1.036
5	Concrete ditch	Nonjurisdictional	0.000	0.000	0.000	0.000	Nonjurisdictional	0.000	Nonjurisdictional	0.000
6	Compton Creek	Jurisdictional	0.556	2.543	3.099	0.000	Jurisdictional	5.490	Jurisdictional	3.099
7	Earthen swale	Nonjurisdictional	0.000	0.000	0.000	0.000	Nonjurisdictional	0.000	Nonjurisdictional	0.000
8	Concrete ditch	Nonjurisdictional	0.000	0.000	0.000	0.000	Nonjurisdictional	0.000	Jurisdictional	0.000
9	Concrete ditch, no OHWM	Nonjurisdictional	0.000	0.000	0.000	0.000	Nonjurisdictional	0.000	Nonjurisdictional	0.000
10	Isolated freeway drainage	Nonjurisdictional	0.000	0.000	0.000	0.000	Nonjurisdictional	0.000	Nonjurisdictional	0.000
11	Concrete ditch, no OHWM	Nonjurisdictional	0.000	0.000	0.000	0.000	Nonjurisdictional	0.000	Nonjurisdictional	0.000
12	Rio Hondo	Jurisdictional	0.385	0.000	0.385	0.000	Jurisdictional	1.047	Jurisdictional	0.385
13	Rectangular concrete channel	Jurisdictional	0.983[1]	0.000	0.983[1]	0.000	Jurisdictional	0.983[1]	Jurisdictional	0.983[1]

Potential USACE, CDFG, and RWQCB Jurisdictional Areas by Drainage

Drainage Number	Description	USACE					CDFG		RWQCB	
		Likely Jurisdictional Status[1]	Section 404 Nonwetland Waters (acres)	Section 404 Wetland (acres)	Total Section 404 Area (acres)	Total Section 10 Area (acres)	Likely Jurisdictional Status	Total Potential Area (acres)	Likely Jurisdictional Status	Total Potential Area (acres)
14	Isolated earthen swale and erosional feature	Nonjurisdictional	0.000	0.000	0.000	0.000	Nonjurisdictional	0.000	Nonjurisdictional	0.000
15	Isolated freeway drainage	Nonjurisdictional	0.000	0.000	0.000	0.000	Nonjurisdictional	0.000	Nonjurisdictional	0.000
16	Concrete ditch	Nonjurisdictional	0.000	0.000	0.000	0.000	Nonjurisdictional	0.000	Nonjurisdictional	0.000
17	Upland concrete v-ditch	Nonjurisdictional	0.000	0.000	0.000	0.000	Nonjurisdictional	0.000	Nonjurisdictional	0.000
18	Upland concrete v-ditch	Nonjurisdictional	0.000	0.000	0.000	0.000	Nonjurisdictional	0.000	Nonjurisdictional	0.000
19	Concrete ditch	Nonjurisdictional	0.000	0.000	0.000	0.000	Nonjurisdictional	0.000	Nonjurisdictional	0.000
20	Rectangular concrete channel	Jurisdictional	0.869	0.000	0.869	0.000	Jurisdictional	0.869	Jurisdictional	0.869
		Total	**126.553**	**3.142**	**129.695**	**10.900**		**177.523**		**138.635**

[1] Includes jurisdictional review area outside BSA.

Metro

This page intentionally left blank

APPENDIX F
ESTUARINE RESOURCES ENVIRONMENTAL ASSESSMENT

This page intentionally left blank

ESTUARINE RESOURCES ENVIRONMENTAL ASSESSMENT FOR THE INTERSTATE 710 CORRIDOR PROJECT
COUNTY OF LOS ANGELES, CALIFORNIA

Prepared for

Metro

Los Angeles County
Metropolitan Transportation Authority

January 2010

Prepared by:

LSA

LSA Associates, Inc.
20 Executive Park, Suite 200
Irvine, CA 92614

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

LIST OF ACRONYMS AND ABBREVIATIONS

ACOE	United States Army Corps of Engineers
BMP	Best Management Practice
BNSF	Burlington Northern Santa Fe (Railroad)
Caltrans	California Department of Transportation
CDFG	California Department of Fish and Game
CEQA	California Environmental Quality Act
DPS	Distinct Population Segment
EFH	Essential Fish Habitat
ESA	Federal Endangered Species Act of 1973
FOLAR	Friends of the Los Angeles River
FR	Federal Register
GCCOG	Gateway Cities Council of Governments
HAPC	Habitat Areas of Particular Concern
I-5	Interstate 5
I-710	Interstate 710
JPA	Joint Powers Authority
LPS	Locally Preferred Strategy
LSA	LSA Associates, Inc.
MBC	MBC Applied Environmental Sciences, Inc.
MCS	Major Corridor Study
Metro	Los Angeles County Metropolitan Transportation Authority
MLLW	mean lower low water
MMPA	Federal Marine Mammal Protection Act of 1972
MSA	Migratory Species Act
NEPA	National Environmental Policy Act
NMFS	National Marine Fisheries Service
NOAA	National Oceanic and Atmospheric Administration
POLA	Port of Los Angeles
POLB	Port of Long Beach
ppt	parts per thousand
SAFETEA-LU	Safe, Accountable, Flexible, Efficient Transportation Equity Act-A Legacy for Users
SCAG	Southern California Association of Governments
SR-60	State Route 60
UP	Union Pacific (Railroad)

1.0 INTRODUCTION

1.1 Project Purpose and Background

This analysis focuses on the estuarine communities of the Los Angeles River between Willow Street and Queensway Bay and the potential effects of structural modifications, relocation, and/or replacement of four bridges that span the Los Angeles River at Shoemaker Bridge, Anaheim Street, Pacific Coast Highway, and Willow Street within the City of Long Beach, California. These modifications are proposed for the Interstate 710 (I-710) Corridor Project.

1.1.1 Background

I-710, also known as the Long Beach Freeway, is a major north-south interstate freeway connecting the City of Long Beach to central Los Angeles. Within the I-710 Corridor Project study area, the freeway serves as the principal transportation connection for goods movement between the Ports of Los Angeles (POLA)/Long Beach (POLB), located at the southern terminus of the freeway, and the Burlington Northern Santa Fe/Union Pacific (BNSF/UP) Railroad railyards in the cities of Commerce and Vernon. The I-710 Major Corridor Study (MCS), undertaken to address the I-710 mobility and safety needs and to explore possible solutions for transportation improvements, was completed in March 2005 and identified a community-based Locally Preferred Strategy (LPS) consisting of ten general purpose lanes next to four separated freight movement lanes. The Los Angeles County Metropolitan Transportation Authority (Metro), the California Department of Transportation (Caltrans), the Gateway Cities Council of Governments (GCCOG), the Southern California Association of Governments (SCAG), POLA, POLB, and the Interstate 5 Joint Powers Authority (I-5 JPA) are collectively known as the I-710 Corridor Project Funding Partners. These agencies are collectively funding the preparation of preliminary engineering and environmental documentation for the proposed I-710 Corridor Project to evaluate improvements along the I-710 Corridor from Ocean Boulevard in the City of Long Beach to State Route 60 (SR-60). The I-710 Funding Partners are committed to conducting this engineering and environmental study effort within the same broad, continuous community participation framework that was used for the MCS.

The environmental impacts of the I-710 Corridor Project will be assessed and disclosed in compliance with both the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA). Caltrans is the Lead Agency for CEQA, and is the lead federal agency for NEPA pursuant to Section 6005 of the Safe, Accountable, Flexible, and Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) (23 United States Code [USC] 327).

The purpose of the proposed I-710 Corridor Project is to achieve the following within the I-710 Corridor:

- Improve air quality and public health
- Improve traffic safety
- Address design deficiencies of the I-710 mainline
- Address projected traffic volumes
- Address projected growth in population, employment, and activities related to goods movement

The need for the proposed I-710 Corridor Project is as follows:

- I-710 experiences high heavy-duty truck volumes, resulting in high concentrations of diesel particulate emissions within the I-710 Corridor.
- I-710 experiences an accident rate that is well above the statewide average for freeways of this type.
- At many locations along I-710, the curves of on- and off-ramps do not meet current design standards and weaving sections between interchanges are of insufficient length.
- High volumes of both trucks and cars have led to traffic congestion throughout most of the day (6:00 a.m. to 7:00 p.m.) on I-710 as well as on the connecting freeways. This is projected to worsen over the next 25 years.
- Increases in population, employment, and goods movement between now and 2035 will lead to more traffic demand on I-710 and on the streets and roadways within the I-710 Corridor as a whole.

1.1.2 Estuarine Project Study Area

The overall I-710 Corridor Project study area includes the portion of I-710 from Ocean Boulevard in Long Beach to SR-60, a distance of approximately 18 miles. As part of the project, four bridges will either be realigned or improved between Willow Street and Queensway Bay (Figure 1). The estuary between these two locations encompasses the study area for this Estuary Analysis. The location of each of the four bridges is shown on Figures 2 through 5.

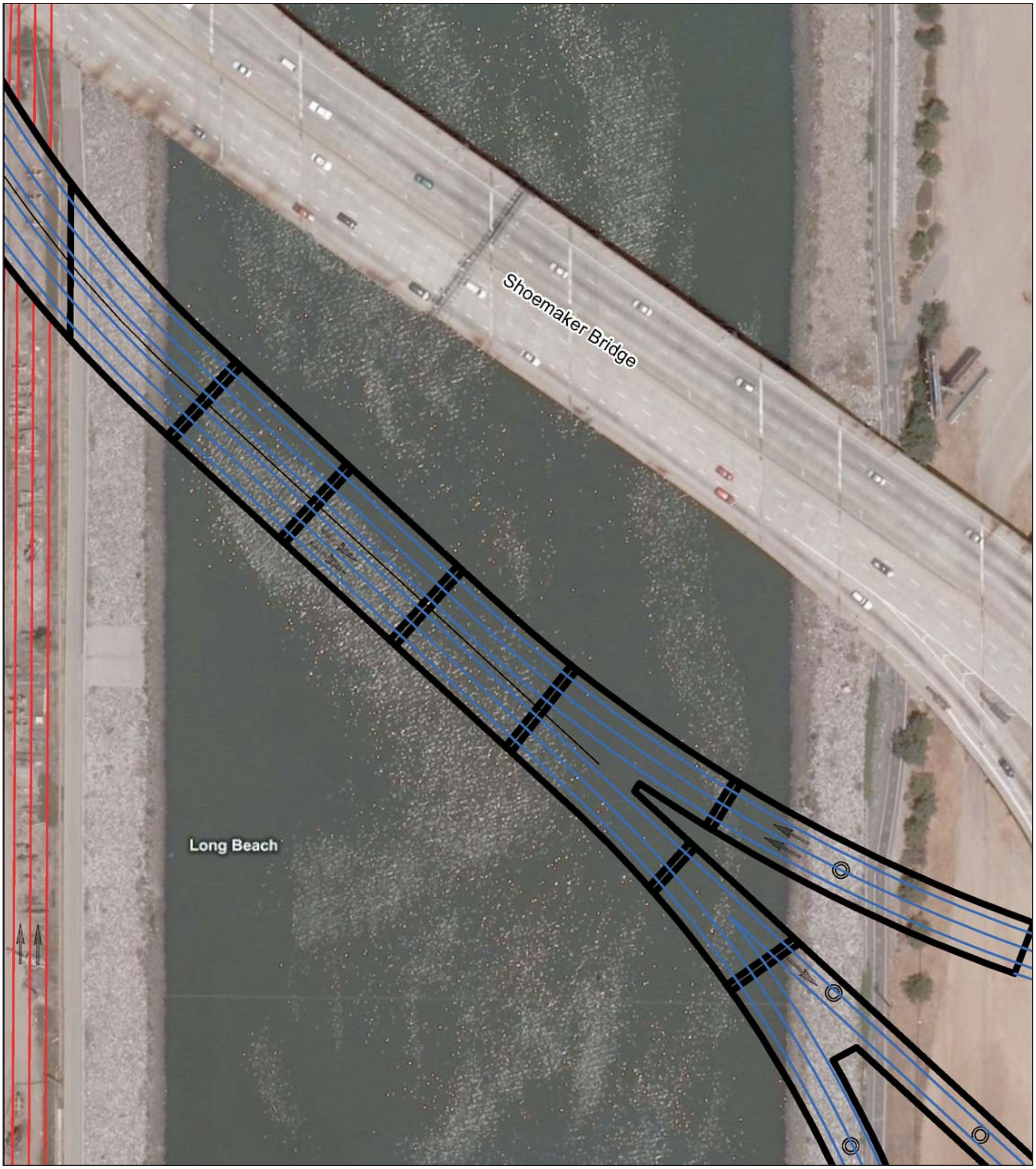
FIGURE 1

N

I-710 Corridor Project
Estuary Analysis
Estuarine Study Area for the I-710 Corridor Project

SOURCE: Google

I:\URS0801\G\Bio\Estuarine Study\Estuarine Study Area.cdr (1/20/10)



LEGEND

Collector/Distributor and Ramp Geometrics

Freight Corridor Geometrics

Mainline Geometrics - All Build Alternatives

N

0 50 100

FEET

SOURCE: Bing (2008)

FIGURE 2

I-710 Corridor Project
Estuary Analysis
Shoemaker Bridge (7th Street)

I:\URS0801\G\Bio\Estuarine Study\Shoemaker Bridge.cdr (1/20/10)

LEGEND

Collector/Distributor and Ramp Geometrics

Freight Corridor Geometrics

Mainline Geometrics - All Build Alternatives

N

0 50 100

FEET

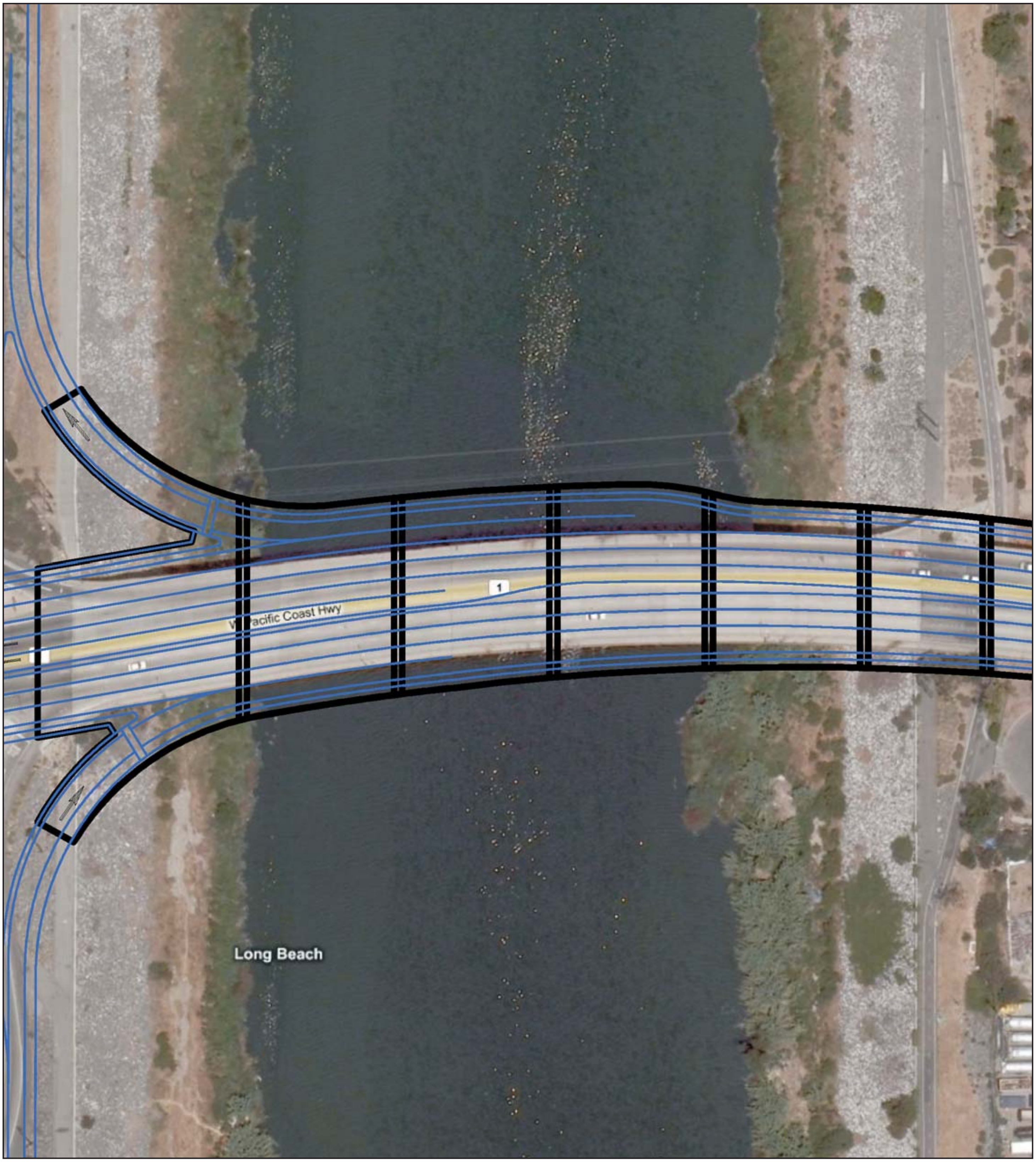
SOURCE: Bing (2008)

FIGURE 3

I-710 Corridor Project
Estuary Analysis

Anaheim Street Bridge

I:\URS0801\G\Bio\Estuarine Study\Anaheim Street Bridge.cdr (1/20/10)



N

0 50 100
FEET

SOURCE: Bing (2008)

LEGEND

Collector/Distributor and Ramp Geometrics

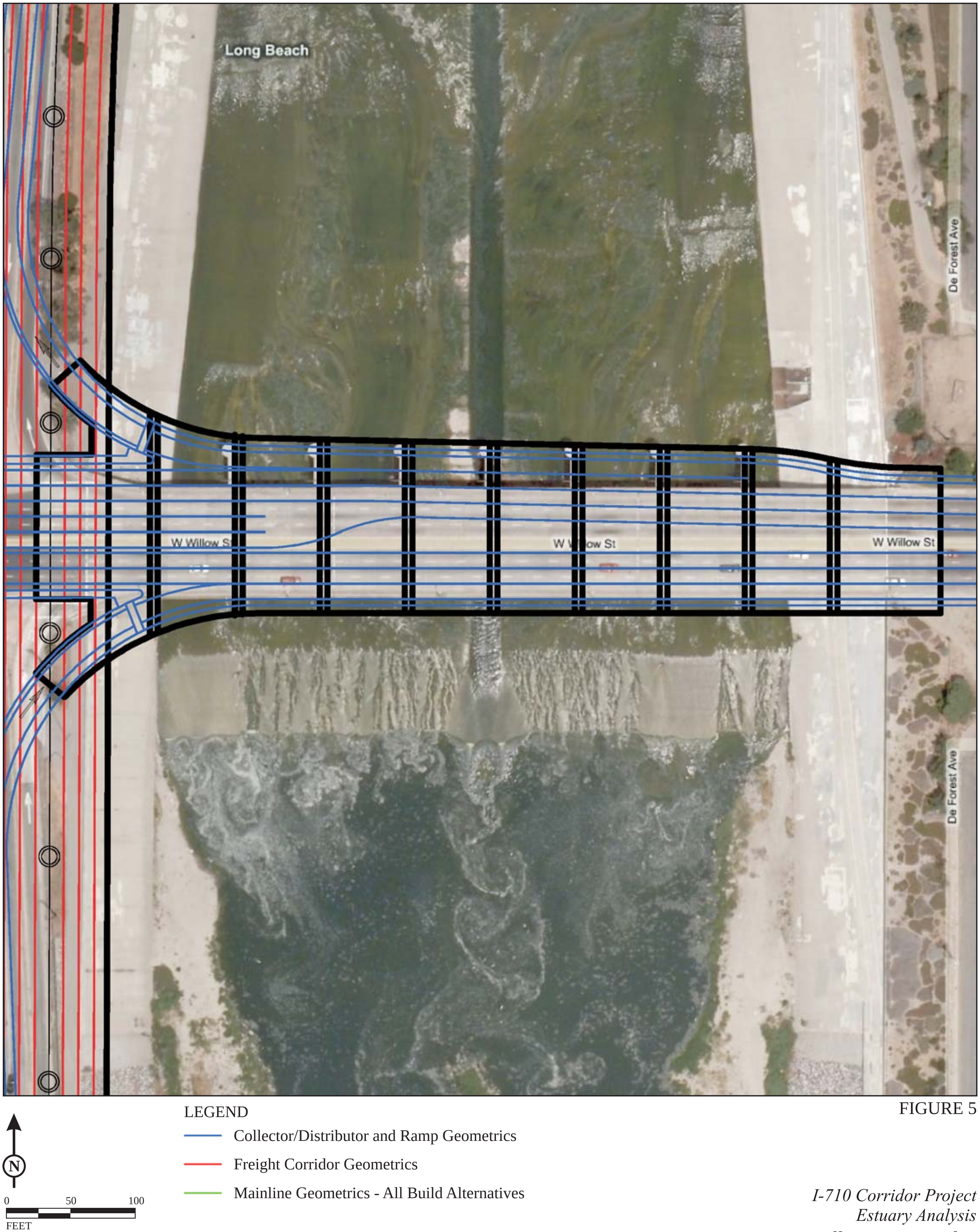
Freight Corridor Geometrics

Mainline Geometrics - All Build Alternatives

FIGURE 4

I-710 Corridor Project
Estuary Analysis
Pacific Coast Highway Bridge

I:\URS0801\G\Bio\Estuarine Study\PCH Bridge.cdr (1/20/10)



SOURCE: Bing (2008)

LEGEND

Collector/Distributor and Ramp Geometrics

Freight Corridor Geometrics

Mainline Geometrics - All Build Alternatives

FIGURE 5

I-710 Corridor Project
Estuary Analysis
Willow Street Bridge

I:\URS0801\G\Bio\Estuarine Study\Willow Street Bridge.cdr (1/20/10)

1.1.3 Historical Perspective

The following is an excerpt from the Los Angeles County Department of Public Works website[1] :

> The Los Angeles River Watershed covers a land area of over 834 square miles from the eastern portions of the Santa Monica Mountains, Simi Hills, and Santa Susana Mountains to the San Gabriel Mountains in the west. The watershed encompasses and is shaped by the path of the Los Angeles River, which flows from its headwaters in the mountains westward to the northern corner of Griffith Park, where the channel turns southward through the Glendale Narrows before it flows across the coastal plain and into San Pedro Bay near Long Beach. The Los Angeles River, which once flowed freely over the coastal plain, was channelized between 1914 and 1970 to control the runoff and reduce the impacts of major flood events in the region. Prior to 1923, the Los Angeles River emptied into the Cerritos Channel in Inner Los Angeles Harbor (Harbors Environmental Project 1973). Today, the Los Angeles River is lined on 47.9 miles of its 51-mile length. Along much of its course, the Los Angeles River had intermittent flows during much of the year prior to channelization. In addition, many of its tributaries did not reach the Los Angeles River except during storm events. The current flow in the Los Angeles River is effluent-dominated, with approximately 80 percent of its flow originating at dischargers and the remaining flow coming from storm drain runoff and groundwater reaching the surface. The Los Angeles River enters San Pedro Bay at Queensway Bay in the southwestern corner of the City of Long Beach.
>
> The major tributaries of the Los Angeles River include Burbank Western Channel, Pacoima Wash, Tujunga Wash, and Verdugo Wash in the San Fernando Valley; and the Arroyo Seco, Compton Creek, and Rio Hondo south of the Glendale Narrows. The Los Angeles River Watershed has 22 lakes within its boundaries, including Devil Gates Dam, Hansen Basin, Lopez Dam, Pacoima Dam, and Sepulveda Basin. In addition, there are a number of spreading grounds in the watershed, including sites at Dominguez Gap, the Headworks, Hansen Dam, Lopez Dam, and Pacoima Dam. The Los Angeles River is hydraulically connected to the San Gabriel River through the Whittier Narrows Reservoir, although this occurs primarily during large storm events.

[1] http://ladpw.org/wmd/watershed/LA/

2.0 EXISTING CONDITIONS

2.1 RIVER CHARACTERISTICS

2.1.1 Depth, Flow Rates, Salinity, and Temperature

River depths vary depending on flow rates and the section of the Los Angeles River. During low-flow periods, the depths in the lower Los Angeles River estuary vary from less than three feet to ten feet. Comparatively, the depth in Inner Queensway Bay (near the Queen Mary) is about 30 feet (MBC Applied Environmental Sciences, Inc. [MBC] 1994). Upstream in the Glendale Narrows area, depths in the channel are approximately five to seven feet (Friends of the Los Angeles River [FOLAR] 2008).

During the low-flow periods, the flow in the Los Angeles River is primarily from wastewater treatment plant outflows (i.e., from both the Sepulveda Basin and Glendale Narrows areas (FOLAR 2008). During flooding events, flow velocities increase substantially from the various creeks that empty into the Los Angeles River (e.g., Rio Hondo and Compton Creek). FOLAR measured rates from 15 to 20 feet per second to up to 30 feet per second during storm events (FOLAR 2008). During high-flow storm events, the near-freshwater characteristics of the Los Angeles River flow also reduce the salinity within the lower reaches of the Los Angeles River for short periods of time.

Tidal influence extends to at least as far north as Willow Street (MBC 1994). Therefore, the range in seasonal salinity within the I-710 Corridor Lower Los Angeles River Estuarine Biological Study Area (hereafter referred to as estuarine study area) is likely to extend between near-freshwater to near-marine (0 to 33 parts per thousand [ppt]). The estuarine character of the Lower Los Angeles River is reflected in seasonal water quality monitoring conducted by MBC (1994). In fall 1994, a lens of low-salinity water was present, with surface salinities as low as 28 ppt in the Los Angeles River and 32.2 ppt in Inner Queensway Bay. In winter 1994, following substantial rainfall in the Los Angeles Basin, salinity was even lower in the lower reach of the Los Angeles River (24.3 ppt), and the freshwater lens covered the entire Queensway Bay study area to depths of seven to 13 feet, averaging 30.8 ppt at the surface. In the summer, Los Angeles River Stations 1 and 2 (between Queensway Bridge and Ocean Boulevard) exhibited lower salinities than other Outer Queensway Bay Stations. Low salinities extended to the bottom in the Los Angeles River, whereas they were restricted to surface waters in Queensway Bay.

Water temperatures exhibit normal seasonal variation within the Los Angeles River estuary area (MBC 1994). Surface water temperatures at Los Angeles River Stations 1 and 2 varied from 15.8 degrees Celsius (February 1990) to 22.8 (June 1994), while bottom water temperatures ranged from 15.1 to 21.8 degrees Celsius during the same time periods.

2.1.2 Bottom Features

The Los Angeles River estuary between Willow Street and Queensway Bay in Long Beach has a natural, soft-bottom environment consisting of sands and muds for the last three miles before emptying into San Pedro Bay. MBC (1994) noted that in-River sediments were approximately 95 percent fine-to-coarse sands halfway between Ocean Boulevard and Queensway Bridge and approximately 20 percent medium-to-fine sands and 80 percent silts and clays south of Queensway Bridge at the estuary's mouth. Much of the sediment load carried by the Los Angeles River is deposited in Queensway Bay. The Los Angeles River mouth is dredged periodically and the dredged materials are deposited at beaches to the south, where they are transported even further downcoast by littoral drift (MBC 1994).

Upstream, however, the substrate is much different. For example, in the area of the Glendale Narrows—an approximately eight-mile stretch of natural-bottom river that extends from Riverside Drive near Griffith Park to the Figueroa Bridge in Cypress Park—the substrate is approximately 80 percent boulders, large rocks, and cobble; the remaining 20 percent is gravel and sand (FOLAR 2008). Islands of sand, rock, or silt are occasionally found upstream of Willow Street and can be colonized by riparian plants, which are covered during flood periods. These islands either shift positions or are washed away during high-flow events.

LSA Associates, Inc. (LSA) biologists Richard Erickson and Rick Ware conducted a site reconnaissance survey within the estuarine study area on October 1, 2009. Unconsolidated boulder-to-silt substrates supported riparian vegetation along the estuarine study area shoreline primarily between Willow Street and Pacific Coast Highway (Figures 2–4 and 6). South of this point, the cover of riparian habitat decreased and protective riprap cover increased along much of the Los Angeles River's waterline between Anaheim Street and Shoemaker Bridge (Figures 7 and 8). This riprap along the Los Angeles River bank provides habitat for rocky intertidal plants and invertebrates, and foraging habitat for shorebirds and marsh birds. Man-made structures (dikes and weirs) and boulders within the Los Angeles River provide roosting habitat for seabirds, shorebirds, and water fowl during low-flow periods (Figure 9).

Figure 6 - Riparian habitat south of Pacific Coast Highway (October 1, 2009).

Figure 7 - Riprap shoreline south of Shoemaker Bridge (October 1, 2009).

FIGURES 6 & 7

Figure 8 - Protective riprap at the water's edge.

Figure 9 - In-estuary roosting habitat at Anaheim Street Bridge (October 1, 2009).

FIGURES 8 & 9

2.2 Biological Environment

The estuarine study area extends between Queensway Bay on the south and Willow Street on the north (Figure 1) and consists of several habitat types. Intertidal habitats extend from the extreme low to extreme high water mark (-1.2 to +7.0 feet mean lower low water [MLLW]). Portions of these shoreline types are exposed to both air and water during the tidal cycle. The types of habitats in this zone include mudflat and hardscape (quarry rock and cobble riprap, bridge abutments, and cemented river banks) that support intertidal plants and invertebrates. Habitats below the extreme low-tide zone are "subtidal" and are never exposed. Estuarine study area subtidal habitats include unconsolidated, soft-bottom sands and muds that constitute the majority of the estuary's bottom. Isolated boulders and submerged portions of bridge abutments are also colonized by benthic (bottom-dwelling) invertebrates. The estuary's water column is the third major habitat type, supporting plankton and fish. A City of Long Beach man-made marsh (Golden Shore Marine Reserve) is located at the extreme southeast section of the Los Angeles River estuary, 0.15 mile south of Ocean Boulevard (Figure 10).

2.2.1 Rocky Intertidal

The hard substrate of riprap, bridge abutments, weirs, and other structures provides surface area for sessile marine animals and plants and mobile macro-invertebrates that would not be present in the absence of these structures. The hardscape of these structures supports mussels, barnacles, sponges, and other types of invertebrates and plants that constitute the "biofouling community."[1] Fishes and birds are attracted to the biofouling habitat because it is a constant source of food along the Los Angeles River's bank.

The estuarine-rocky intertidal in the Los Angeles River is not a sensitive habitat because of the highly variable salinity and temperature regimes and the presence of river-borne sediments that silt over the low-lying riprap. Based on field surveys conducted on October 1, 2009, the rocky intertidal lining of the estuary is species-poor and consists of low to high cover of barnacles (*Balanus amphitrite* and *B. glandula*; Figure 11) and mussels (*Mytilus galloprovincialis* and *Geukensia demissa*; Figure 12), a covering of filamentous green algae (*Ulva* spp.), and a filamentous red algae turf. Barnacles and other organisms are also found on the bridge abutments (Figure 13). Tubes of polychaete worms were visible on the undersides of rocks. The abundance and diversity of these species decrease within increasing brackish and freshwater conditions.

---

1 Biofouling refers to the accumulation of microorganisms, plants, algae, and/or animals on wetted structures.

Figure 10 - Golden Shores Marine Preserve, facing south (October 1, 2009).

Figure 11 - Clusters of barnacles on a sediment-covered riprap apron lining the river estuary's shoreline.

FIGURES 10 & 11

Figure 12 - Mussels (*Mytilus* and *Geukensia*) on riprap south of Shoemaker Bridge (7th Street) mixed with sediments on the rocky shoreline.

Figure 13 - Base of the bridge abutment at Anaheim Street, showing colonization by barnacles and other fouling species of invertebrates.

FIGURES 12 & 13

2.2.2 Benthic Infauna

The benthic invertebrate community of estuaries, bays, and harbors, and open ocean environments is made up of a complex of species that live on the sediment surface (epibenthic) or in the soft-bottom sediments (infauna). Within estuarine areas, organisms are found in a range of sediment regimes from fine to coarse, and have affinities to both offshore benthic communities and coastal bay and to harbor communities that live in finer sediments and areas of restricted water circulation. While the majority of benthic invertebrates obtain their nutrition by consuming organic detritus, some graze on diatoms and algae or actively prey on other invertebrates. In turn, bottom-feeding fishes and resident soft-bottom-dwelling fishes (e.g., gobies, juvenile flatfish, and sand bass [*Morone chrysops*]) rely on these benthic organisms as food sources.

Common types of benthic organisms that are associated with bay and estuarine sediments include flatworms, amphipod crustaceans, crabs, snails, clams, polychaete worms (capitellids, spionids, cirratulids, and ophelliids), oligochaete worms, and brittle stars. Sediment physical and chemical characteristics, water column properties, tidal circulation, storm water runoff and other contaminant sources, and embayment configuration all play a role in determining the types of benthic organisms present as well as where these organisms live.

Los Angeles River Benthic Communities. Benthic infaunal sampling was conducted at five stations in the fall and winter and ten stations in the summer by MBC in 1994 using a hand-operated box-corer. Stations 1 and 2 were located in the Los Angeles River estuary. Station 1 was located 0.3 mile south of the Ocean Avenue Bridge. Station 2 was located 0.5 mile south of the Queensway Bridge. Infaunal density and biomass were high in the Los Angeles River and generally decreased from Inner Queensway Bay to Outer Queensway Bay (MBC 1994). Species richness at Station 1 ranged between 24 and 56 species, while the number of species at Station 1 varied between 13 and 27 species.

Generally, species richness increased with distance from the Los Angeles River, although more species were present at Station 1 during February than at other stations in Queensway Bay. Species richness and abundance increased from fall to summer, except at Station 3 in Queensway Bay, where abundance declined, and at Station 2, at the lower end of the Los Angeles River, where species richness declined. For the most part, the increases were areawide and appear to be due to natural seasonal variation. In winter, the number of species at Station 1 was exceptionally high, probably due to recruitment of opportunistic species following dredging.

The polychaete annelids *Capitella capitata* , *Cossura candida* , *Prionospio lig hti*, and *Mediomastus* spp. were present in all three surveys and were the most abundant of the “core” species (i.e., those that persist and characterize the habitat). These four species are common in confined embayments in southern California. *Capitella* and other abundant opportunistic species (*Pseudopolydora paucibranchiata* , *Polydora ligni* , oligochaetes, harpacticoid copepods, and two species of amphipods, *Corophium insidio sum*, and *C. acherusicum*), typical of areas with high organic loading, low dissolved oxygen, and substrate disturbance, were found almost exclusively in the Los Angeles River. *Prionospio lighti* and *Mediomastus* spp. are more generalist in that they occur in a wide range of habitats but prefer semiprotected locations. They were found throughout the MBC 1994 study area, although they were most abundant in Queensway Bay.

The community at Shoreline Lagoon resembled that in Queensway Bay, although clams (*Theora lubrica* and *Tagelus calif orniensis*) were more abundant. Other locations in Queensway Bay were intermediate in nature, with affinities either to the Los Angeles River (*Capitella capitata* and *Polydora ligni* being dominant) or Outer Queensway Bay (abundant *Cossura candida*).

Benthic macro-invertebrates were incidentally collected in the Los Angeles River at Station 2 during beam trawl and otter trawl fish surveys. In beam trawl collections, four species were collected. Ghost shrimp (*Neotrypaea* sp.) dominated the invertebrate catch, while nassid snails (*Nassa* sp.) and purple shore crabs (*Pachygrapsus crassipes*) were collected in low numbers. Otter trawls taken in the Los Angeles River at Station 2 collected six species of benthic invertebrates. The catch was dominated by blackspotted bay shrimp (*Crangon nigromaculata*) and tuberculate pear crabs (*Pyromaia tuberculata*).

Benthic infaunal sampling was not conducted in the Los Angeles River north of the Ocean Avenue Bridge. Based on studies of other estuarine and riverine areas in southern California, it can be inferred that the diversity and abundance of marine and estuarine species within the Los Angeles River estuary decreases with increasing distance away from Queensway Bay, and the diversity and abundance of brackish water and freshwater invertebrates increases with increasing freshwater influence (Marine Biological Consultants and Southern California Coastal Water Research Project 1980; Coastal Resources Management, Inc. 2006). Numbers and richness of oligochaete worms, insect larvae, and freshwater clams likely increase in upstream reaches of the Los Angeles River where freshwater influence is more consistent.

2.2.3 Fishes

Ichthyoplankton (fish eggs and larvae) was sampled by MBC for the 1994 MBC Study in the Lower Los Angeles River and in Outer Queensway Bay near the bottom and in the water column in the fall and winter. Overall, Queensway Bay provided a semiprotected habitat for small and juvenile fish. The ichthyoplankton of the Los Angeles River MBC 1994 study area varied both spatially and seasonally in terms of both composition and abundance. Gobies

(Gobiidae), northern anchovy (*Engraulis mordax*), and white croakers (*Genyonemus lineatus*) were the most abundant larval ichthyoplankton in both the fall and winter. Gobies were more abundant in the Los Angeles River, while northern anchovy and white croaker were more abundant in Outer Queensway Bay. Other eggs and larvae collected in the Los Angeles River included spotted turbot (*Pleuronichthys ritteri*), hornyhead turbot (*P. verticalis*), California lizard fish (*Synodus lucioceps*), and California tonguefish (*Symphurus atriacaudus*). Overall, icthyoplankton species richness and density were higher in the winter, due primarily to an increase in the number of cheekspot goby (*Illypnus gilberti*) in the Los Angeles River. Cheekspot goby normally occur in lagoons and shallow embayments, whereas queenfish (*Seriphus polit us*) prefer nearshore habitats with somewhat deeper water. California tonguefish are found over mud or sandy bottoms at varying depths. Juvenile cheekspot goby, arrow goby (*Clevelandia ios*), and California halibut (*Paralichthys californicus*) were collected in the Lower Los Angeles River zone.

Although beach seines were not set within the enclosed Golden Shores Marine Preserve, beach seines set nearby the estuarine study area in the Shoreline Lagoon collected an abundance of shallow-water species typically found within bay environments: topsmelt (*Atherinops affinis*), cheekspot goby, arrow goby, and diamond turbot (*Hypsopsetta guttulata*). This indicates that these species may also be present within the channels of the Golden Shores Marine Preserve.

Thirteen species of demersal (bottom-associated) fish were collected in the Lower Los Angeles River at Station 2. Dominant species included white croaker, queenfish, northern anchovy, and slough anchovy (*Anchoa delicatissima*). Additionally, pelagic (water column) species caught by using lampara nets in Inner Queensway Bay included high numbers of Pacific sardine (*Sardinops sagax*) and Pacific pompano (*Peprilus simillimus*).

Overall, the pelagic fish assemblage in Queensway Bay was similar to those found in previous surveys in Outer Long Beach Harbor and Queensway Bay (MBC 1984a) and was dominated by northern anchovy, queenfish, Pacific sardine, white croaker, and Pacific pompano.

Bay and estuarine fish will be found within the lower reach of the Los Angeles River based on the degree and interaction of both tidal and fresh water influence. Since tidal influence extends to approximately as far north as Willow Street, some members of the estuarine fish community and the demersal and pelagic fish community are expected to be present, but the diversity and abundance of these groups are expected to be low compared to Queensway Bay.

At the opposite end of the salinity spectrum, the freshwater fish and invertebrate community have the potential to extend to the Lower Los Angeles River project area during extended periods of heightened freshwater flow. During the LSA October 1, 2009, Lower Los Angeles River field reconnaissance survey, six carp (*Cyprinus carpio*) were observed 655 feet south of the Pacific Coast Highway Bridge, over an apron of rock riprap (Figure 14). The plant community on the banks of the Los Angeles River included mulefat (*Baccharis salicifolia*), rush (*Juncus* spp.), and cattails (*Typha* spp.).

FOLAR (2008) examined the freshwater fish community makeup in the Glendale Narrows area, an approximately eight-mile stretch of natural-bottom river that extends from Riverside Drive near Griffith Park to the Figueroa Bridge in Cypress Park. The catch consisted of eight species of fishes, bullfrog (*Rana catesbiana*; larvae [tadpoles]), and red swamp crayfish (*Procambarus clarki*). The fish species collected included 83 fathead minnow (*Pimephales promelas*); 58 carp; 24 black bullhead (*Ameiurus melas*); seven Amazon sailfin catfish (*Pteroplichthys pardalis*); 688 mosquitofish (*Gambusia affinis*); 92 green sunfish (*Lepomis cyanellus*); one largemouth bass (*Micropterus salmoides*); and 271 tilapia (*Oreochromis* sp). Some of these species have a potential to be present in the estuarine study area during and following periods when the Lower Los Angeles River is under the influence of heavy runoff.

2.3 ESSENTIAL FISH HABITAT

This assessment of Essential Fish Habitat (EFH) for the I-710 Corridor Project is being provided in conformance with the 1996 amendments to the Magnuson-Stevens Fishery Management and Conservation Act (Federal Register [FR] 62, 244; December 19, 1997). The 1996 amendments to the Magnuson-Stevens Act set forth a number of new mandates for the National Marine Fisheries Service (NMFS), eight regional fishery management councils, and other federal agencies to identify and protect important marine and anadromous fish habitat. The councils, with assistance from NMFS, are required to delineate EFH for all managed species. Federal action agencies that fund, permit, or carry out activities that may adversely impact EFH are required to consult with NMFS regarding the potential effects of their actions on EFH, and respond in writing to the NMFS recommendations. Impacts to Habitat Areas of Particular Concern (HAPC) are described in the regulations as subsets of EFH that are rare; particularly susceptible to human-induced degradation, especially ecologically important habitats; or located in an environmentally stressed area, including estuaries and eelgrass.

The I-710 Corridor Project within Queensway Bay and the lower reaches of the Los Angeles River is located within an area designated as EFH for Coastal Pelagic FMP species (Pacific Fishery Management Council [PFMC] 1998) and Pacific Groundfish FMP species (PFMC 2008). Species managed under the Highly Migratory Species Fisheries Management Plan

Figure 14 - A school of six Carp present 655 feet south of the Pacific Coast Highway Bridge on October 1, 2009 (Source: LSA Associates, Inc.).

Figure 15 - Eelgrass (*Zostera marina*) "shoot" and cluster of "blades" arising from the shoot (considered a "Turion Unit")

FIGURES 14 & 15

(FMP) may have EFH within the project area but EFH has not been designated for these species under the Migratory Species Act (MSA). In addition, because these are highly mobile species, they are likely to be transient rather than stationary within the estuarine study area. Salmonids have designated EFH under the Pacific Salmonid Management Plan, but it is highly unlikely that they would occur in the estuarine study area and, therefore, they are not considered. Four coastal pelagic finfish species managed under the FMP are known to occur within San Pedro Bay (Table 1a). Northern anchovy and Pacific sardine compose a significant portion of nearshore otter trawl catches and contribute moderately to the nearshore fish biomass of the nearshore area of San Pedro Bay (MBC 1997). They ranked highest in abundance during six of the 11 monitoring surveys between 1972 and 1997 offshore of the San Gabriel River and were never ranked lower than the fifth most abundant species. Northern anchovy compose a portion of the commercial bait fishery in San Pedro Bay. This species is a planktivore, and is preyed upon by larger fish and seabirds. Larvae of northern anchovy are also part of the Queensway Bay ichthyofauna and ichthyoplankton community.

Three Pacific groundfish FMP species have the potential to be present in Queensway Bay (Table 1b): leopard shark (*Triakis semifasciata*), spiny dogfish shark (*Squalus acanthias*), and California scorpionfish (*Scorpaena guttata*). These species have been reported within Queensway Bay, each with very low occurrences. The potential presence of groundfish species occurring within the estuarine study area is low due to a lack of suitable habitat. Of the three species that may occur in the estuarine study area (Table 1b) all are expected to be rare or absent within the riverine habitat.

Table 1a: Coastal Pelagic Management Plan Species Potentially Affected by the Interstate 710 Corridor Project

Common Name	Scientific Name	Comment
Northern anchovy	*Engraulis mordax*	Abundant in Queensway Bay and Lower Los Angeles River.[4] Common to abundant during each of 11 surveys between 1972 and 1997. Second most abundant species overall offshore. Adult and larvae present in area.[1,2,3]
Pacific sardine	*Sardinops sagax*	Dominant catch in Queensway Bay.[4] Present during 6 of 11 surveys, low to moderate abundance. Mid-ranked in abundance compared to other species. Mostly adults in the general area.[1,2]
Pacific mackerel	*Scomber japonicus*	Present in Queensway Bay.[1] Incidental catch at depths shallower than 30 feet. Present in one survey (1997). Predominantly adults in project area.[1,2,3]
Jack mackerel	*Trachurus symmetricus*	Incidental catch at depths shallower than 30 feet. Present during one survey (1994). Predominantly adults in project area.[1,2,3] Present in Queensway Bay.[4]

Sources: [1] MBC Applied Environmental Sciences, Inc., 1997.
[2] MEC Analytical Systems, Inc., 1988.
[3] MEC Analytical Systems, Inc., 1999.
[4] MBC Applied Environmental Sciences, Inc., 1994.

Table 1b: Pacific Groundfish Managed Species Potentially within the Project Area

Common Name	Scientific Name	Comment
Leopard shark	*Triakis semifasciata*	Uncommon in Queensway Bay.
Spiny dogfish shark	*Squalus acanthias*	Uncommon in Queensway Bay.
California scorpionfish	*Scorpaena guttata*	Incidental catch in Queensway Bay, although it is more commonly found in open coastal environs rather than bays and estuaries.

Source: MBC Applied Environmental Sciences, Inc., 1994.

2.4 SENSITIVE SPECIES

2.4.1 Eelgrass (*Zostera Marina*)

Eelgrass is considered an HAPC and a subset of EFH under 1996 amendments to the Magnuson-Stevens Fishery Management and Conservation Act (FR 62, 244; December 19, 1997). This seagrass provides habitat and structure for benthic invertebrates and organisms that live on the protruding blades and shoots (Figure 15). Common invertebrates that live on this species of seagrass include anemones (*Epiactis* sp. and *Bunodeopsis* sp.), flatworms, polychaete worms, snails (*Alia cari nata*), gammarid amphipods, and caprellid amphipods (Coastal Resources Management, Inc. 2009). These, in turn, are fed upon by fishes that forage in the eelgrass beds.

Eelgrass canopy (consisting of shoots and blades approximately two to three feet long) attracts many marine invertebrates and fishes. The vertical relief of the vegetation enhances the abundance and the diversity of the marine life compared to areas where the sediments are barren (Phillips 1984; MBC 1986; Hoffman 1986, 1990, 1991). The vegetation also serves a nursery function for many juvenile fishes, including species of commercial and/or sports fish value (California halibut and barred sand bass). A diverse community of bottom-dwelling invertebrates (i.e., clams, crabs, and worms) lives within the soft sediments that cover the root and rhizome mass system. Eelgrass meadows are critical foraging centers for seabirds (such as the endangered California least tern [*Sterna antillarum*]) that seek out juvenile topsmelt attracted to the eelgrass cover. Finally, eelgrass is an important contributor to the detrital (decaying organic) food web of bays as the decaying plant material is consumed by many benthic invertebrates (such as polychaete worms) and reduced to primary nutrients by bacteria.

Eelgrass is not known to occur in the Los Angeles River, although detailed bottom surveys of this region have not been conducted. It is a eurysaline species and can live in a wide range of saline regimes, although it prefers estuarine-to-marine salinities (Phillips 1984).

Eelgrass is present along the Long Beach shoreline between Junipero Avenue and 1st Street east of the Downtown Marina (Coastal Resources Management, Inc. 2009), approximately two miles east of the Ocean Boulevard bridge within the estuarine study area, at depths between -2 and -8 feet MLLW. It actively competes with the red algae *Gracilariopsis* for light and space throughout this stretch of nearshore shallow-water habitat.

While their presence is not documented within Queensway Bay and the Los Angeles River, other species of eelgrass have a very low potential to be in the area. A wide-bladed eelgrass (*Zostera pacifica)* is known to occur along the outer coast of Santa Barbara County and the Channel Islands (Coyer et al. 2007), while a second species, dwarf eelgrass (Zostera japonica), is an invasive and is native to Asia. It threatens to upset the natural balance of California's wetlands throughout California and is therefore a species of interest to CDFG. It has been found in Humboldt Bay (Frimodig and Ramey 2009; Foss et al. 2007).

2.4.2 Fishes

California Grunion (*Leuresthes tenuis*). This fish species is not a formally listed species but is considered sensitive because of its beach spawning activity and potential impacts from beach disturbances such as beach cleaning and beach nourishment. This species is also an important forage fish for several species that are protected or regulated. It uses the high intertidal sandy beach habitat of many southern California beaches as spawning habitat. Grunion lay their eggs in the wet beach sands during the highest spring tides from late February/early March to as late as early September (Walker 1952). This species was collected in Shoreline Park within Queensway Bay (MBC 1994) and is known to spawn along the Long Beach shoreline between the Downtown Marina and Alamitos Bay Peninsula. It is unlikely to occur within the Los Angeles River.

Steelhead Trout (*Onchorynchus mykiss*). Steelhead trout is a federally listed endangered species and California State Species of Special Concern. It is also one of the species listed in the Pacific Salmonid Management Plan. The steelhead trout is an anadromous seagoing rainbow trout that lives approximately two to four years of its life (this period varies greatly) in the open ocean prior to returning to the stream where it was spawned. It is dependent on small, clear-flowing, but not rapid, streams with gravel beds to complete its spawning cycle. The area must also have protective cover and an adequate food source. Steelhead populations are declining because of impacts to their habitat such as dams, turbidity, and other habitat incursions.[1]

Except for the colonization of a small population in San Mateo Creek in northern San Diego County, steelhead trout appear to have been completely extirpated from nearly all systems

[1] National Marine Fisheries Service, http://www.nmfs.noaa.gov/pr/species.

in the southern portion of the range of the Distinct Population Segment (DPS) from Malibu Creek to the Mexican border.[1] They do not occur within the Los Angeles River watershed.

Tidewater Goby (*Eucyclogobius newberryi).* The tidewater goby is a federally listed endangered species that has been expatriated from many southern California creek mouths. It is currently found in shallow marine areas and lower reaches of streams from San Diego northward to Humboldt County waters, where salinity is less than 10 ppt (United States Fish and Wildlife Service [USFWS] 1995). The population of tidewater goby is depleted due to reduced or eliminated flows in the lower reaches of coastal streams; pollution; and the filling in, channelization, and other physical alteration of their habitats. The population disappeared from approximately 74 percent of the coastal lagoons from Morro Bay southward to San Diego (USFWS 1995). Habitat conducive to tidewater gobies is absent from Alamitos Bay. It is not present within the Los Angeles River.

California Halibut. Although it does not have a formal special status, the California halibut is considered a sensitive species by resource agencies because of its commercial value and a continued regionwide reduction of its nursery habitat in bays and wetlands. California halibut spawn at sea, and the species' larval stages are planktonic. After several months, larval fish settle to the bottom and migrate into shallow coastal waters. Young-of-the-year fish (YOTY) prefer shallow waters between approximately -1.5 feet and -3.5 feet MLLW, whereas juveniles prefer deeper channel bottoms to a maximum depth of approximately -15 feet MLLW. After spending nearly nine months in coastal embayments, juveniles move out into the open coastal environment Bay (Horn and Allen 1981; Allen 1976b, 1986). The species uses the inshore waters of bays, harbors, and estuaries as nursery and foraging habitat. Larval-to-juvenile halibut are known to occur within Queensway Bay and within the lower reaches of the Los Angeles River (MBC 1994).

2.4.3 Reptiles

Sea Turtles. Several species of federally listed threatened and endangered sea turtles could potentially occur in the nearshore open water habitats surrounding Alamitos Bay. There are no known nesting beaches for these species in the United States, but they have been observed off the coast of southern California (California State Lands Commission 1998). These species include the endangered leatherback sea turtle (*Dermochelys coriacea*), the threatened green sea turtle (*Chelonia m ydas*), the loggerhead sea turtle (*Caretta caretta*), and the olive ridley sea turtle *(Lepodochelys olivacea*).

In the eastern North Pacific, green turtles have been sighted from Baja California to southern Alaska, but most commonly occur from San Diego south. Occasionally, green sea

[1] National Marine Fisheries Service, http://www.nmfs.noaa.gov/pr/species.

turtles have been found offshore of Orange County and Los Angeles County, north of their more common southerly range limit due to movement during warmer-water El Nino periods (Coastal Resources Management 2007a and 2007b; pers. comm. with Eric Wilson, EDAW, Inc.). Green sea turtles have been reported in the San Gabriel River, where they encounter the warmer, discharged waters of the power generating facilities located farther up the Los Angeles River.

There is no evidence that these species breed in southern California or within the estuarine study area. Green turtles are mostly herbivorous. They spend most of their time feeding on algae in the sea and seagrasses that grow in shallow waters. As juveniles, they eat plants and other organisms such as jellyfish, crabs, sponges, snails, and worms. As adults, they are strictly herbivorous (Ernst 1994; Crite, J. 2000).

Green sea turtles have been stranded or sighted along the Long Beach shoreline and the vicinity of Alamitos Bay. In October 2004, there were three green sea turtles stranded in the Belmont Shore area and one green sea turtle stranded in the Treasure Island Marina area. In October 2006, the Long Beach Aquarium attached a satellite transmitter to a green sea turtle that had live-stranded in Long Beach. The turtle was tracked south to the San Clemente area and then turned around and headed back north to the Long Beach area, where it remained for several weeks, presumably foraging on eelgrass or algae in the area (EDAW 2007; Christina Fahy, July 2007). A 21-inch juvenile green sea turtle (estimated to be between three and five years old) was found by fishermen casting lines in the channel at the intersection of Pacific Coast Highway and the San Gabriel River on August 29, 2008 (Aquarium of the Pacific 2008). It was stranded within the intake channel and was reported to have been harassed by several unknown individuals. It was removed and transferred to the Long Beach Aquarium for rehabilitation from minor injuries. The potential for sea turtles to be present in the Los Angeles River is expected to be very low.

2.4.4 Marine Mammals

Marine mammals, although present in the Long Beach/Los Angeles Harbor complex, are not expected to be found in the Los Angeles River, with the exception of incidental occurrences of perhaps California sea lions (*Zalophus ca lifornicus*). Harbor seals (*Phoca vit ulina*) and California sea lions forage on baitfish in the outer harbor and rest on buoys and breakwaters. Bottlenose dolphin (*Tursiops truncatus*) and California gray whales (*Eschrichtius robustus*) are highly migratory and are usually observed in the outer harbor and offshore of the breakwater. The occurrences of any cetacean, including gray whales, would be rare within the Los Angeles River, although both bottlenose dolphins and gray whales are known to occasionally enter other river mouths and estuaries (i.e., the San Gabriel River mouth; R. Ware, pers. observation).

2.5 INVASIVE SPECIES

2.5.1 *Caulerpa Taxifolia*

The invasive *Caulerpa taxifolia* algae (Figure 16) has the potential to cause ecosystem-level impacts to California's bays and nearshore systems due to its extreme ability to outcompete other algae and seagrasses (NMFS 2008). *Caulerpa taxifolia* grows as a dense, smothering blanket, covering and killing all native aquatic vegetation in its path, when introduced in a nonnative marine habitat. Fish, invertebrates, marine mammals, and sea birds that are dependent on native marine vegetation are displaced or die off from the areas where they once thrived. *Caulerpa taxifolia* is a tropical-subtropical species that is used in aquariums. It was introduced into southern California in 2000 (Agua Hedionda Lagoon and Huntington Harbor) by way of individuals likely dumping their aquaria waters into storm drains, or directly into the lagoons.

While outbreaks have been contained, the Water Resources Board, through NMFS and the California Department of Fish and Game (CDFG), requires that projects that have potential to spread this species through dredging and bottom-disturbing activities conduct preconstruction surveys to determine whether this species is present using standard agency-approved protocols and NMFS/CDFG Certified Field Surveyors (NMFS 2008).

Site-specific *Caulerpa* algae surveys have not been conducted in the estuarine study area. However, it has not been reported from San Pedro Bay or the Long Beach/Los Angeles Harbor complex. Site-specific surveys for this invasive will be required as part of permit conditions for any bridge work or dredging associated with the I-710 Corridor Project.

2.5.2 *Undaria Pinnatifida*

The brown macrophyte *Undaria pinnatifida* has been recorded in the Long Beach Harbor and Anaheim Bay (R. Ware, pers. observation). This species was not observed during the reconnaissance survey conducted by LSA along the Los Angeles River bank on October 1, 2009.

2.5.3 *Zostera Japonica*

Dwarf eelgrass (*Zostera japonica*) is native to Asia and threatens to upset the natural balance of California's wetlands. It has been found in Humboldt Bay (Foss et al. 2007).[1] It has not been found in Queensway Bay or the estuarine study area.

1 http://www.dfg.ca.gov/invasives/dwarfeelgrass.

Figure 16 - *Caulerpa taxifolia* (Source: NMFS).

FIGURE 16

I-710 Corridor Project
Estuary Analysis
Site Photos

3.0 IMPACT ASSESSMENT

3.1 PROJECT COMPONENTS

The I-710 Corridor Project would renovate, expand, or relocate four bridge complexes that span the Lower Los Angeles River (Figures 2 through 5) within the estuarine study area. Major construction work will be required within the banks of the Los Angeles River using heavy equipment to remove, repair, expand, or relocate and rebuild the bridges. The following is a general discussion of short-term and long-term impacts associated with bridge work, and possible measures to avoid, reduce, or compensate for adverse impacts to estuarine habitats in the Lower Los Angeles River.

3.2 IMPACTS ON WATER QUALITY AND BIOLOGICAL RESOURCES

- Temporary and/or permanent reduction in soft-bottom estuarine habitat and secondary production (loss of benthic invertebrate fauna) and food sources as a consequence of increasing bridge abutment surface area.

- Temporary losses of organisms living on hardscape (i.e., barnacles and mussels) on bridge abutments and/or affected areas along the Los Angeles River bank.

- Disruption and potential loss of riparian and estuarine vegetation along the Los Angeles River bank.

- An increase in the amount of shading of open water habitat, reducing primary productivity from increased bridge surface areas.

- Temporary disruption of fishery and seabird foraging areas during construction as a result of water quality and sediment impacts (i.e., release of detectable levels of sediment contaminants and resuspension into the water column, increased turbidity, and reduced dissolved oxygen.

- Accidental oil or fuel spills that could potentially occur could result in significant effects on water quality and, subsequently, the fish and wildlife upstream and downstream of construction, depending on the severity of the spill. Such events are likely to be localized spills of lighter, refined diesel fuels, gasoline, and lubricating oils that are highly toxic to marine life. The potential for the occurrence of petroleum product leaks or spills would be low but the potential for significant, long-term effects on marine resources would be moderate to high.

- Temporary increases in the level of above- and below-water noise due to pile driving, drilling, and other bridge removal and construction activities that will have a temporary impact on fishes and birds.

- Debris (cement, rebar, asphalt) will be added to the Los Angeles River. This material must be removed following completion of the I-710 Corridor Project.

3.3 Impacts on Sensitive Species

- **Eelgrass**. It is unlikely that eelgrass will be impacted by the I-710 Corridor Project. However, preconstruction surveys will be required by the United States Army Corps of Engineers (ACOE) and the California Coastal Commission (CCC) prior to the initiation of construction to determine whether eelgrass is present and will be affected by the I-710 Corridor Project. If it is found in the I-710 Corridor Project study area, then a mitigation plan will be prepared, and mitigation measures will be implemented to restore eelgrass vegetation and potential eelgrass habitat to an impact ratio of 1.2:1 for the loss of vegetation and to an impact ratio of 1:1 for potential eelgrass habitat (NMFS 1991, as amended).

- **California Halibut.** Juvenile halibut may be present in the general project vicinity. During construction, any juveniles in the immediate area of pile-driving activity will swim to areas outside the immediate impacted zone. No mortality is anticipated as a result of construction activities.

- **Green Sea Turtle.** Green sea turtles would not likely be affected by bridge construction activities.

Marine Mammals. All marine mammals are protected by the Federal Marine Mammal Protection Act of 1972 (MMPA). The MMPA prohibits the intentional taking, import, or export of marine mammals without a permit. Several of the species that occur within the Southern California Bight (SCB) are also protected under the Federal Endangered Species Act of 1973 (ESA). A species that is listed as threatened or endangered under the ESA is categorized as depleted under the MMPA. Unintentional take of a depleted species is allowed by permit only if the activity is determined to have a negligible impact. Intentional take of a depleted species is only allowed under a scientific research permit. It is unknown what types of in-water equipment may be required; however, a barge and a crane may be required. Impacts related to any vessel movements, as well as noise and vibrations produced via pounding, drilling, and other above- or underwater activities, are unknown at this time, but the relative paucity of marine mammals within the Los Angeles River and the distance between the proposed bridge construction areas and areas that marine mammals frequent in the Outer Long Beach Harbor suggest there will be less than significant impacts to this resource group.

3.4 Impacts on Fishery Management Plan Species

Of the four finfish FMP species identified as present in Queensway Bay, only the northern anchovy is expected to be present in any significant numbers in the Los Angeles River's estuarine reach. The majority of the anchovy population is expected to occur in Queensway Bay and San Pedro Bay at depths greater than 12 feet. Therefore, potential impacts on coastal pelagic FMP species or their EFH are expected to be minimal. I-710 Corridor Project-related impacts could result in the northern anchovy temporarily avoiding the I-710 Corridor Project study area and a minimal potential for mortality of larval anchovy. An increase in the suspended sediment load would temporarily increase the exposure of these species to potentially harmful levels of contaminants and clog their gills, resulting in a reduced ability to feed. Of 84 groundfish FMP species, three species—the leopard shark, spiny dogfish shark, and California scorpionfish—have been reported within Queensway Bay, and none have been reported in the estuarine study area. The potential impact of the I-710 Corridor Project on FMP groundfish species is expected to be minimal. There will be no construction-related impacts on salmonid or highly migratory species or their EFH.

3.5 Impacts on Invasive Species

- ***Caulerpa Taxifolia.*** No *Caulerpa* is present within the estuarine study area, which precludes the potential spread of this species during construction and/or operation of the facilities. However, a *Caulerpa* algae survey will be conducted according to the NMFS Control Protocol prior to construction. If this species is found, then protocols for the eradication of *Caulerpa* will be implemented to remove this species from the I--710 Corridor Project study area.[1] Metro will conform to the 2008 Caulerpa Control Protocol, which requires survey results to be submitted to the National Marine Fisheries Service (NMFS) and CDFG within 15 days of completion. This protocol also requires that NOAA and CDFG be notified within 24 hours if *Caulerpa* is identified at a permitted project site.

- ***Undaria Pinnatifida.*** No *Undaria* has been reported from the Los Angeles River, although it has been reported to be present in nearby Long Beach Harbor. Therefore, it is unlikely to be spread as a consequence of the I-710 Corridor Project.

[1] http://swr.ucsd.edu/hcd/CaulerpaControlProtocol.htm.

- ***Zostera Japonica***. No dwarf eelgrass has been reported in the estuarine study area, and its presence within the estuarine study area is unlikely because it is found on mudflat habitat. However, if it is found within the I-710 Corridor Project study area, its presence will be reported immediately to the NMFS and CDFG and eradication efforts will be undertaken.

4.0 Avoidance, minimization and/or Mitigation Measures

4.1 Water Quality

Impacts to water quality associated with the portion of the I-710 Corridor Project in the Los Angeles River will likely be temporary and would be minimized through the implementation of construction Best Management Practices (BMPs) to minimize turbidity plumes and possible contaminants released into the water column during construction activity. Turbidity will be minimized by using silt curtains where feasible. All floatable debris generated by the construction activities will be contained and trash and debris will be disposed of properly. All construction debris will be removed from the sea floor. With the implementation of water quality BMPs to reduce the spread of any turbidity plume, there should be no adverse impacts to estuarine resources, including benthic communities, eelgrass, and fish communities outside of the localized construction zone.

4.2 Estuarine Biological Resources

Project avoidance, minimization and/or mitigation measures to reduce potential adverse impacts to estuarine resources, sensitive species, and rare and endangered species are provided below.

- No construction materials, equipment, debris, or waste shall be placed or stored where it may be subject to tidal erosion and dispersion. Construction materials shall not be stored in contact with the soil.
- All trash shall be disposed of in the proper trash receptacles at the end of each construction day.
- Any construction debris shall be removed from the site.
- Floating booms shall be used to contain discharged debris and any debris discharged shall be removed no later than the end of each day.
- If turbid conditions are generated during construction, a silt curtain shall be utilized to control turbidity. Sediment resuspension will be minimized to the greatest extent possible.
- Construction methods shall include BMPs to minimize, where feasible, the intensity of underwater and abovewater sound production so as to lessen the potential adverse impacts on fishes and marine mammals.

- Prudent measures shall be taken to prevent all discharge of fuel or oily waste from heavy machinery or construction equipment or power tools into the Los Angeles River. Hazardous material spill contingency planning documents shall be prepared and maintained on site, along with hazardous material cleanup equipment and gear.

5.0 LITERATURE CITED

Aquarium of the Pacific. 2008. *A little R&R for a green sea turtle.* In: Pacific Currents. Winter 2009, Vol. 12, Number 2. Pg 27.

Coastal Resources Management. 2007a and b. Green sea turtle sighting information and mitigation measures for the Termino Drain Project. Personal communication (email) from R. Ware, Coastal Resources Management, to Eric Wilson, EDAW, Inc. May 18 and December 9.

Coastal Resources Management, Inc. 2009. Eelgrass mapping survey, impact assessment and eelgrass mitigation plan for the Alamitos Bay Marina Renovation Project, Long Beach, CA. Prepared for LSA Associates, Inc. and the City of Long Beach. October. 63 pp.

Cook, Vivian. 2007. City of Long Beach Parks and Marine. Personal communication with R. Ware, Coastal Resources Management, Inc. July 27.

Coyer, J. A., K. A. Miller, J. M. Engle, J. Veldsink, A. Cabello-Pasini, W.T. Stam, and J. L. Olsen. Eelgrass meadows in the California Channel Islands and Adjacent Coast reveal a mosaic of two species, evidence for introgression and variable clonality. Annals of Botany 101: 73–87, 2008

Crite, J. 2000. *Chelonia mydas* (online), Animal Diversity Web. Accessed July 27, 2007 at: http://animaldiversity.ummz.umich.edu/site/accounts/information/Chelonia_mydas.html

EDAW, Inc. 2007. Green sea turtle analysis for the Termino Avenue Storm Drain EIR. Memorandum to Christina Fahy, National Marine Fisheries Service. August 7.

EDAW, Inc. 2008. Termino Avenue Drain. Final Environmental Impact Report. State Clearinghouse No. 2000111022. Prepared for County of Los Angeles Department of Public Works, 900 South Fremont Avenue. Alhambra, California 91803. July.

Ernst, C., R. Barbour, J. Lovich. 1994. Turtles of the United States and Canada. Washington and London: Smithsonian Institution in: Crite, J. 2000. *Chelonia mydas* (Online), Animal Diversity Web. Accessed July 27, 2007 at: http://animaldiversity.ummz.umich.edu/site/accounts/information/Chelonia_mydas.html

Fahy, Christina. 2007. National Marine Fisheries, Long Beach. Personal communication with EDAW, Inc. July.

Foss, Stephen F., P. Ode, M. Sowby, and Marian Ashe. 2007. Non-indigenous aquatic organisms in the coastal waters of California. California Fish and Game 93(3):111-129. Summer.

Friends of the Los Angeles River. 2008. State of the River fish study. Contributing Authors: Camm Swift, Sabrina Drill, Rich Gossett, and Alicia Kitano. Various pages.

Fullerton, E. C. 1985. Letter to G. E. Hillier, District Manager, U.S. Bureau of Land Management, Riverside, CA. February 8, 1985 in: Robert Bein, William Frost Associates and MBC Applied Environmental Sciences, Inc. 2003. Dana Point Harbor Revitalization Plan EIR. Marine Oceanographic and Biological Assessment. Prepared for the County of Orange Department of Harbors, Beaches, and Parks.

Hoffman, R.S. 1986. Fishery utilization of eelgrass (*Zostera m arina*) beds and non-vegetated shallow water areas in San Diego Bay. National Marine Fisheries Service Southwest Region, Administrative Report SWR-86-4. 29 pp.

Hoffman, R.S. 1990. Fishery utilization of natural versus transplanted eelgrass beds in Mission Bay, San Diego, California. Pages 58–64 in: K.W. Merkel and R.S. Hoffman, eds. Proceedings of the California Eelgrass Symposium. May 27 and 28, 1988. Chula Vista, California. 78 pp.

Hoffman, R.S. 1991. Relative fishery values of natural versus transplanted eelgrass beds Zostera marina) in Southern California. in: H. S. Bolton (ed). Coastal Wetlands. Coastal Zone '91. Seventh Symposium on Coastal and Ocean Management. Long Beach, California. July 8–12.

MBC Applied Environmental Sciences. 1984. Outer Long Beach Harbor-Queensway Bay biological baseline survey. Prepared for the Port of Long Beach Division of Port Planning. October 1984. Various paging.

MBC Applied Environmental Sciences, Inc. 1986. Infauna and epifauna associated with transplants of eelgrass (Zostera marina) in Southern California. Prepared for Maguire Thomas Partners, The Huntington Partnership, National Marine Fisheries Service, and the U.S. Fish and Wildlife Service. 48 pp.

MBC Applied Environmental Sciences, Inc. 1994. Marine Biological Baseline Study. Queensway Bay, Long Beach Harbor. Prepared for the City of Long Beach, California. Various paging plus appendices.

MBC Applied Environmental Sciences, Inc. 1997. National Pollutant Discharge Elimination System. 1997 Receiving Water Monitoring Report. Prepared for the Los Angeles Department of Water and Power and Southern California Edison Company.

MEC Analytical Systems, Inc. 1988. Biological baseline and an ecological evaluation of existing habitats in Los Angeles and adjacent waters. Volumes 1–3. Prepared for the Port of Los Angeles.

MEC Analytical Systems, Inc. 1999. Port of Los Angeles special study. Prepared for the Port of Los Angeles. August.

National Marine Fisheries Service. 2008. *Caulerpa* control protocol. Version 4. National Marine Fisheries Service Southwest Region, Long Beach, CA. 7 pp. March 28.

National Marine Fisheries Service. 1991 (as amended). Southern California eelgrass mitigation policy. 6 pp. National Marine Fisheries Service, Southwest Region, Long Beach, CA. Revision 11.

Pacific Fishery Management Council. 1998. Amendment 8 to the Northern Anchovy Fisheries Management Plan, including a name change to the Coastal Pelagic Fisheries Management Plan. Pacific Fishery Management Council. 2130 SW Fifth Avenue. Suite 224. Portland, Oregon 97201. December.

Pacific Fishery Management Council. 2008. Pacific Coast groundfish management plan for the California, Oregon, and Washington groundfish fishery as amended through Amendment 19 including Amendment 15. Pacific Fishery Management Council. 7700 NE Ambassador Place, Suite 101, Portland, Oregon 97220. July.

Phillips, R. C. 1984. The ecology of eelgrass meadows in the Pacific Northwest: A community profile. FWS/OBS-84/24. 85 pp.

United States Fish and Wildlife Service. 1995. Recovery Plan for the Tidewater Goby (*Eucyclogobius newberr yi*). Pacific Region, United States Fish and Wildlife Service. Portland, Oregon. December 12. Various paging.

Walker, Boyd W. 1952. *A Guide to the Grunion*. California Fish Game 38 (3):410–420

APPENDIX G
USFWS CORRESPONDENCE

This page intentionally left blank

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Ecological Services
Carlsbad Fish and Wildlife Office
6010 Hidden Valley Road, Suite 101
Carlsbad, California 92011

In Reply Refer To:
FWS-LA-08B0786-08TA0998

SEP 29 2008

Mr. Ron Kosinski
Deputy District Director, District 7
Environmental Planning
California Department of Transportation
100 South Main Street
Los Angeles, California 90012

Attention: Garrett Damrath

Subject: Notice of Preparation (NOP) to Prepare a Draft Environmental Impact Report (DEIR) for the I-710 Corridor Project, Los Angeles County, California

Dear Mr. Kosinski:

We have reviewed the above referenced NOP, which was received on August 21, 2008. We requested, and were granted, an extension on the comment period to September 30, 2008. Our primary concern and mandate is the protection of public fish and wildlife resources and their habitats. We have legal responsibility for the welfare of migratory birds, anadromous fish, and endangered animals and plants occurring in the United States. We are also responsible for administering the Endangered Species Act of 1973 (Act), as amended (16 U.S.C. 1531 *et seq.*). We offer the following comments in keeping with our agency's mission to work "with others to conserve, protect, and enhance fish, wildlife, and plants and their habitats for the continuing benefit of the American people."

The project as proposed would increase capacity on I-710 through the addition of two general purpose lanes as well as a separated four lane freight movement facility for trucks between the Port of Long Beach to the south and State Route 60 to the north.

To facilitate the evaluation of the proposed project from the standpoint of fish and wildlife protection, we recommend that the DEIR include the following information:

1. Our main concern regarding the proposed project is its potential to impact migratory birds. The Los Angeles River, from its mouth to Interstate 105, and to a lesser extent to State Route 60, is the premier spot in Los Angeles County for migrant shorebirds with single day counts numbering up to 15,000 individuals (pers. comm. Kimball Garrett, Ornithologist, Natural History Museum of Los Angeles County, 09-23-08). Black-necked

stilts (*Himantopus mexicanus*), American avocets (*Recurvirostra americana*), and killdeer (*Charadrius vociferus*) are known to nest in the river channel, and western sandpipers (*Calidris mauri*), long-billed dowitchers (*Limnodromus scolopaceus*), pintails (*Anas acuta*), and teal (*Anas* sp.) also use the area in abundance. Due to the large numbers of migratory birds, raptors such as peregrine falcons (*Falco peregrinus*) use the area extensively to forage, and federally endangered brown pelicans (*Pelecanus occidentalis*) use the river mouth to loaf and bathe (pers. comm. Kimball Garrett, Ornithologist, Natural History Museum of Los Angeles County, 09-23-08). The federally endangered California least tern (*Sternula antillarum browni*) and the federally threatened western snowy plover (*Charadrius alexandrinus nivosus*) are also known to occur nearby. According to the U.S. Shorebird Conservation Plan (Page and Shuford 2000, page 31), "Once part of one of the largest flood plains in the United States, the Los Angeles River is now entirely channelized and operated primarily as a flood control facility by the Los Angeles Department of Water and Power and the U.S. Army Corps of Engineers. Within the intertidal portion of the river, extending inland from the mouth about 2.6 miles to the Willow Street crossing in Long Beach, are approximately 234 acres of wetlands, which provide shorebird habitat when water levels are low. Although the river upstream of Willow Street has a cement bottom, a 4-mile stretch, equivalent to about 40 acres of river channel, annually holds thousands of shorebirds during migration (L. Hays pers. comm.)." Please include in the DEIR a description of the proposed project's impacts to migratory birds and their habitats, as well as any conservation measures that will be used to offset these impacts.

2. Please include a description of the proposed project and the environment in the vicinity of the project, from both local and regional perspectives, including all practicable alternatives that have been considered to avoid and/or reduce project impacts to federally listed and other sensitive species and vegetation types (e.g., riverine, riparian). Include specific acreages and descriptions of the types of wetlands, riparian, and other sensitive habitats that may be affected by the project alternatives as well as aerial photographs, mapping, and tables to summarize such information. Include detailed information on the number and distribution of all Federal candidate, proposed, and listed species; State-listed species; and locally sensitive species on or near the project site that may be affected by the proposed project or project alternatives. Ensure that project information is collected on a sufficiently wide region such that the DEIR addresses the entire project footprint, including borrow and fill sites, staging areas, fuel modification and maintenance zones, and potentially extensive manipulation of adjacent habitat areas, including potential relocation of stretches of the Los Angeles River, as well as areas that may be restored to offset these impacts.

3. Please include an analysis of cumulative effects from proposed developments in the surrounding area, including numerous proposed improvements at the Port of Long Beach.

4. Please address whether the proposed project will include improvements to Long Beach Boulevard which may potentially impact the riparian habitat at DeForest Park, east of the Los Angeles River. Please be aware that this habitat is occupied by the federally endangered least Bell's vireo (*Vireo bellii pusillus*).

5. Please address whether the proposed project will impact any of the habitat creation areas that have been constructed along the Los Angeles River for runoff treatment.

6. Please be aware that there are numerous historic records for the federally endangered Lyon's pentachaeta (*Pentachaeta lyonii*) and salt marsh bird's beak (*Cordylanthus maritimus* subsp. *Maritimus)*, as well as federal candidate Brand's phacelia (*Phacelia stellaris*) in the vicinity of the proposed project. If any suitable remnant habitat occurs within the proposed project footprint, focused plant surveys should be conducted during the appropriate time of year by a qualified botanist.

We appreciate the opportunity to comment on the referenced NOP and to participate in the transportation planning process. If you have any questions regarding this letter, please contact Sally Brown of this office at (760) 431-9440, extension 278.

Sincerely,

(for)

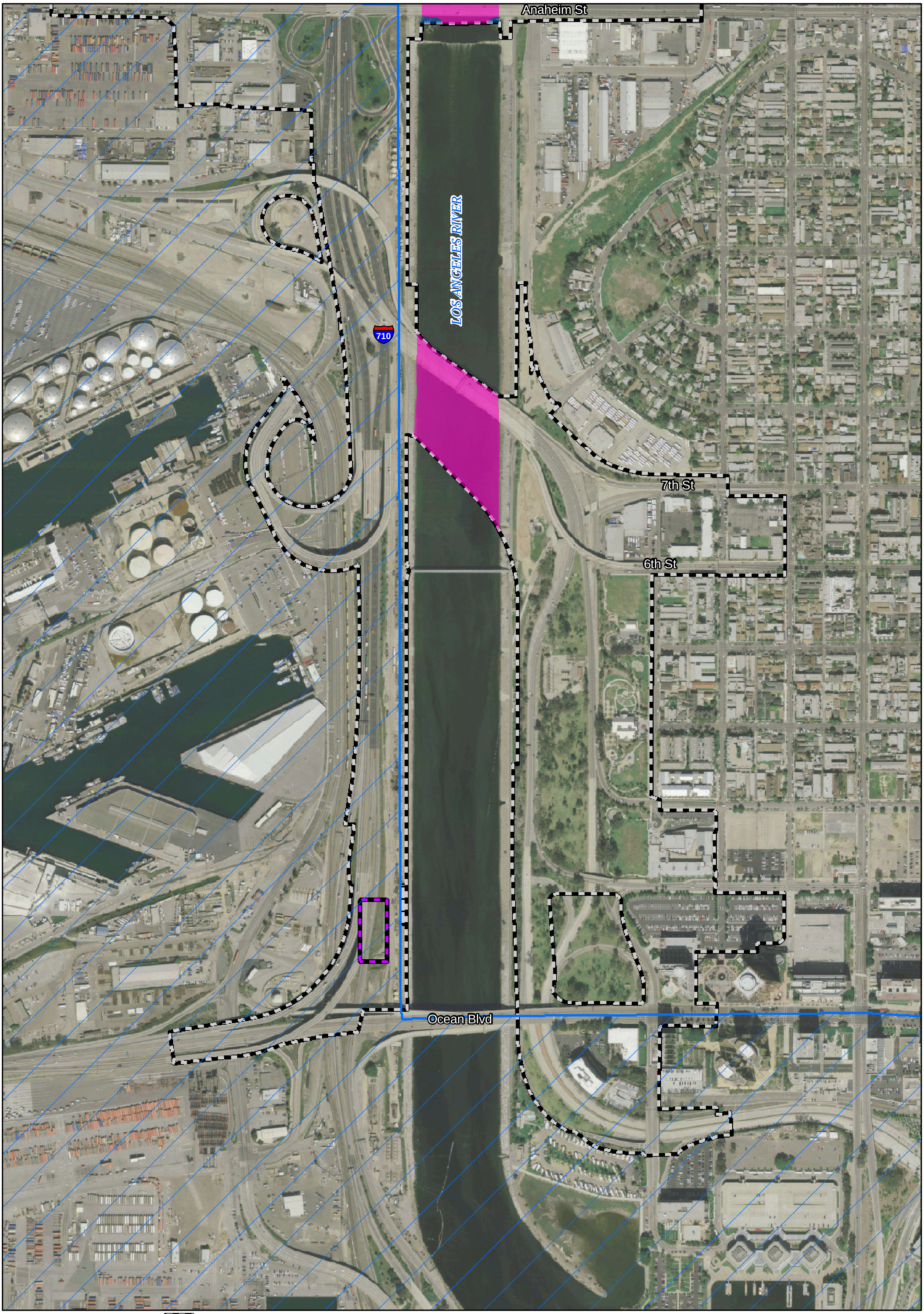
Karen A. Goebel
Assistant Field Supervisor

cc:
Stephanie Hall, Corps of Engineers, Los Angeles, CA
Adam Fischer, California Regional Water Quality Control Board, Santa Ana Region, CA
Scott Dawson, California Department of Fish and Game, Chino Hills, CA
Kimball Garrett, Natural History Museum of Los Angeles County, CA

APPENDIX H
VEGETATION COMMUNITIES WITHIN THE BIOLOGICAL STUDY AREA

Metro

This page intentionally left blank

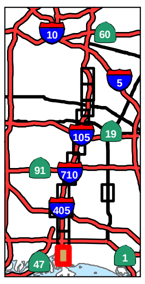


Biological Study Area
Developed/Ornamental/Ruderal
Concrete-lined Freshwater Portions of the L.A. River
Earthen-bottom Intertidal Portions of the L.A. River
Open Water
Freshwater Emergent Marsh
Riparian Scrub
Coastal Zone
Jurisdictional Features (includes L.A. River)
Other Drainage Features Within Developed Areas (non-jurisdictional)

N

0 250 500
FEET

SOURCE: BING (c. 2010); TBM (2010)



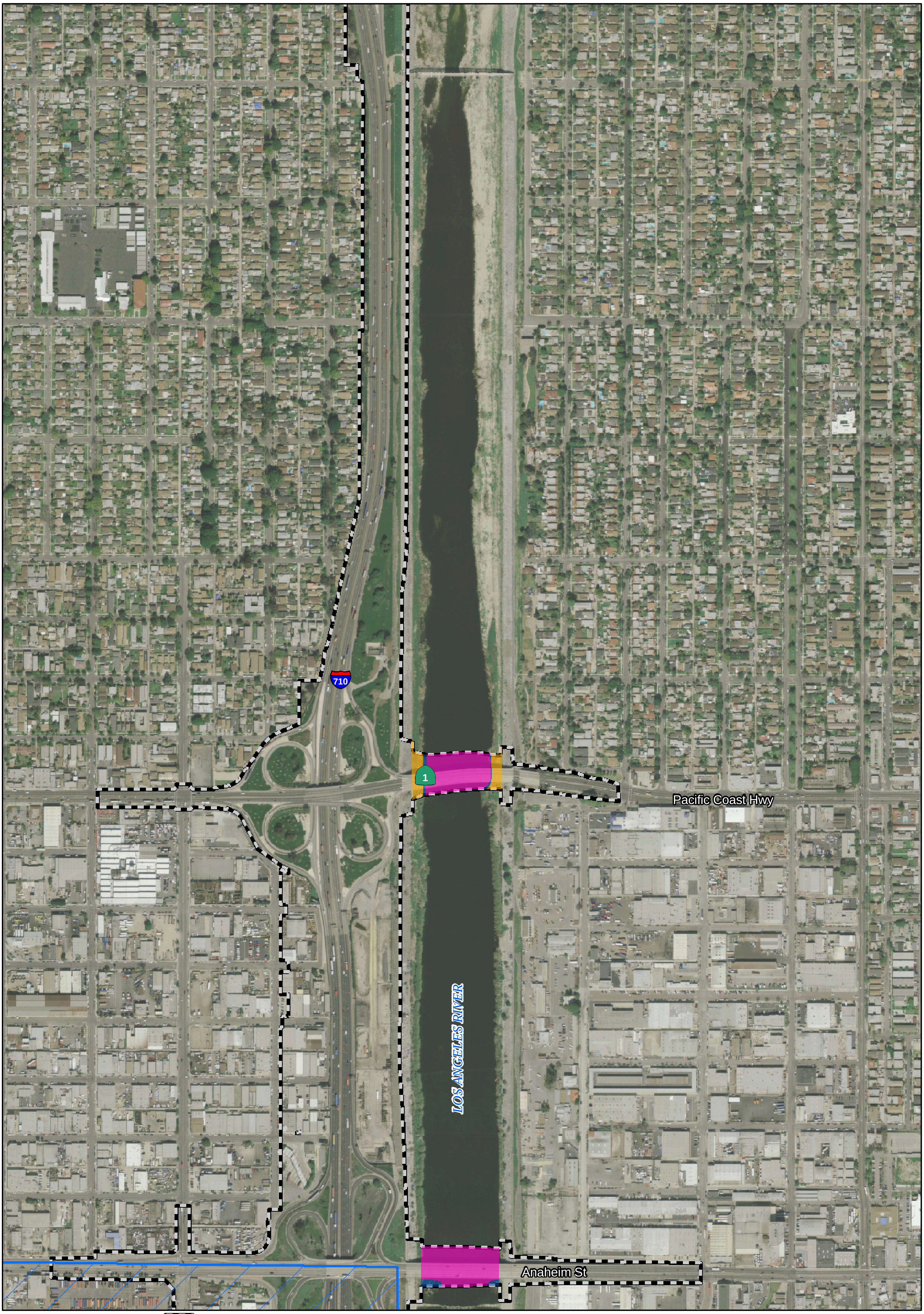
Appendix H
Sheet 1 of 15

I-710 Corridor Project

Vegetation Communities
within the Biological Study Area

PM 4.9/24.9
EA 249900

I:\URS0801A\GIS\BIO\Habitat_Mapbook.mxd (1/4/12)



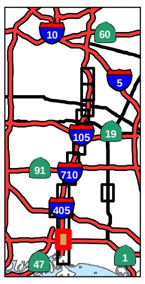
Biological Study Area
Developed/Ornamental/Ruderal
Concrete-lined Freshwater Portions of the L.A. River
Earthen-bottom Intertidal Portions of the L.A. River
Open Water
Freshwater Emergent Marsh
Riparian Scrub

Coastal Zone
Jurisdictional Features (includes L.A. River)
Other Drainage Features Within Developed Areas (non-jurisdictional)

N

0 250 500
FEET

SOURCE: BING (c. 2010); TBM (2010)



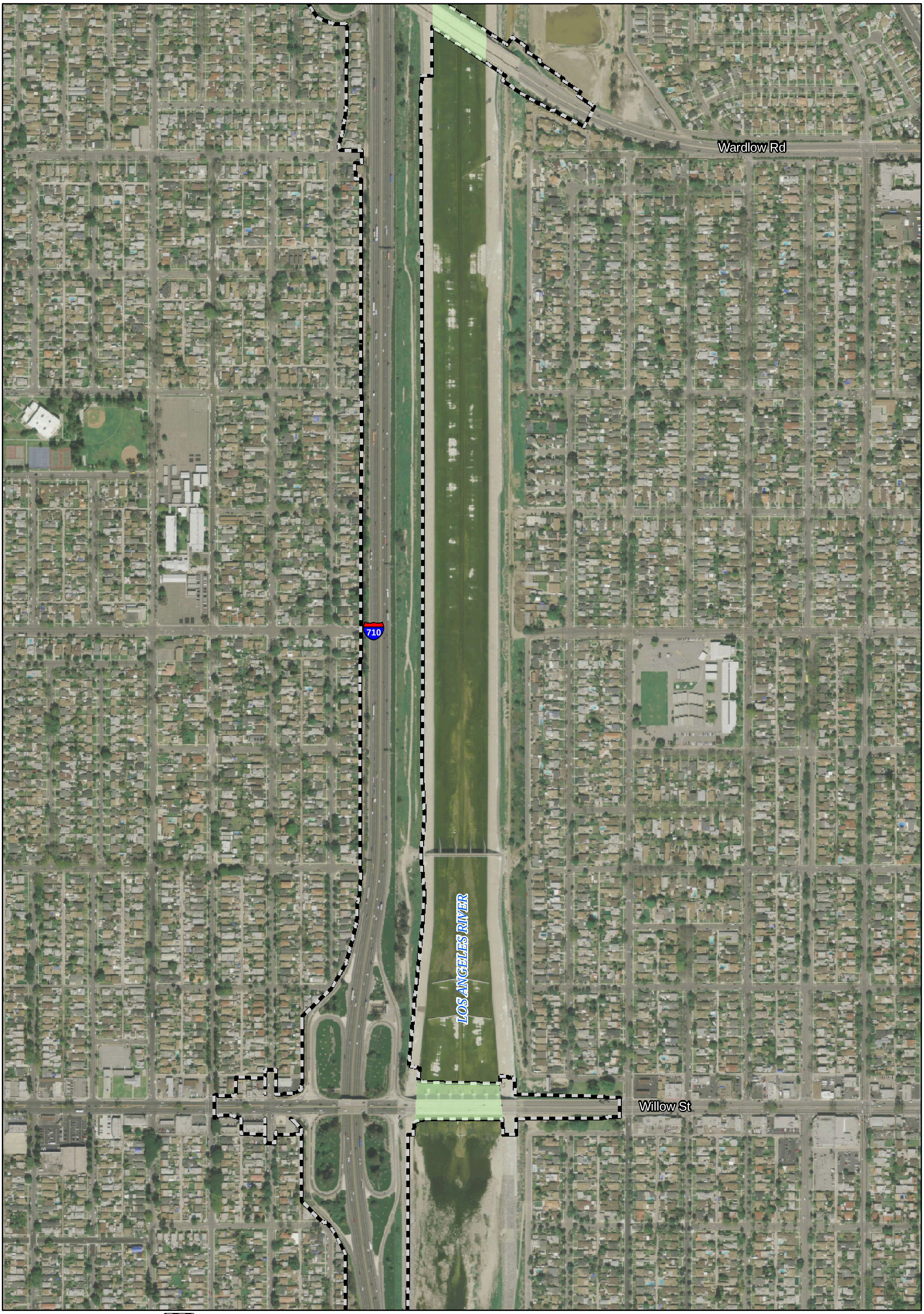
Appendix H
Sheet 2 of 15

I-710 Corridor Project

Vegetation Communities within the Biological Study Area

PM 4.9/24.9
EA 249900

I:\URS0801A\GIS\BIO\Habitat_Mapbook.mxd (1/4/12)



Biological Study Area
Developed/Ornamental/Ruderal
Concrete-lined Freshwater Portions of the L.A. River
Earthen-bottom Intertidal Portions of the L.A. River
Open Water
Freshwater Emergent Marsh
Riparian Scrub

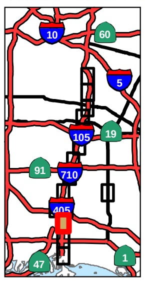
Coastal Zone
Jurisdictional Features (includes L.A. River)
Other Drainage Features Within Developed Areas (non-jurisdictional)

N

0 250 500
FEET

SOURCE: BING (c. 2010); TBM (2010)

I:\URS0801A\GIS\BIO\Habitat_Mapbook.mxd (1/4/12)

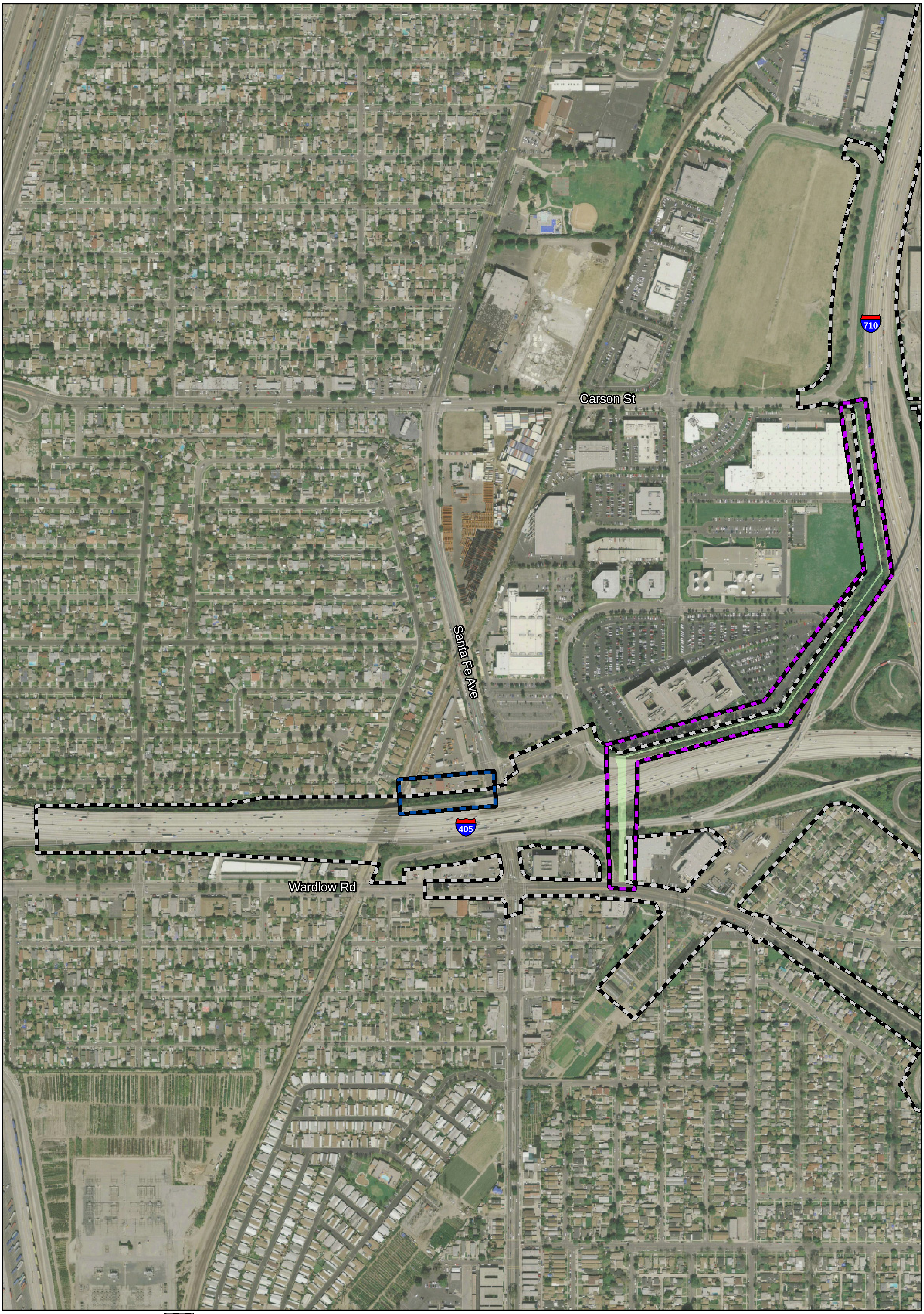


Appendix H
Sheet 3 of 15

I-710 Corridor Project

Vegetation Communities
within the Biological Study Area

PM 4.9/24.9
EA 249900



Biological Study Area
Developed/Ornamental/Ruderal
Concrete-lined Freshwater Portions of the L.A. River
Earthen-bottom Intertidal Portions of the L.A. River
Open Water
Freshwater Emergent Marsh
Riparian Scrub
Coastal Zone
Jurisdictional Features (includes L.A. River)
Other Drainage Features Within Developed Areas (non-jurisdictional)

N

0 250 500
FEET

SOURCE: BING (c. 2010); TBM (2010)

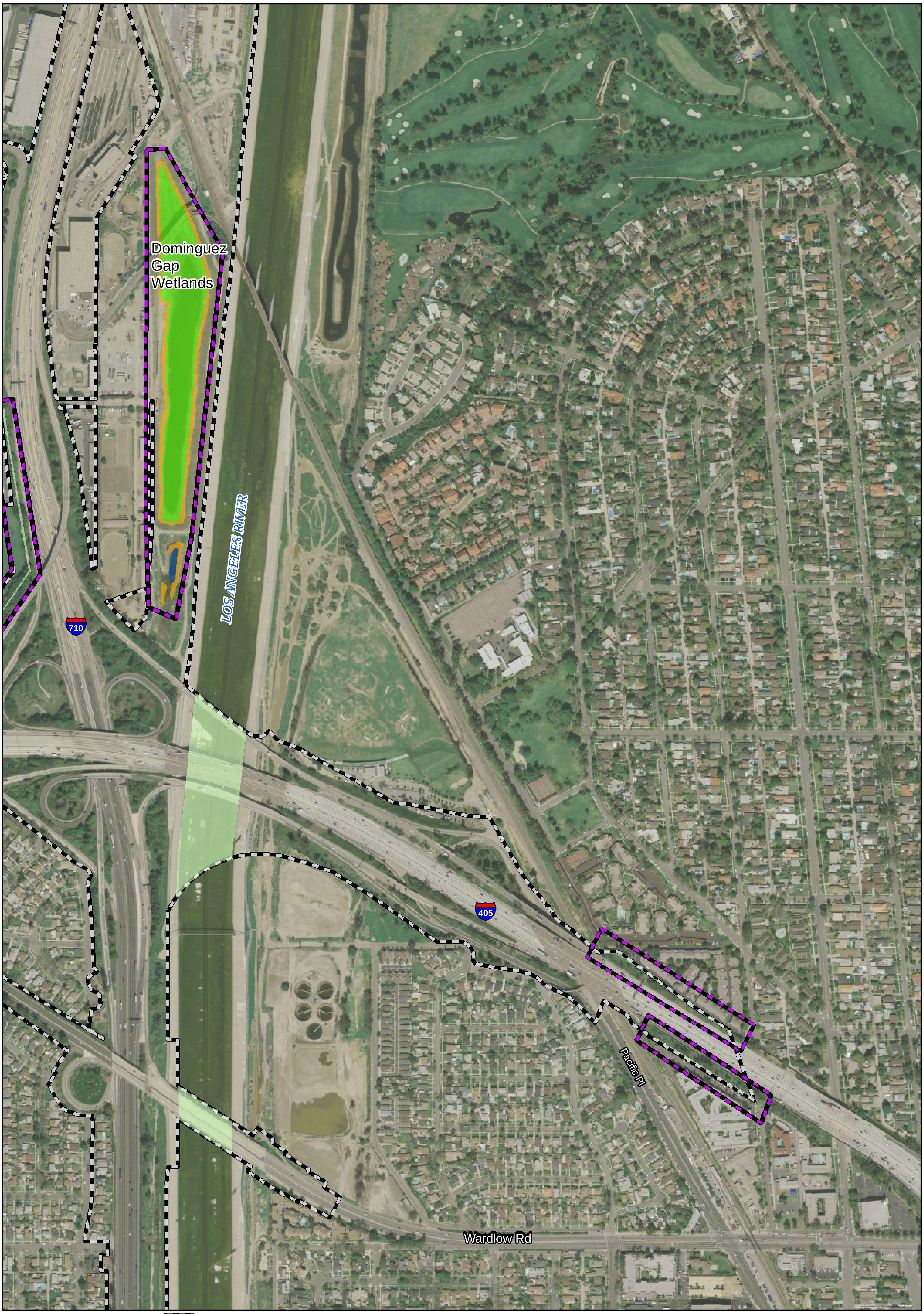
Appendix H
Sheet 4 of 15

I-710 Corridor Project

Vegetation Communities within the Biological Study Area

PM 4.9/24.9
EA 249900

I:\URS0801A\GIS\BIO\Habitat_Mapbook.mxd (1/4/12)



Biological Study Area

Developed/Ornamental/Ruderal

Concrete-lined Freshwater Portions of the L.A. River

Earthen-bottom Intertidal Portions of the L.A. River

Open Water

Freshwater Emergent Marsh

Riparian Scrub

Coastal Zone

Jurisdictional Features (includes L.A. River)

Other Drainage Features Within Developed Areas (non-jurisdictional)

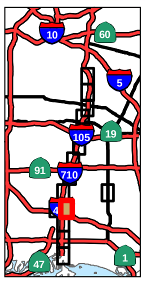
N

0 250 500

FEET

SOURCE: BING (c. 2010); TBM (2010)

I:\URS0801A\GIS\BIO\Habitat_Mapbook.mxd (1/4/12)



Appendix H

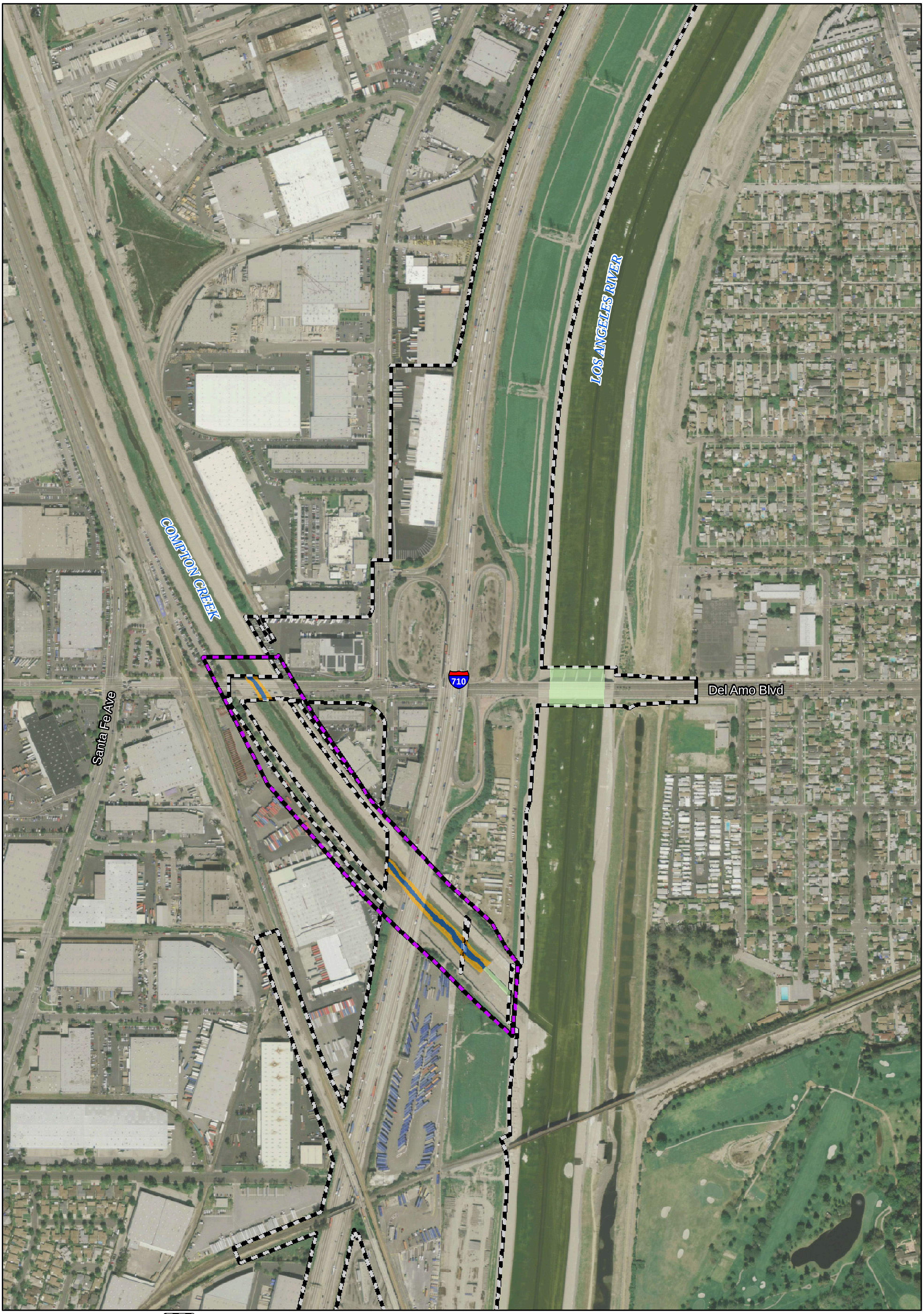
Sheet 5 of 15

I-710 Corridor Project

Vegetation Communities within the Biological Study Area

PM 4.9/24.9

EA 249900



Biological Study Area
Developed/Ornamental/Ruderal
Concrete-lined Freshwater Portions of the L.A. River
Earthen-bottom Intertidal Portions of the L.A. River
Open Water
Freshwater Emergent Marsh
Riparian Scrub
Coastal Zone
Jurisdictional Features (includes L.A. River)
Other Drainage Features Within Developed Areas (non-jurisdictional)

0 250 500
FEET

SOURCE: BING (c. 2010); TBM (2010)

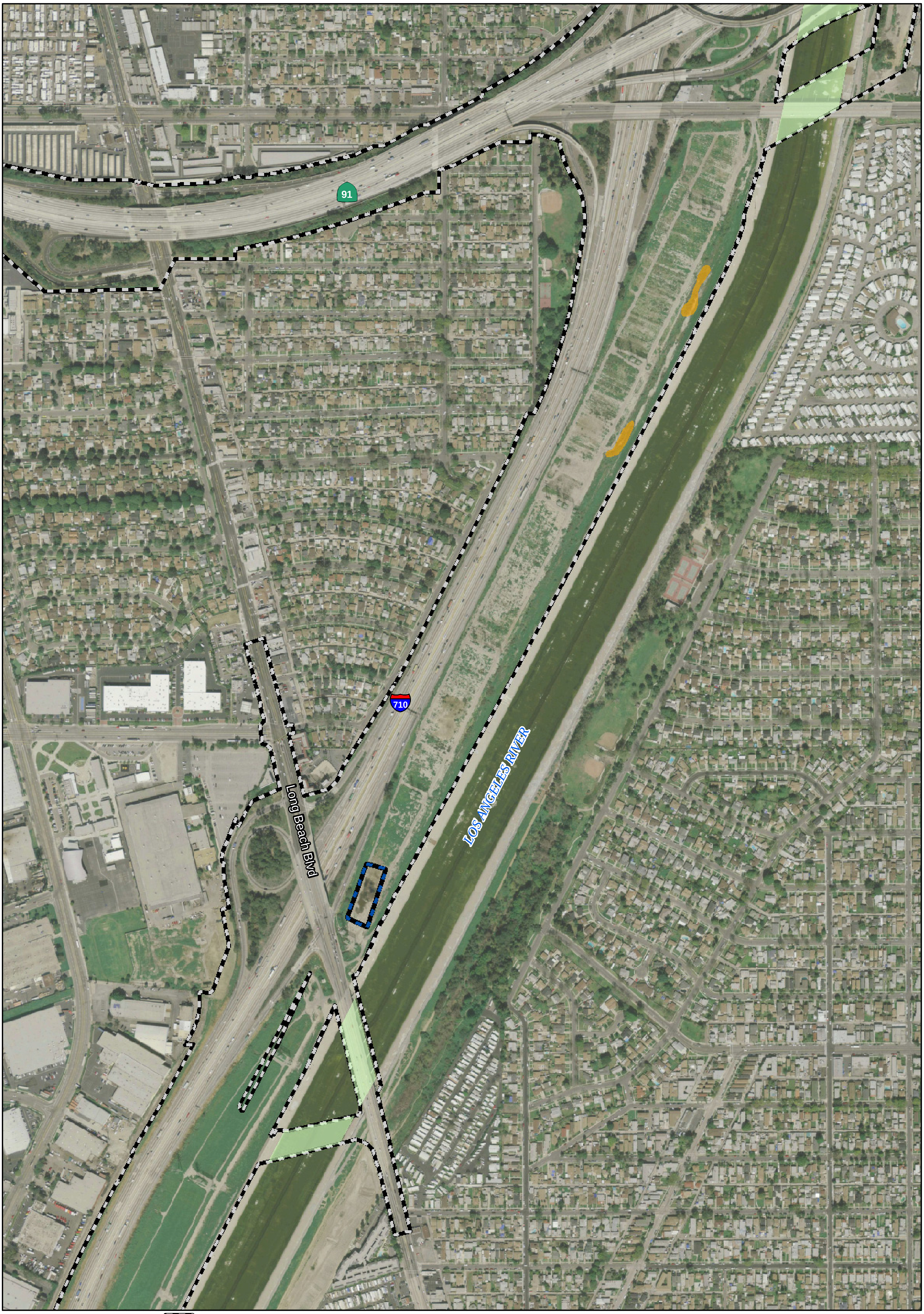
Appendix H
Sheet 6 of 15

I-710 Corridor Project

Vegetation Communities within the Biological Study Area

PM 4.9/24.9
EA 249900

I:\URS0801A\GIS\BIO\Habitat_Mapbook.mxd (1/4/12)

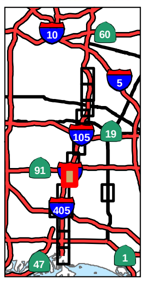


N

0 250 500
FEET

SOURCE: BING (c. 2010); TBM (2010)

- Biological Study Area
- Developed/Ornamental/Ruderal
- Concrete-lined Freshwater Portions of the L.A. River
- Earthen-bottom Intertidal Portions of the L.A. River
- Open Water
- Freshwater Emergent Marsh
- Riparian Scrub
- Coastal Zone
- Jurisdictional Features (includes L.A. River)
- Other Drainage Features Within Developed Areas (non-jurisdictional)



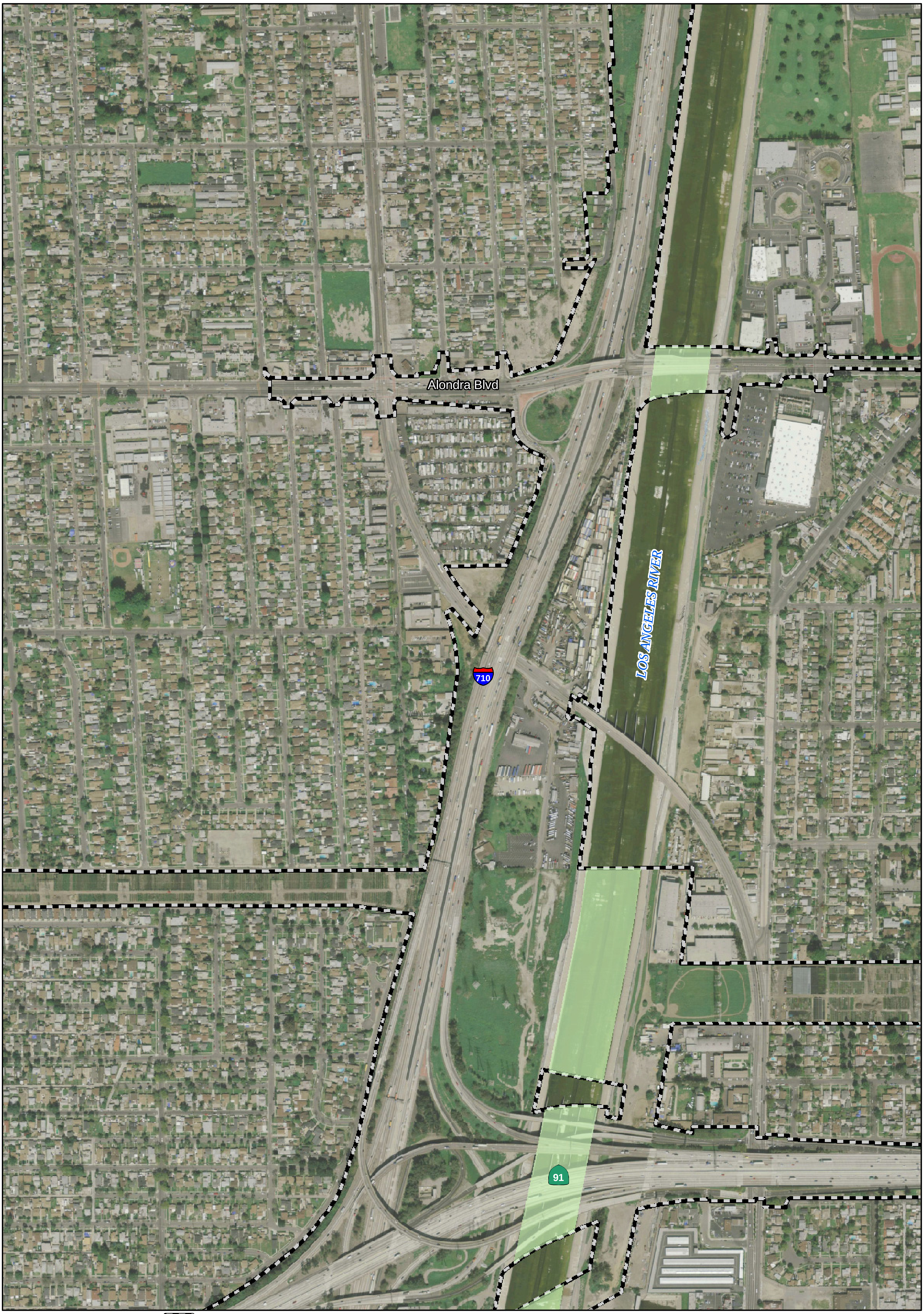
Appendix H
Sheet 7 of 15

I-710 Corridor Project

Vegetation Communities
within the Biological Study Area

PM 4.9/24.9
EA 249900

I:\URS0801A\GIS\BIO\Habitat_Mapbook.mxd (1/4/12)



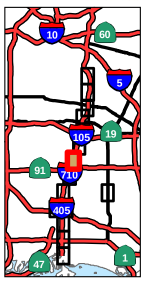
Biological Study Area
Developed/Ornamental/Ruderal
Concrete-lined Freshwater Portions of the L.A. River
Earthen-bottom Intertidal Portions of the L.A. River
Open Water
Freshwater Emergent Marsh
Riparian Scrub

Coastal Zone
Jurisdictional Features (includes L.A. River)
Other Drainage Features Within Developed Areas (non-jurisdictional)

N

0 250 500
FEET

SOURCE: BING (c. 2010); TBM (2010)



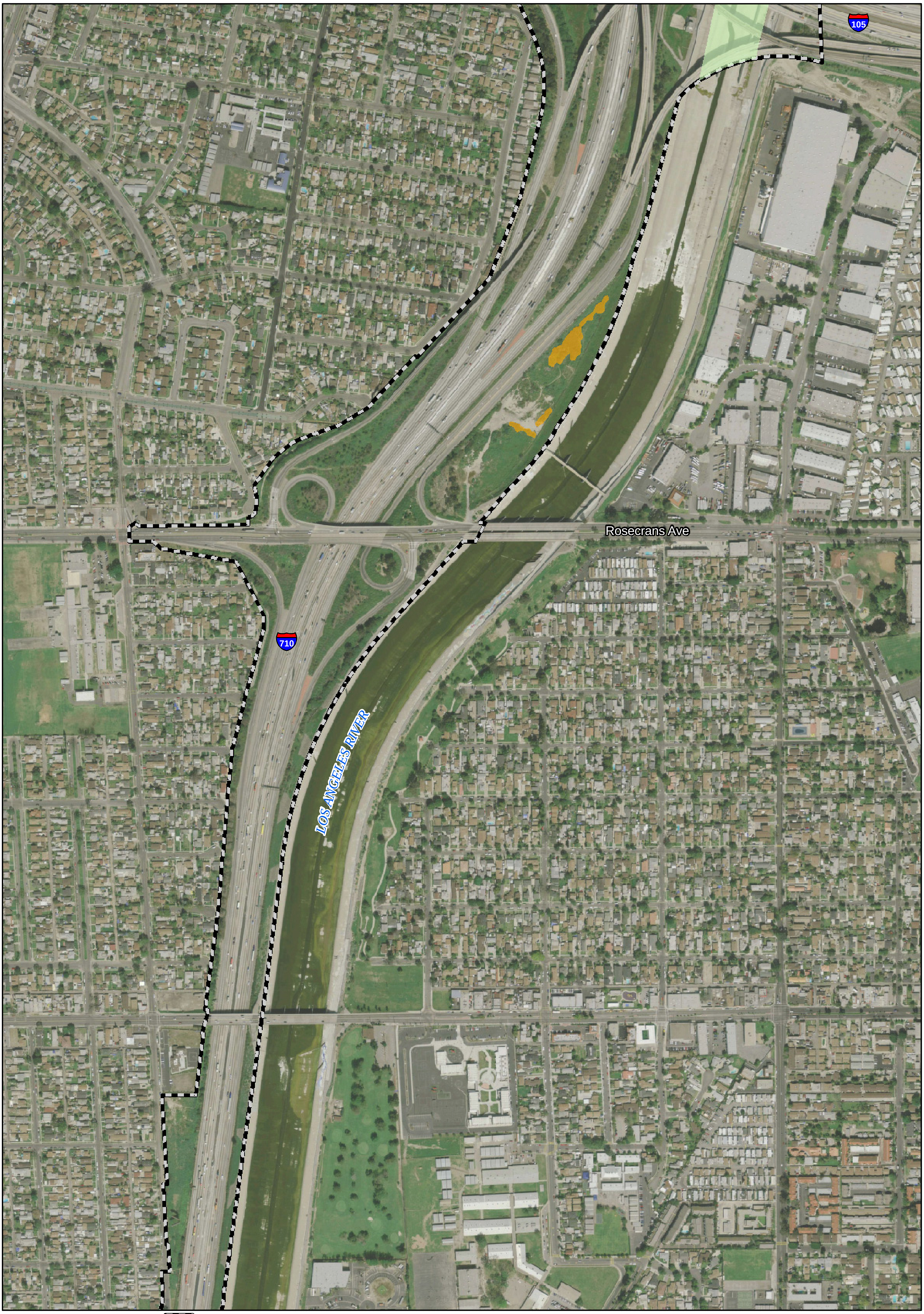
Appendix H
Sheet 8 of 15

I-710 Corridor Project

Vegetation Communities
within the Biological Study Area

PM 4.9/24.9
EA 249900

I:\URS0801A\GIS\BIO\Habitat_Mapbook.mxd (1/4/12)



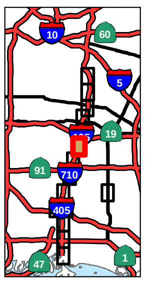
Biological Study Area
Developed/Ornamental/Ruderal
Concrete-lined Freshwater Portions of the L.A. River
Earthen-bottom Intertidal Portions of the L.A. River
Open Water
Freshwater Emergent Marsh
Riparian Scrub

Coastal Zone
Jurisdictional Features (includes L.A. River)
Other Drainage Features Within Developed Areas (non-jurisdictional)

N

0 250 500
FEET

SOURCE: BING (c. 2010); TBM (2010)



Appendix H
Sheet 9 of 15

I-710 Corridor Project

Vegetation Communities within the Biological Study Area

PM 4.9/24.9
EA 249900

I:\URS0801A\GIS\BIO\Habitat_Mapbook.mxd (1/4/12)

Biological Study Area
Developed/Ornamental/Ruderal
Concrete-lined Freshwater Portions of the L.A. River
Earthen-bottom Intertidal Portions of the L.A. River
Open Water
Freshwater Emergent Marsh
Riparian Scrub

Coastal Zone
Jurisdictional Features (includes L.A. River)
Other Drainage Features Within Developed Areas (non-jurisdictional)

0 250 500
FEET

SOURCE: BING (c. 2010); TBM (2010)

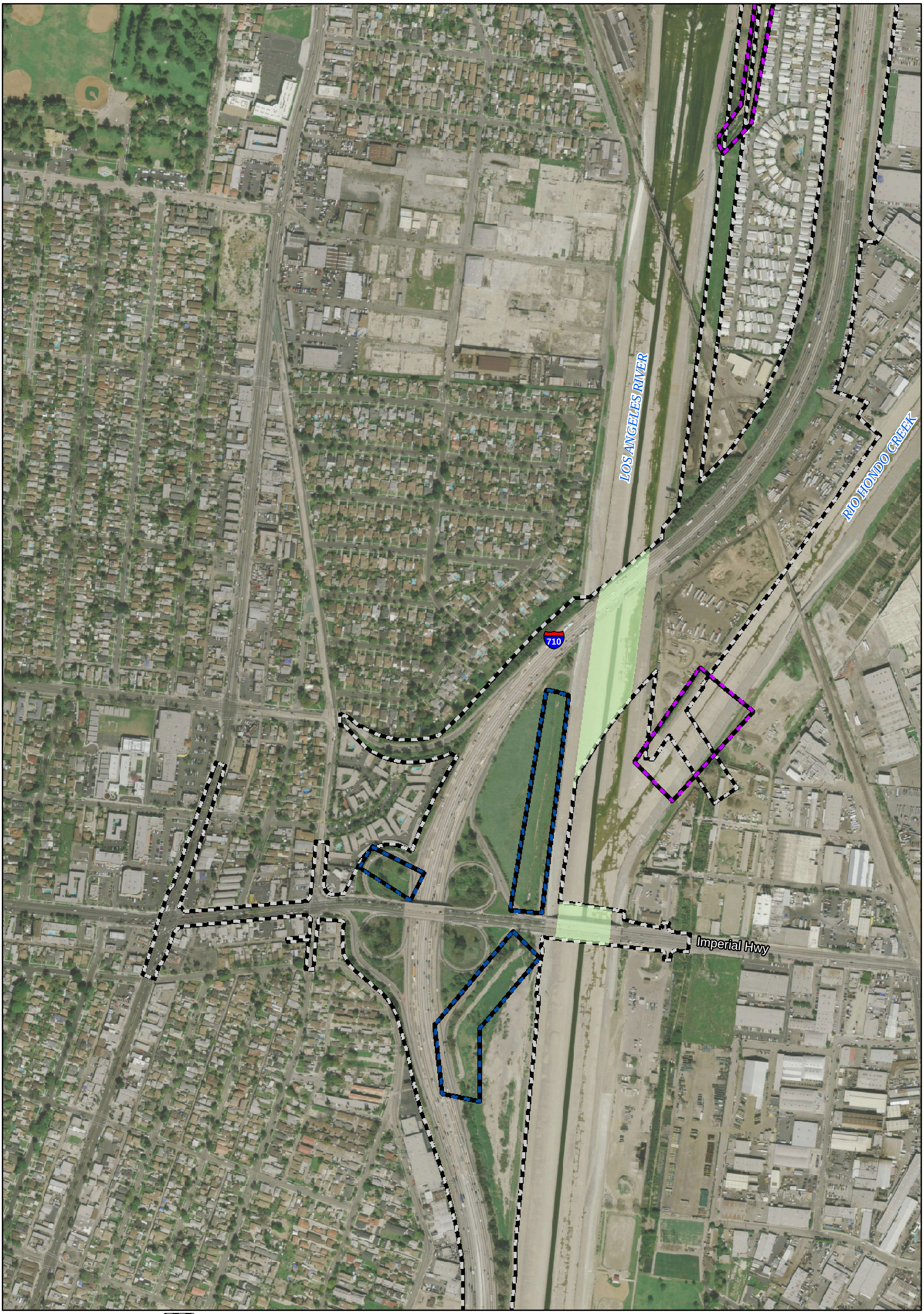
Appendix H
Sheet 10 of 15

I-710 Corridor Project

Vegetation Communities within the Biological Study Area

PM 4.9/24.9
EA 249900

I:\URS0801A\GIS\BIO\Habitat_Mapbook.mxd (1/4/12)



Biological Study Area
Developed/Ornamental/Ruderal
Concrete-lined Freshwater Portions of the L.A. River
Earthen-bottom Intertidal Portions of the L.A. River
Open Water
Freshwater Emergent Marsh
Riparian Scrub
Coastal Zone
Jurisdictional Features (includes L.A. River)
Other Drainage Features Within Developed Areas (non-jurisdictional)

N

0 250 500
FEET

SOURCE: BING (c. 2010); TBM (2010)

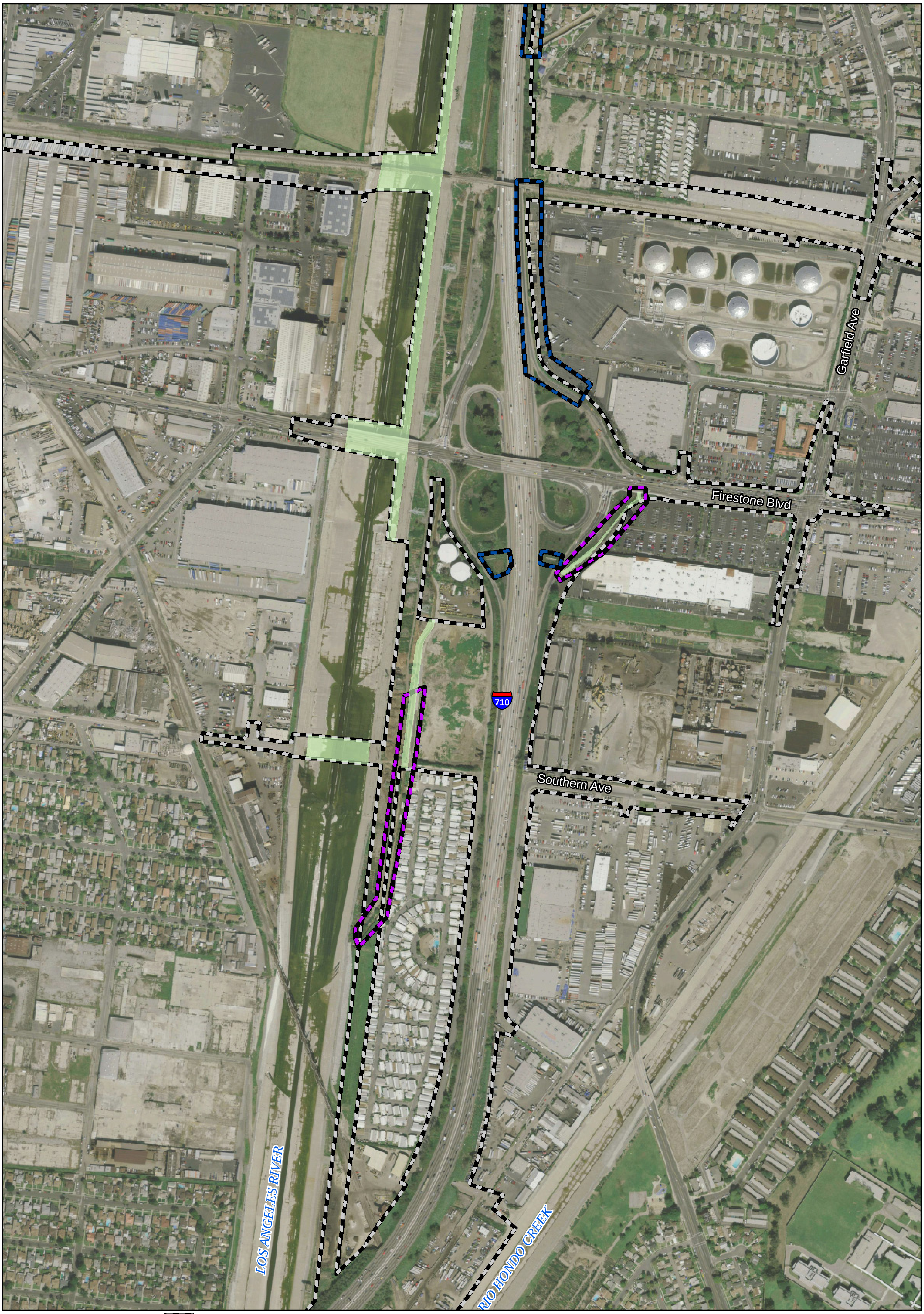
I:\URS0801A\GIS\BIO\Habitat_Mapbook.mxd (1/4/12)

Appendix H
Sheet 11 of 15

I-710 Corridor Project

Vegetation Communities within the Biological Study Area

PM 4.9/24.9
EA 249900



Biological Study Area
Developed/Ornamental/Ruderal
Concrete-lined Freshwater Portions of the L.A. River
Earthen-bottom Intertidal Portions of the L.A. River
Open Water
Freshwater Emergent Marsh
Riparian Scrub
Coastal Zone
Jurisdictional Features (includes L.A. River)
Other Drainage Features Within Developed Areas (non-jurisdictional)

N

0 250 500
FEET

SOURCE: BING (c. 2010); TBM (2010)

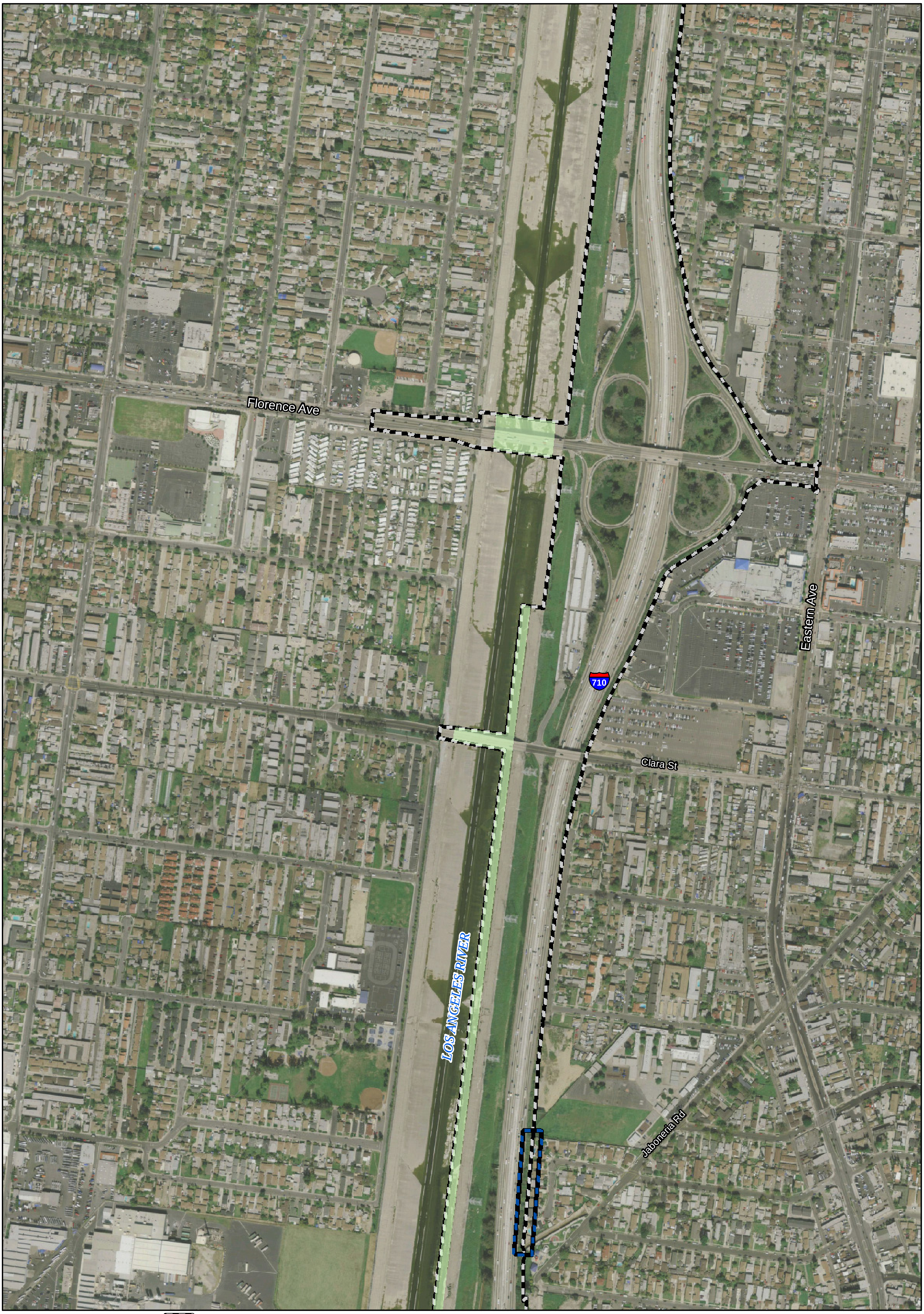
I:\URS0801A\GIS\BIO\Habitat_Mapbook.mxd (1/4/12)

Appendix H
Sheet 12 of 15

I-710 Corridor Project

Vegetation Communities
within the Biological Study Area

PM 4.9/24.9
EA 249900

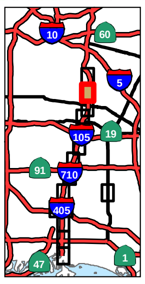


Biological Study Area
Developed/Ornamental/Ruderal
Concrete-lined Freshwater Portions of the L.A. River
Earthen-bottom Intertidal Portions of the L.A. River
Open Water
Freshwater Emergent Marsh
Riparian Scrub
Coastal Zone
Jurisdictional Features (includes L.A. River)
Other Drainage Features Within Developed Areas (non-jurisdictional)

N

0 250 500
FEET

SOURCE: BING (c. 2010); TBM (2010)



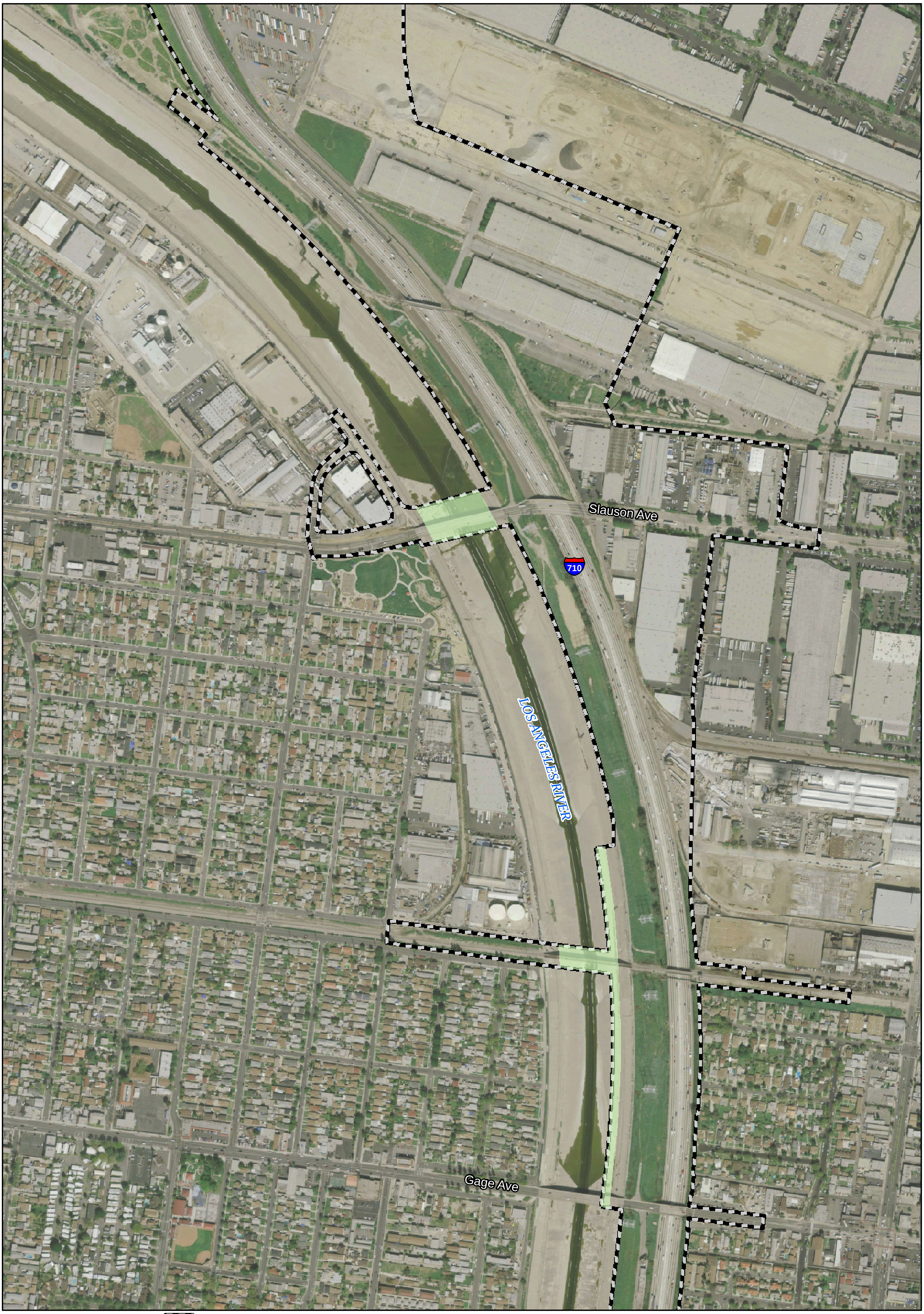
Appendix H
Sheet 13 of 15

I-710 Corridor Project

Vegetation Communities within the Biological Study Area

PM 4.9/24.9
EA 249900

I:\URS0801A\GIS\BIO\Habitat_Mapbook.mxd (1/4/12)

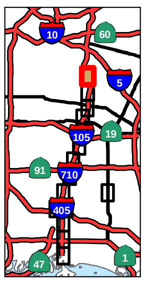


Biological Study Area
Developed/Ornamental/Ruderal
Concrete-lined Freshwater Portions of the L.A. River
Earthen-bottom Intertidal Portions of the L.A. River
Open Water
Freshwater Emergent Marsh
Riparian Scrub
Coastal Zone
Jurisdictional Features (includes L.A. River)
Other Drainage Features Within Developed Areas (non-jurisdictional)

N

0 250 500
FEET

SOURCE: BING (c. 2010); TBM (2010)



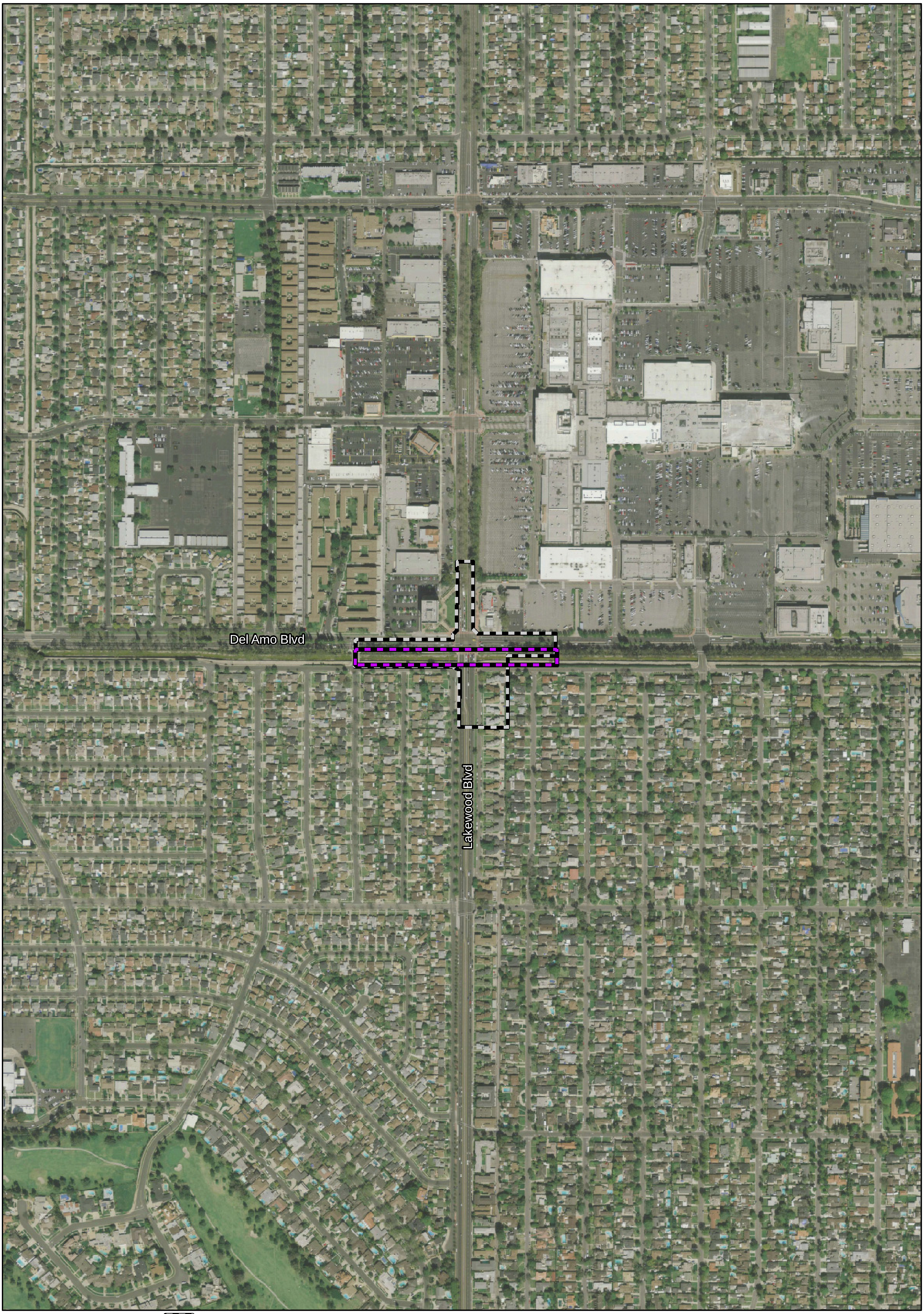
Appendix H
Sheet 14 of 15

I-710 Corridor Project

Vegetation Communities within the Biological Study Area

PM 4.9/24.9
EA 249900

I:\URS0801A\GIS\BIO\Habitat_Mapbook.mxd (1/4/12)



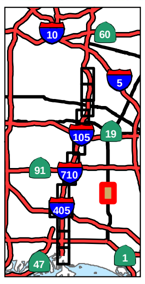
Biological Study Area
Developed/Ornamental/Ruderal
Concrete-lined Freshwater Portions of the L.A. River
Earthen-bottom Intertidal Portions of the L.A. River
Open Water
Freshwater Emergent Marsh
Riparian Scrub
Coastal Zone
Jurisdictional Features (includes L.A. River)
Other Drainage Features Within Developed Areas (non-jurisdictional)

N

0 250 500
FEET

SOURCE: BING (c. 2010); TBM (2010)

I:\URS0801A\GIS\BIO\Habitat_Mapbook.mxd (1/4/12)



Appendix H
Sheet 15 of 15

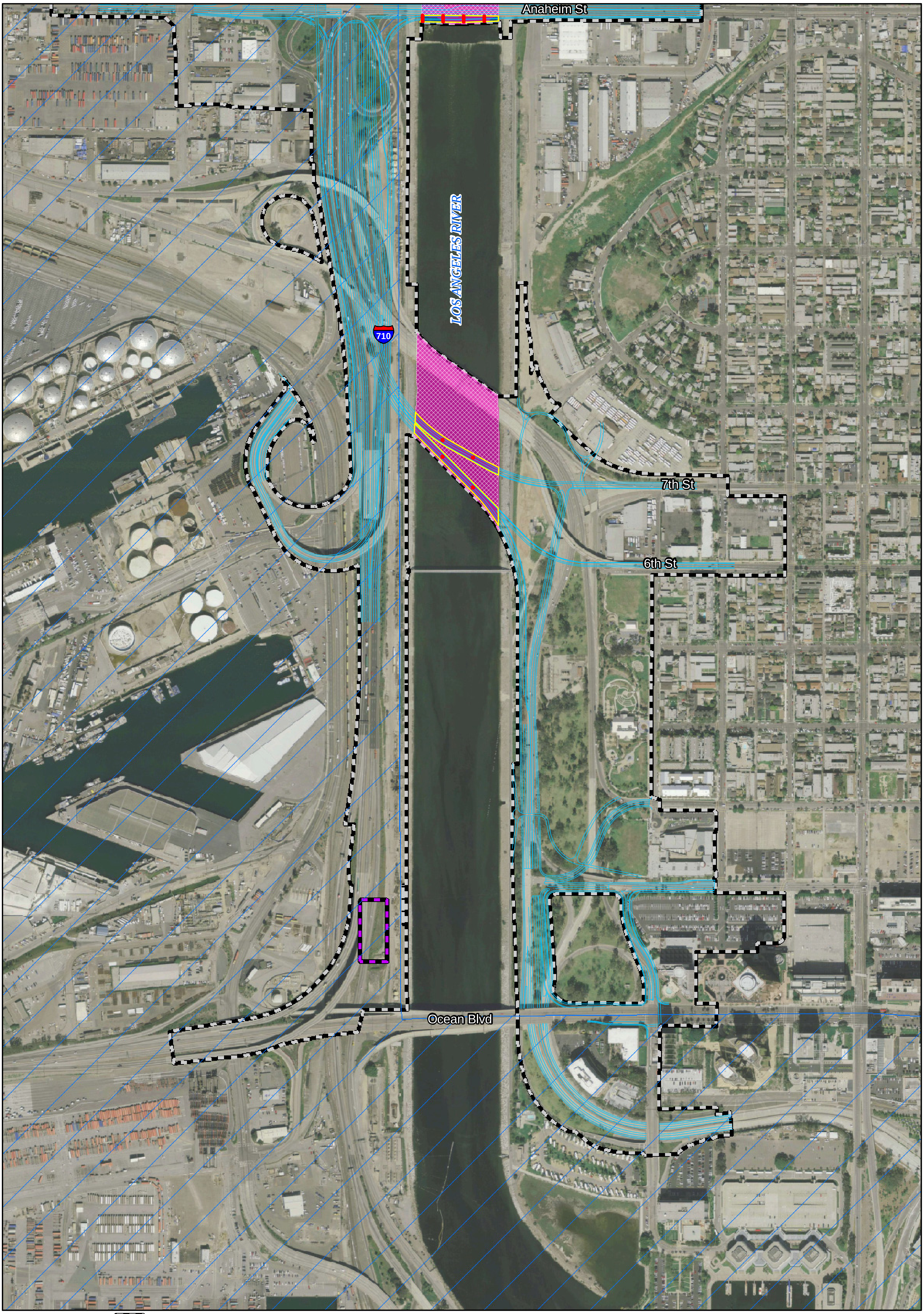
I-710 Corridor Project

Vegetation Communities within the Biological Study Area

PM 4.9/24.9
EA 249900

APPENDIX I
PROJECT EFFECTS TO VEGETATION COMMUNITIES FROM ALTERNATIVE 5A

This page intentionally left blank



Biological Study Area
Permanent Effects
Permanent Indirect Effects
Temporary Effects
Alternative 5A Geometrics

Developed/Ornamental/Ruderal
Earthen-bottom Intertidal Portions of the L.A. River
Freshwater Emergent Marsh
Riparian Scrub
Concrete-lined Freshwater Portions of the L.A. River
Open Water

Coastal Zone
Jurisdictional Features (includes L.A. River)
Other Drainage Features Within Developed Areas (non-jurisdictional)

N

0 250 500
FEET

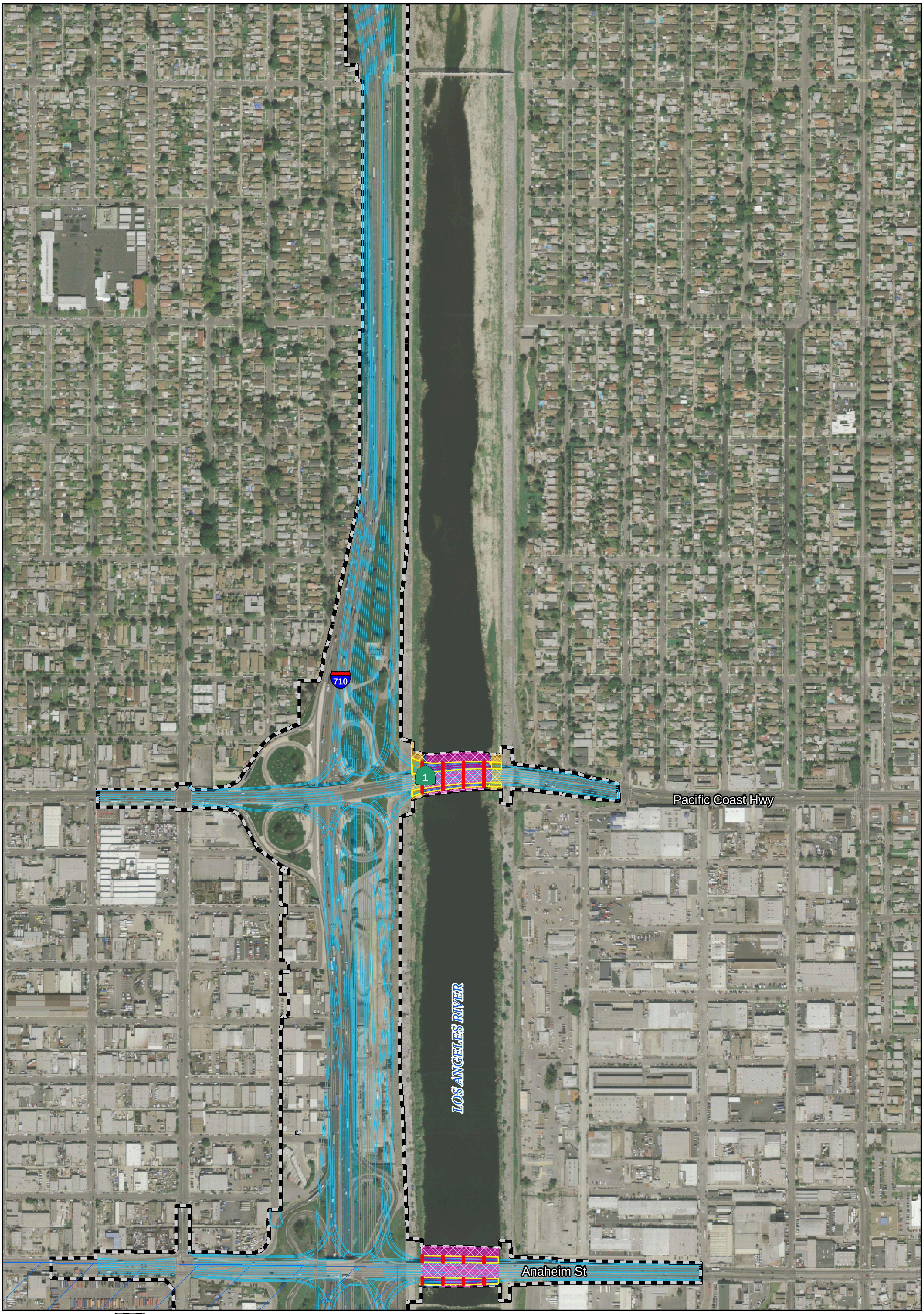
SOURCE: BING (c. 2010); TBM (2010)

I:\URS0801A\GIS\BIO\Habitat_Impacts_Alt5.mxd (1/3/12)

Appendix I
Sheet 1 of 15

I-710 Corridor Project
Project Effects to Vegetation Communities
Alternative 5A

PM 4.9/24.9
EA 249900



- Biological Study Area
- Permanent Effects
- Permanent Indirect Effects
- Temporary Effects
- Alternative 5A Geometrics
- Developed/Ornamental/Ruderal
- Earthen-bottom Intertidal Portions of the L.A. River
- Freshwater Emergent Marsh
- Riparian Scrub
- Concrete-lined Freshwater Portions of the L.A. River
- Open Water
- Coastal Zone
- Jurisdictional Features (includes L.A. River)
- Other Drainage Features Within Developed Areas (non-jurisdictional)

0 250 500
FEET

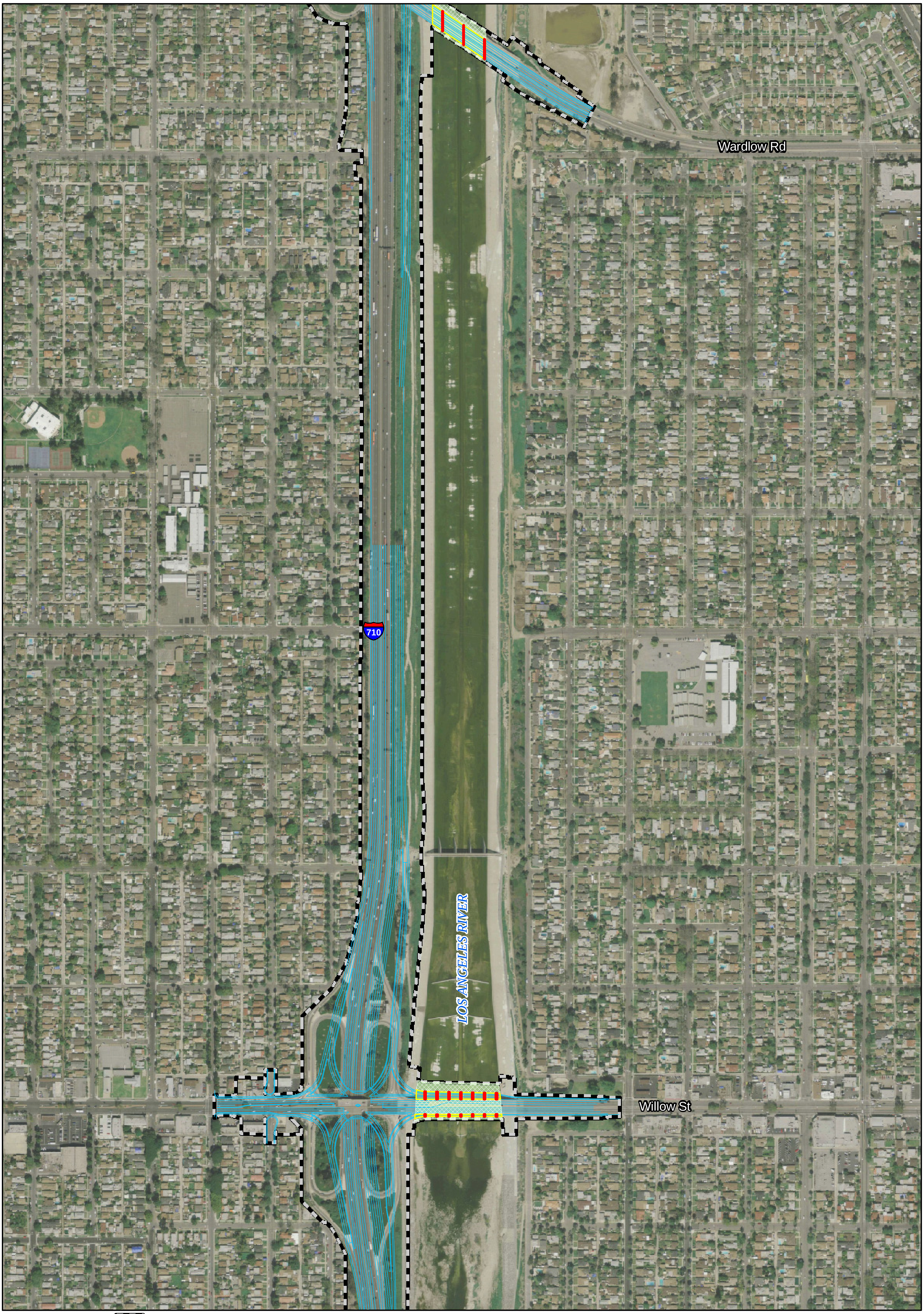
SOURCE: BING (c. 2010); TBM (2010)

I:\URS0801A\GIS\BIO\Habitat_Impacts_Alt5.mxd (1/3/12)

Appendix I
Sheet 2 of 15

I-710 Corridor Project
Project Effects to Vegetation Communities
Alternative 5A

PM 4.9/24.9
EA 249900



Biological Study Area
Permanent Effects
Permanent Indirect Effects
Temporary Effects
Alternative 5A Geometrics

Developed/Ornamental/Ruderal
Earthen-bottom Intertidal Portions of the L.A. River
Freshwater Emergent Marsh
Riparian Scrub
Concrete-lined Freshwater Portions of the L.A. River
Open Water

Coastal Zone
Jurisdictional Features (includes L.A. River)
Other Drainage Features Within Developed Areas (non-jurisdictional)

0 250 500
FEET

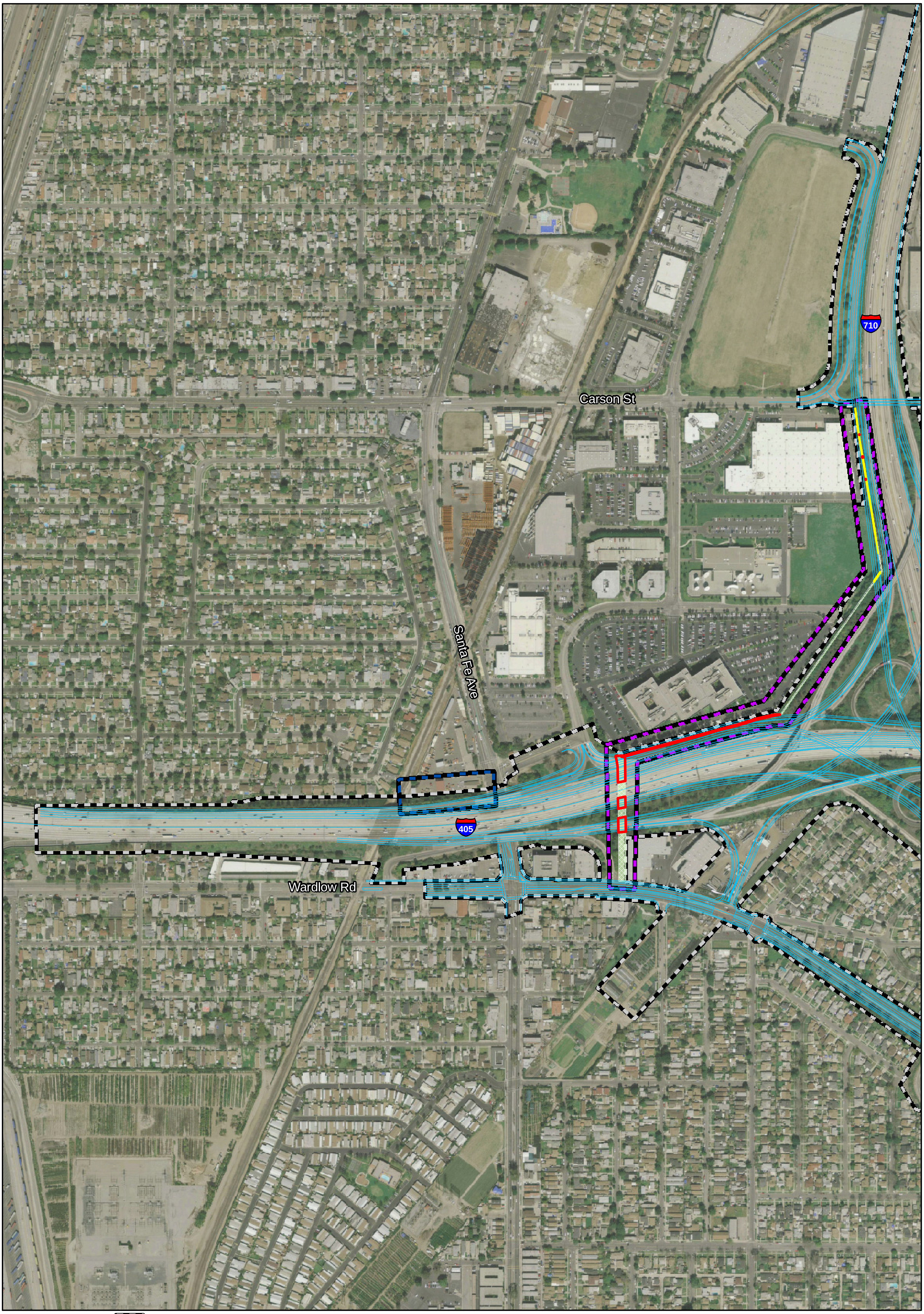
SOURCE: BING (c. 2010); TBM (2010)

I:\URS0801A\GIS\BIO\Habitat_Impacts_Alt5.mxd (1/3/12)

Appendix I
Sheet 3 of 15

I-710 Corridor Project
Project Effects to Vegetation Communities
Alternative 5A

PM 4.9/24.9
EA 249900



Biological Study Area
Permanent Effects
Permanent Indirect Effects
Temporary Effects
Alternative 5A Geometrics

Developed/Ornamental/Ruderal
Earthen-bottom Intertidal Portions of the L.A. River
Freshwater Emergent Marsh
Riparian Scrub
Concrete-lined Freshwater Portions of the L.A. River
Open Water

Coastal Zone
Jurisdictional Features (includes L.A. River)
Other Drainage Features Within Developed Areas (non-jurisdictional)

N

0 250 500
FEET

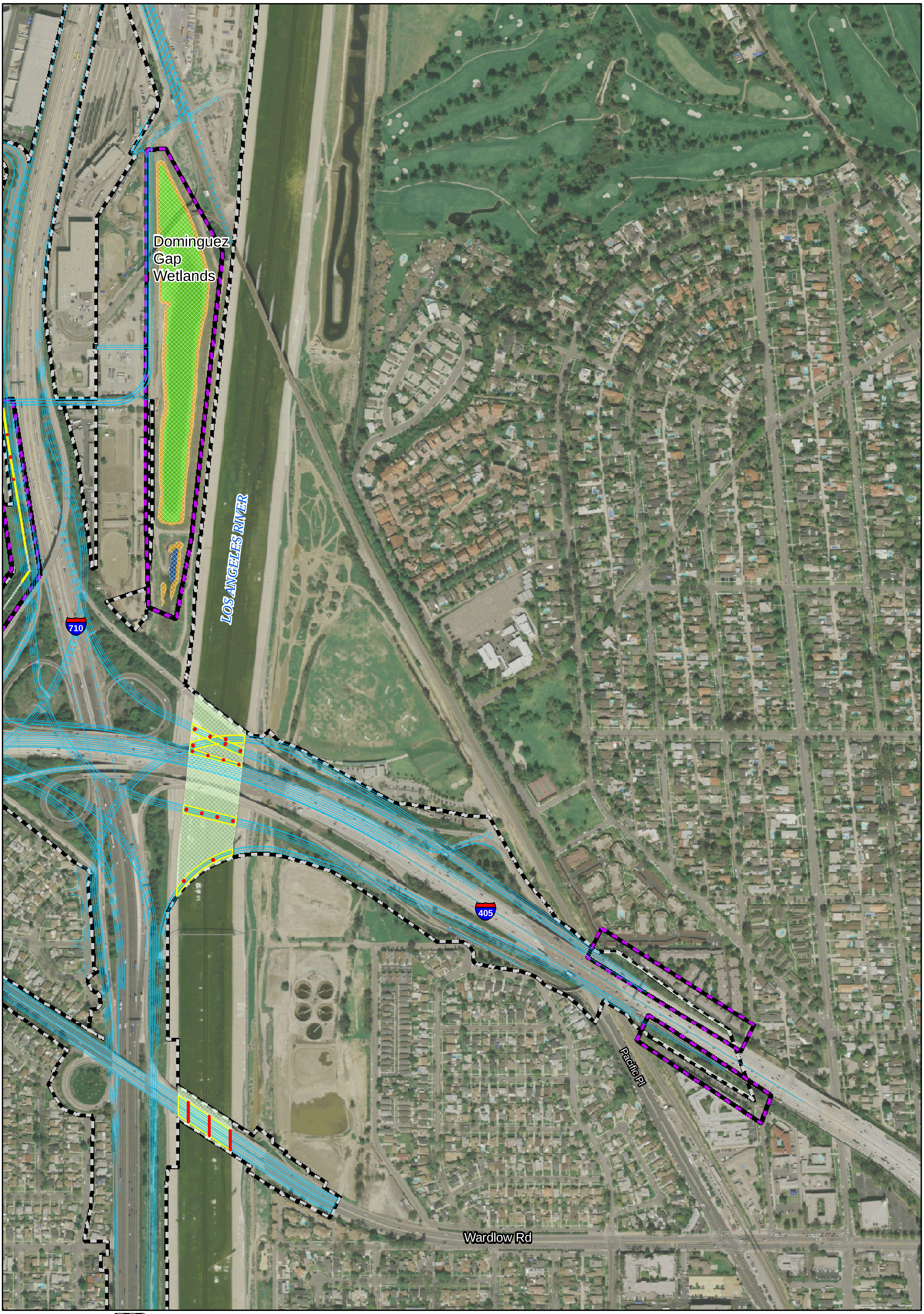
SOURCE: BING (c. 2010); TBM (2010)

I:\URS0801A\GIS\BIO\Habitat_Impacts_Alt5.mxd (1/3/12)

Appendix I
Sheet 4 of 15

I-710 Corridor Project
Project Effects to Vegetation Communities
Alternative 5A

PM 4.9/24.9
EA 249900



Biological Study Area
Permanent Effects
Permanent Indirect Effects
Temporary Effects
Alternative 5A Geometrics

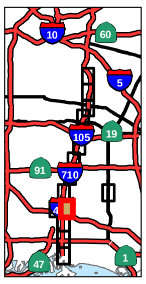
Developed/Ornamental/Ruderal
Earthen-bottom Intertidal Portions of the L.A. River
Freshwater Emergent Marsh
Riparian Scrub
Concrete-lined Freshwater Portions of the L.A. River
Open Water

Coastal Zone
Jurisdictional Features
(includes L.A. River)
Other Drainage Features Within
Developed Areas (non-jurisdictional)

N

0 250 500
FEET

SOURCE: BING (c. 2010); TBM (2010)

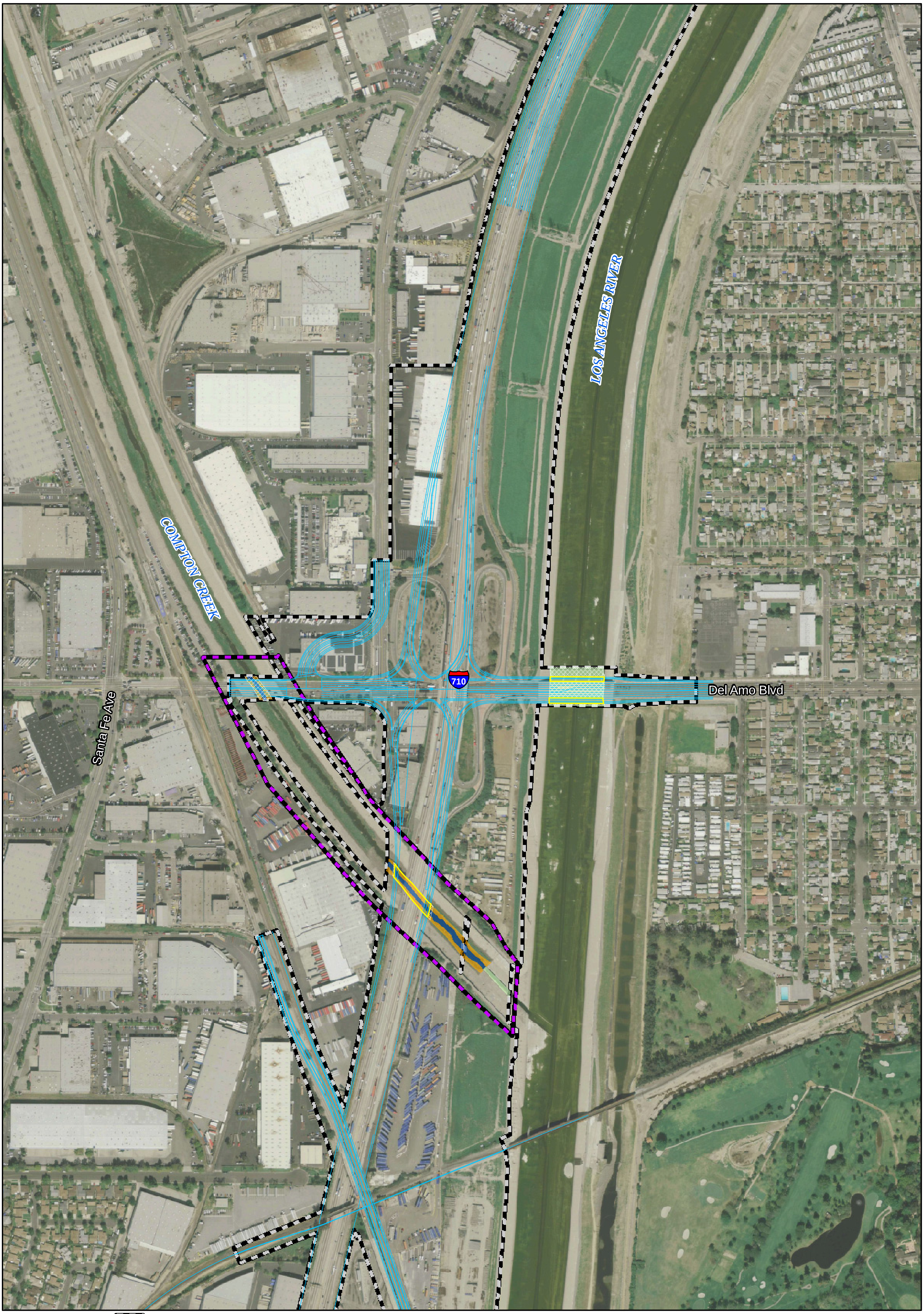


Appendix I
Sheet 5 of 15

I-710 Corridor Project
Project Effects to
Vegetation Communities
Alternative 5A

PM 4.9/24.9
EA 249900

I:\URS0801A\GIS\BIO\Habitat_Impacts_Alt5.mxd (1/3/12)



Biological Study Area
Permanent Effects
Permanent Indirect Effects
Temporary Effects
Alternative 5A Geometrics

Developed/Ornamental/Ruderal
Earthen-bottom Intertidal Portions of the L.A. River
Freshwater Emergent Marsh
Riparian Scrub
Concrete-lined Freshwater Portions of the L.A. River
Open Water

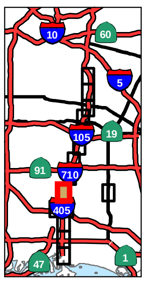
Coastal Zone
Jurisdictional Features (includes L.A. River)
Other Drainage Features Within Developed Areas (non-jurisdictional)

N

0 250 500
FEET

SOURCE: BING (c. 2010); TBM (2010)

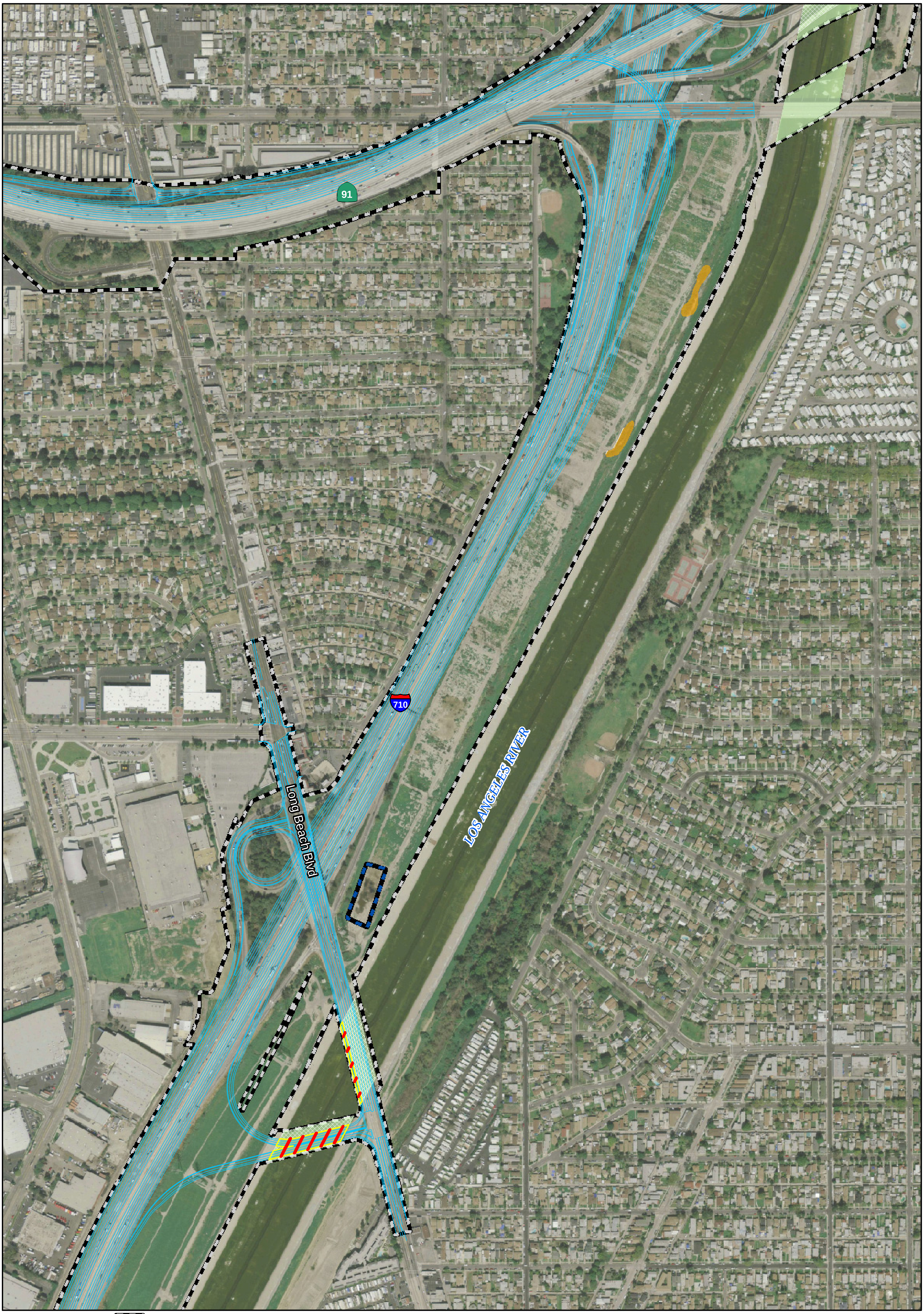
I:\URS0801A\GIS\BIO\Habitat_Impacts_Alt5.mxd (1/3/12)



Appendix I
Sheet 6 of 15

I-710 Corridor Project
Project Effects to
Vegetation Communities
Alternative 5A

PM 4.9/24.9
EA 249900

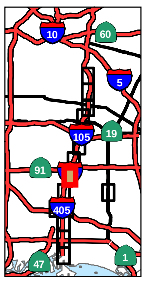


Biological Study Area
Permanent Effects
Permanent Indirect Effects
Temporary Effects
Alternative 5A Geometrics

Developed/Ornamental/Ruderal
Earthen-bottom Intertidal Portions of the L.A. River
Freshwater Emergent Marsh
Riparian Scrub
Concrete-lined Freshwater Portions of the L.A. River
Open Water

Coastal Zone
Jurisdictional Features (includes L.A. River)
Other Drainage Features Within Developed Areas (non-jurisdictional)

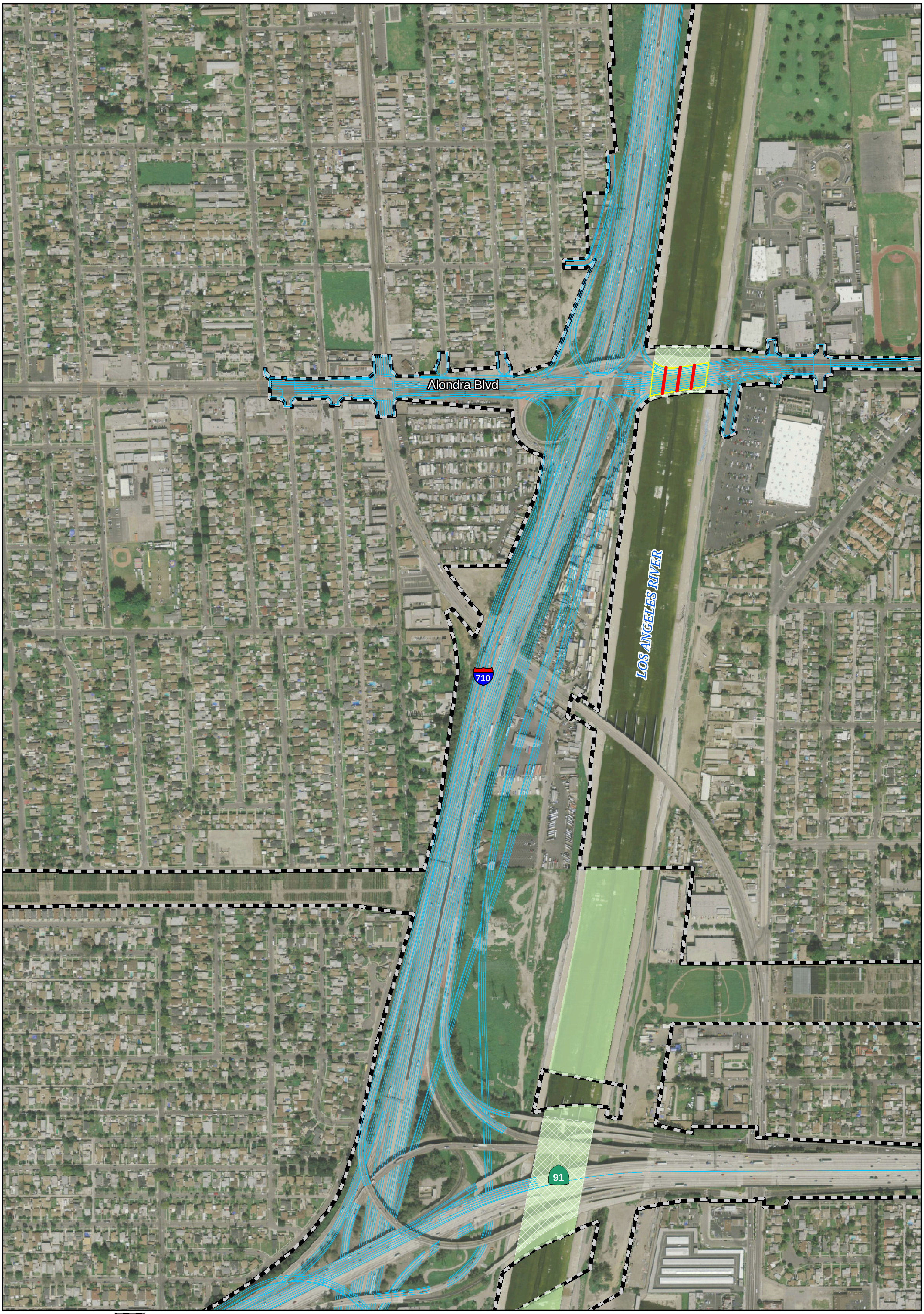
0 250 500
FEET



Appendix I
Sheet 7 of 15

I-710 Corridor Project
Project Effects to Vegetation Communities
Alternative 5A
PM 4.9/24.9
EA 249900

SOURCE: BING (c. 2010); TBM (2010)
I:\URS0801A\GIS\BIO\Habitat_Impacts_Alt5.mxd (1/3/12)



Biological Study Area
Permanent Effects
Permanent Indirect Effects
Temporary Effects
Alternative 5A Geometrics

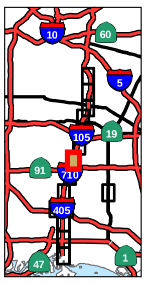
Developed/Ornamental/Ruderal
Earthen-bottom Intertidal Portions of the L.A. River
Freshwater Emergent Marsh
Riparian Scrub
Concrete-lined Freshwater Portions of the L.A. River
Open Water

Coastal Zone
Jurisdictional Features (includes L.A. River)
Other Drainage Features Within Developed Areas (non-jurisdictional)

N

0 250 500
FEET

SOURCE: BING (c. 2010); TBM (2010)

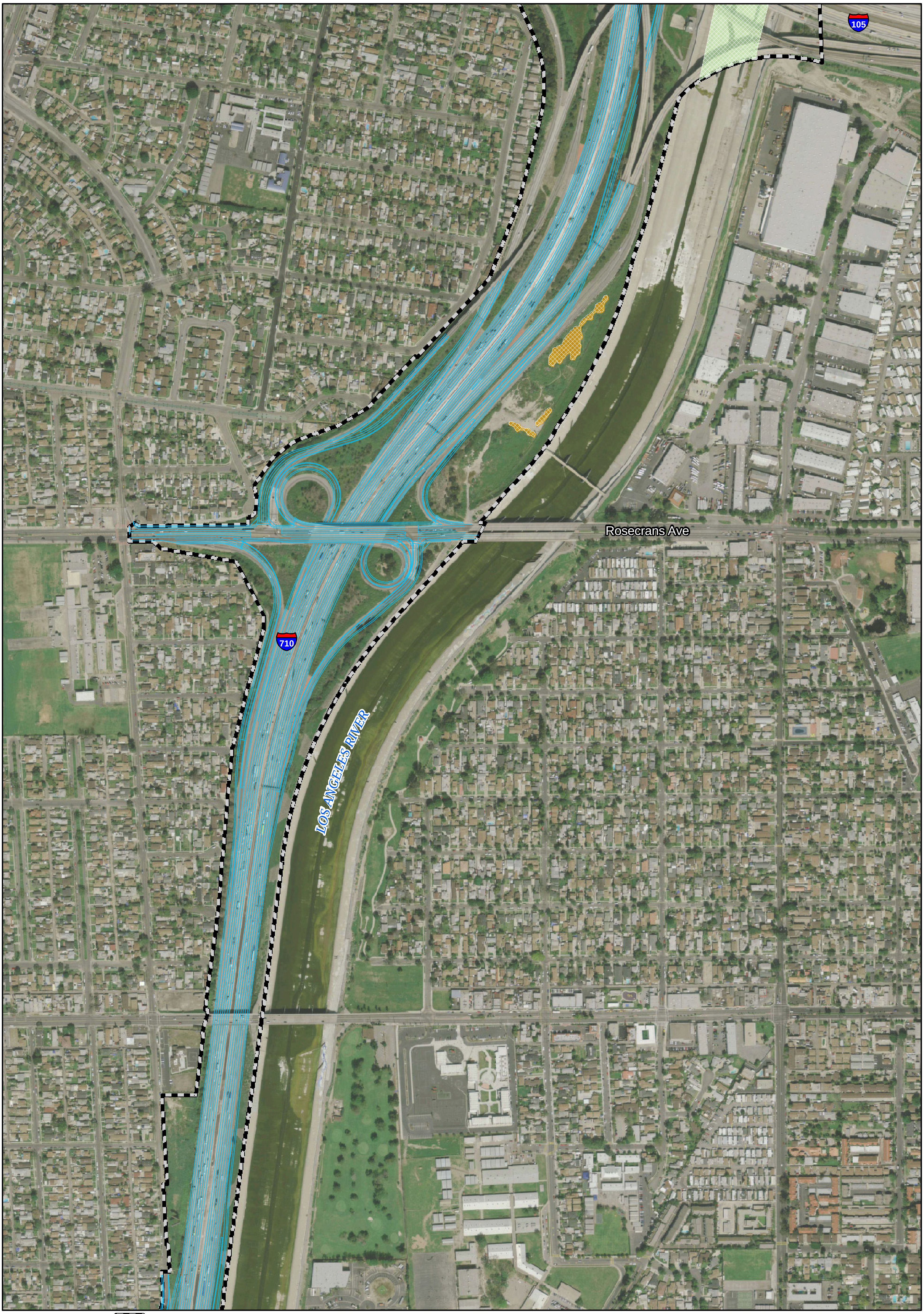


Appendix I
Sheet 8 of 15

I-710 Corridor Project
Project Effects to Vegetation Communities
Alternative 5A

PM 4.9/24.9
EA 249900

I:\URS0801A\GIS\BIO\Habitat_Impacts_Alt5.mxd (1/3/12)



Biological Study Area
Permanent Effects
Permanent Indirect Effects
Temporary Effects
Alternative 5A Geometrics

Developed/Ornamental/Ruderal
Earthen-bottom Intertidal Portions of the L.A. River
Freshwater Emergent Marsh
Riparian Scrub
Concrete-lined Freshwater Portions of the L.A. River
Open Water

Coastal Zone
Jurisdictional Features (includes L.A. River)
Other Drainage Features Within Developed Areas (non-jurisdictional)

0 250 500
FEET

SOURCE: BING (c. 2010); TBM (2010)

I:\URS0801A\GIS\BIO\Habitat_Impacts_Alt5.mxd (1/3/12)

Appendix I
Sheet 9 of 15

I-710 Corridor Project
Project Effects to Vegetation Communities
Alternative 5A

PM 4.9/24.9
EA 249900

Biological Study Area
Permanent Effects
Permanent Indirect Effects
Temporary Effects
Alternative 5A Geometrics

Developed/Ornamental/Ruderal
Earthen-bottom Intertidal Portions of the L.A. River
Freshwater Emergent Marsh
Riparian Scrub
Concrete-lined Freshwater Portions of the L.A. River
Open Water

Coastal Zone
Jurisdictional Features (includes L.A. River)
Other Drainage Features Within Developed Areas (non-jurisdictional)

N

0 250 500
FEET

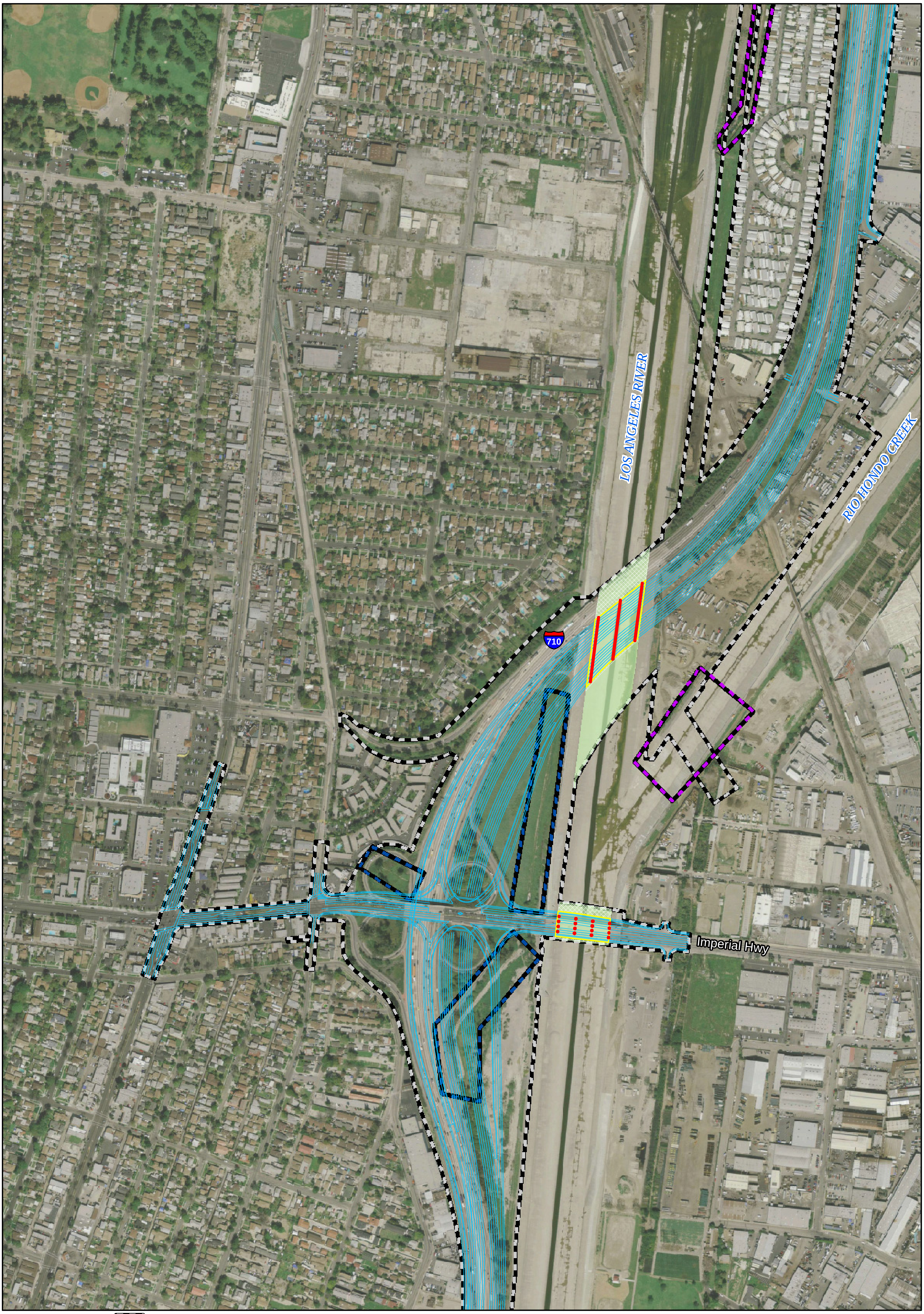
SOURCE: BING (c. 2010); TBM (2010)

I:\URS0801A\GIS\BIO\Habitat_Impacts_Alt5.mxd (1/3/12)

Appendix I
Sheet 10 of 15

I-710 Corridor Project
Project Effects to Vegetation Communities
Alternative 5A

PM 4.9/24.9
EA 249900



Biological Study Area
Permanent Effects
Permanent Indirect Effects
Temporary Effects
Alternative 5A Geometrics

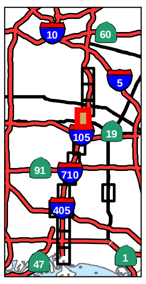
Developed/Ornamental/Ruderal
Earthen-bottom Intertidal Portions of the L.A. River
Freshwater Emergent Marsh
Riparian Scrub
Concrete-lined Freshwater Portions of the L.A. River
Open Water

Coastal Zone
Jurisdictional Features (includes L.A. River)
Other Drainage Features Within Developed Areas (non-jurisdictional)

N

0 250 500
FEET

SOURCE: BING (c. 2010); TBM (2010)

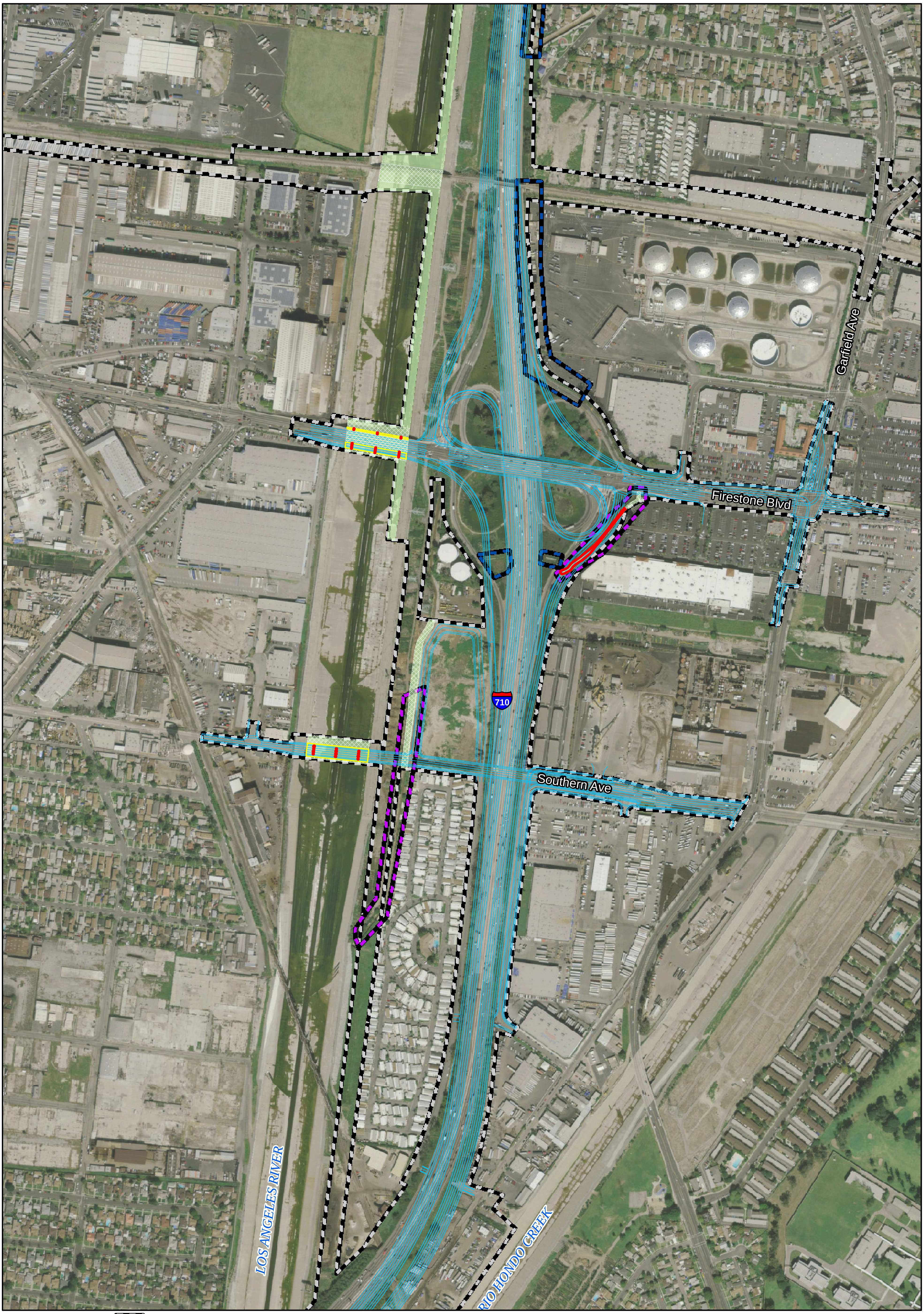


Appendix I
Sheet 11 of 15

I-710 Corridor Project
Project Effects to Vegetation Communities
Alternative 5A

PM 4.9/24.9
EA 249900

I:\URS0801A\GIS\BIO\Habitat_Impacts_Alt5.mxd (1/3/12)



Biological Study Area
Permanent Effects
Permanent Indirect Effects
Temporary Effects
Alternative 5A Geometrics

Developed/Ornamental/Ruderal
Earthen-bottom Intertidal Portions of the L.A. River
Freshwater Emergent Marsh
Riparian Scrub
Concrete-lined Freshwater Portions of the L.A. River
Open Water

Coastal Zone
Jurisdictional Features (includes L.A. River)
Other Drainage Features Within Developed Areas (non-jurisdictional)

N

0 250 500
FEET

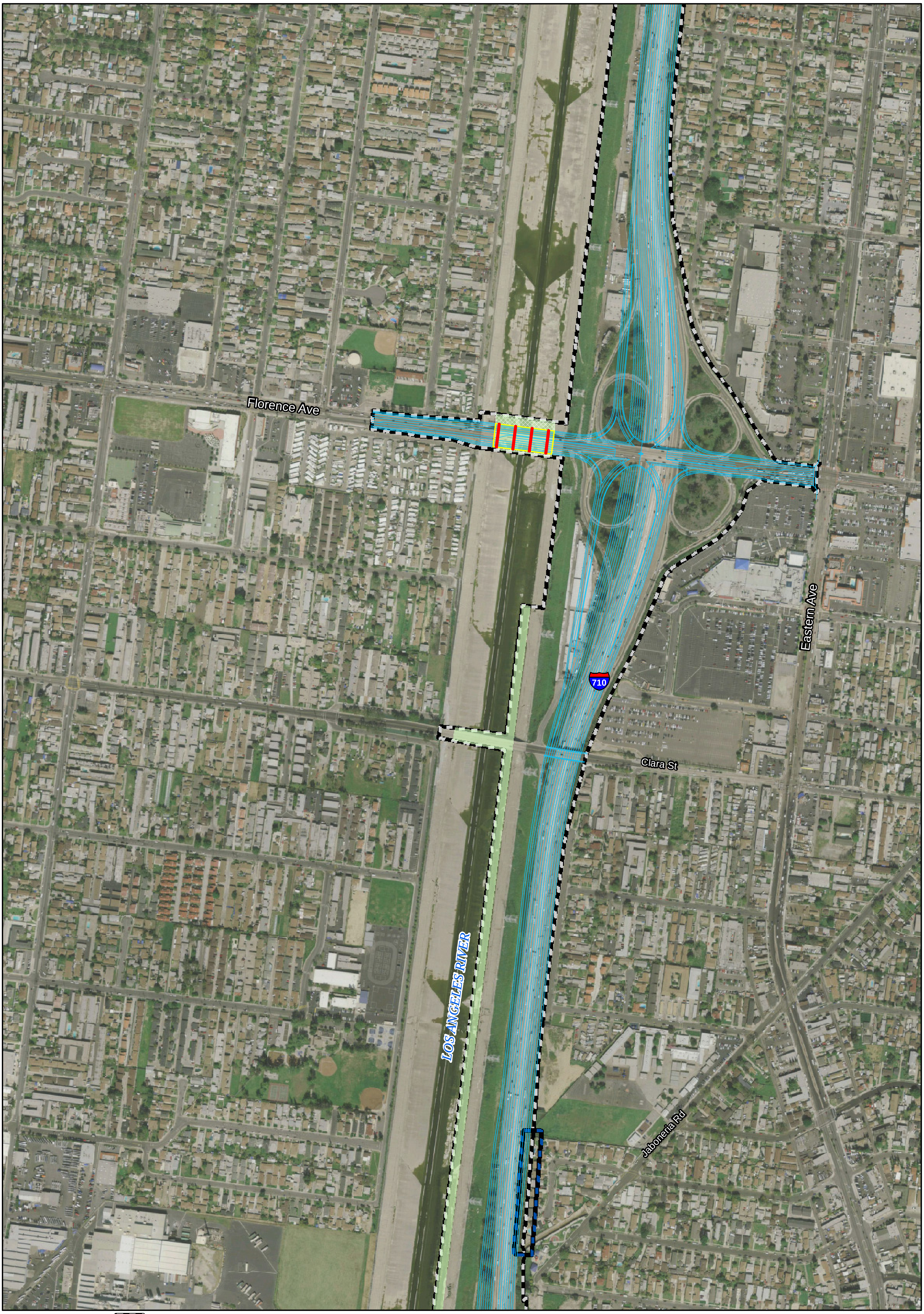
SOURCE: BING (c. 2010); TBM (2010)

Appendix I
Sheet 12 of 15

I-710 Corridor Project
Project Effects to Vegetation Communities
Alternative 5A

PM 4.9/24.9
EA 249900

I:\URS0801A\GIS\BIO\Habitat_Impacts_Alt5.mxd (1/3/12)



Biological Study Area
Permanent Effects
Permanent Indirect Effects
Temporary Effects
Alternative 5A Geometrics

Developed/Ornamental/Ruderal
Earthen-bottom Intertidal Portions of the L.A. River
Freshwater Emergent Marsh
Riparian Scrub
Concrete-lined Freshwater Portions of the L.A. River
Open Water

Coastal Zone
Jurisdictional Features (includes L.A. River)
Other Drainage Features Within Developed Areas (non-jurisdictional)

N

0 250 500
FEET

SOURCE: BING (c. 2010); TBM (2010)

Appendix I
Sheet 13 of 15

I-710 Corridor Project
Project Effects to Vegetation Communities
Alternative 5A

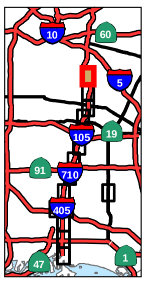
PM 4.9/24.9
EA 249900

I:\URS0801A\GIS\BIO\Habitat_Impacts_Alt5.mxd (1/3/12)

- Biological Study Area
- Permanent Effects
- Permanent Indirect Effects
- Temporary Effects
- Alternative 5A Geometrics
- Developed/Ornamental/Ruderal
- Earthen-bottom Intertidal Portions of the L.A. River
- Freshwater Emergent Marsh
- Riparian Scrub
- Concrete-lined Freshwater Portions of the L.A. River
- Open Water
- Coastal Zone
- Jurisdictional Features (includes L.A. River)
- Other Drainage Features Within Developed Areas (non-jurisdictional)

N

0 250 500
FEET



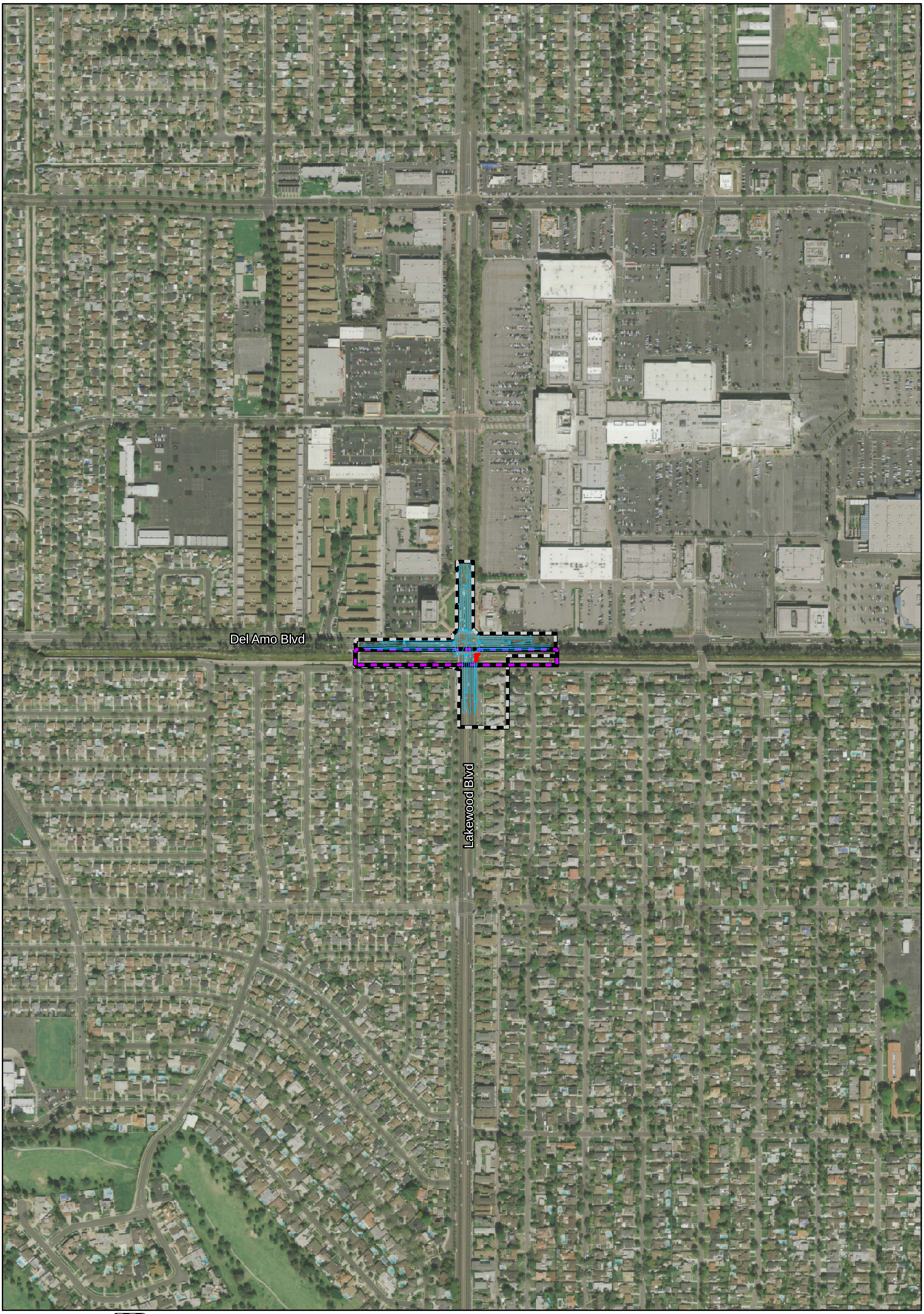
Appendix I
Sheet 14 of 15

I-710 Corridor Project
Project Effects to Vegetation Communities
Alternative 5A

PM 4.9/24.9
EA 249900

SOURCE: BING (c. 2010); TBM (2010)

I:\URS0801A\GIS\BIO\Habitat_Impacts_Alt5.mxd (1/3/12)



Biological Study Area
Permanent Effects
Permanent Indirect Effects
Temporary Effects
Alternative 5A Geometrics

Developed/Ornamental/Ruderal
Earthen-bottom Intertidal Portions of the L.A. River
Freshwater Emergent Marsh
Riparian Scrub
Concrete-lined Freshwater Portions of the L.A. River
Open Water

Coastal Zone
Jurisdictional Features (includes L.A. River)
Other Drainage Features Within Developed Areas (non-jurisdictional)

N

0 250 500
FEET

SOURCE: BING (c. 2010); TBM (2010)

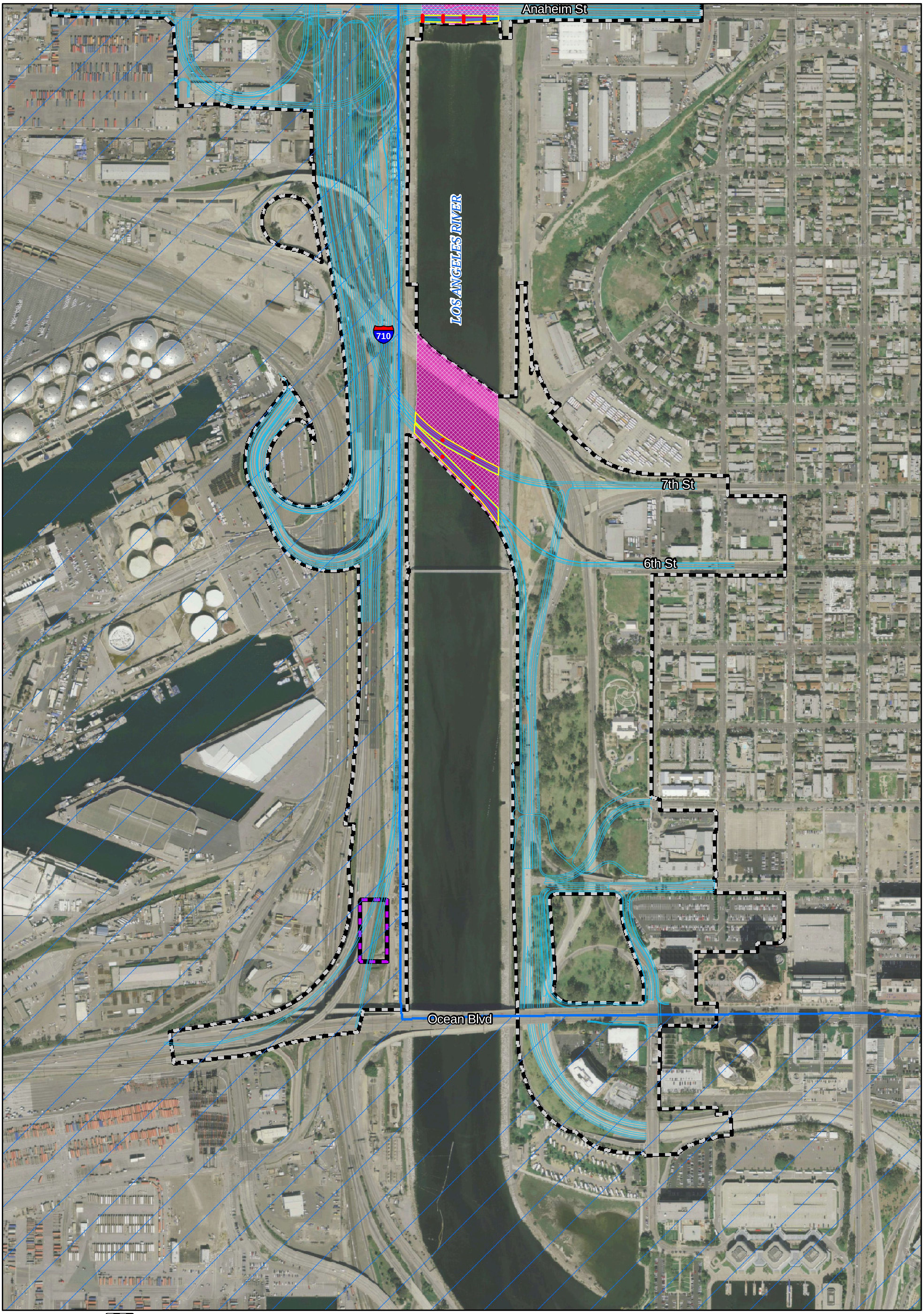
I:\URS0801A\GIS\BIO\Habitat_Impacts_Alt5.mxd (1/3/12)

Appendix I
Sheet 15 of 15

I-710 Corridor Project
Project Effects to
Vegetation Communities
Alternative 5A

PM 4.9/24.9
EA 249900

APPENDIX J
PROJECT EFFECTS TO VEGETATION COMMUNITIES FROM ALTERNATIVES 6A/B/C

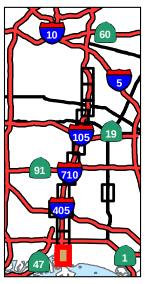


- Biological Study Area
- Permanent Effects
- Permanent Indirect Effects
- Temporary Effects
- Alternative 6A, 6B and 6C Geometrics
- Developed/Ornamental/Ruderal
- Earthen-bottom Intertidal Portions of the L.A. River
- Freshwater Emergent Marsh
- Riparian Scrub
- Concrete-lined Freshwater Portions of the L.A. River
- Open Water
- Coastal Zone
- Jurisdictional Features (includes L.A. River)
- Other Drainage Features Within Developed Areas (non-jurisdictional)

N

0 250 500
FEET

SOURCE: BING (2009); TBM (2010)

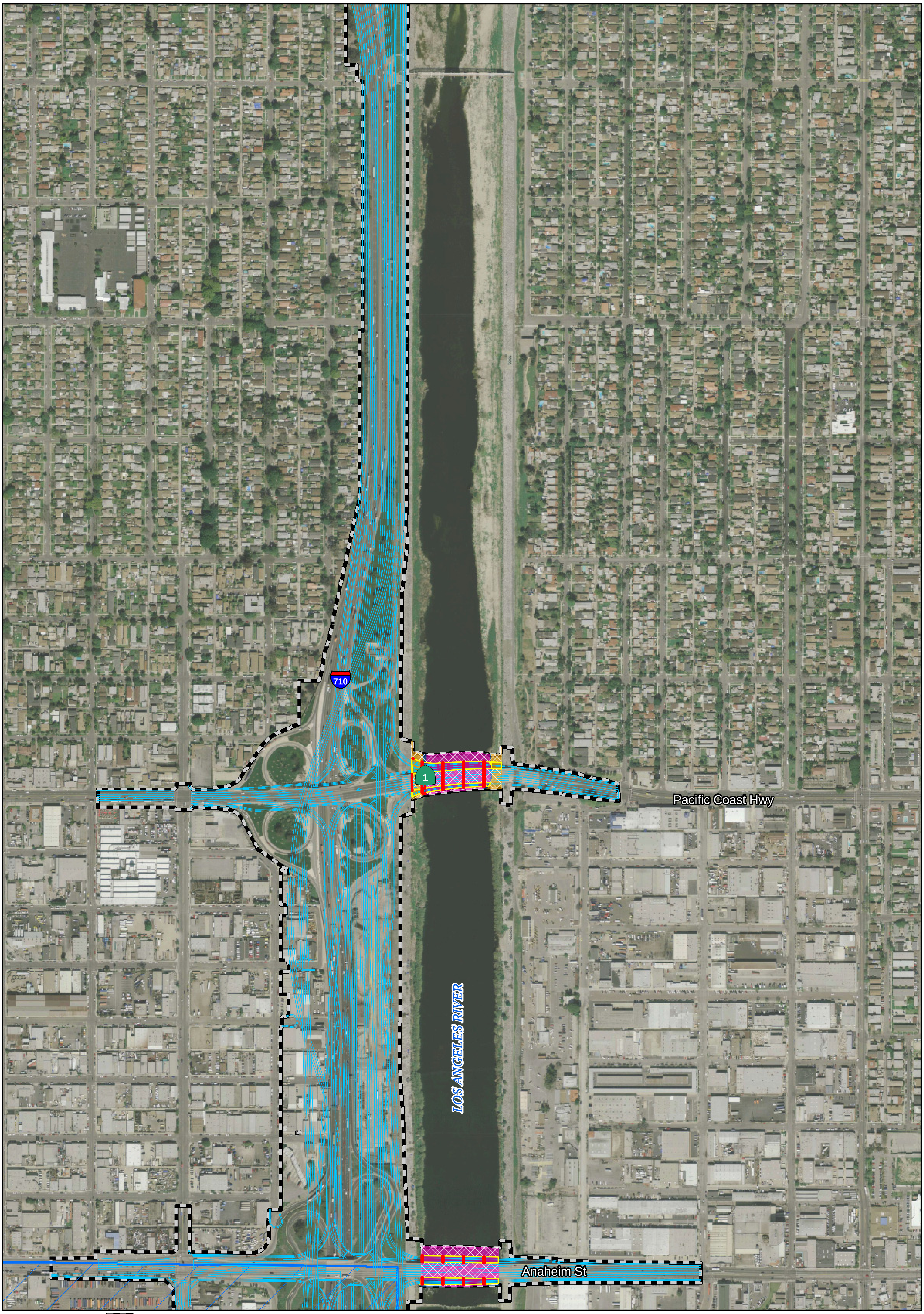


Appendix J
Sheet 1 of 15

I-710 Corridor Project
Project Effects to Vegetation Communities
Alternative 6A, 6B & 6C

PM 4.9/24.9
EA 249900

I:\URS0801A\GIS\BIO\Habitat_Impacts_Alt6.mxd (1/3/12)



Biological Study Area
Permanent Effects
Permanent Indirect Effects
Temporary Effects
Alternative 6A, 6B and 6C Geometrics

Developed/Ornamental/Ruderal
Earthen-bottom Intertidal Portions of the L.A. River
Freshwater Emergent Marsh
Riparian Scrub
Concrete-lined Freshwater Portions of the L.A. River
Open Water

Coastal Zone
Jurisdictional Features (includes L.A. River)
Other Drainage Features Within Developed Areas (non-jurisdictional)

N

0 250 500
FEET

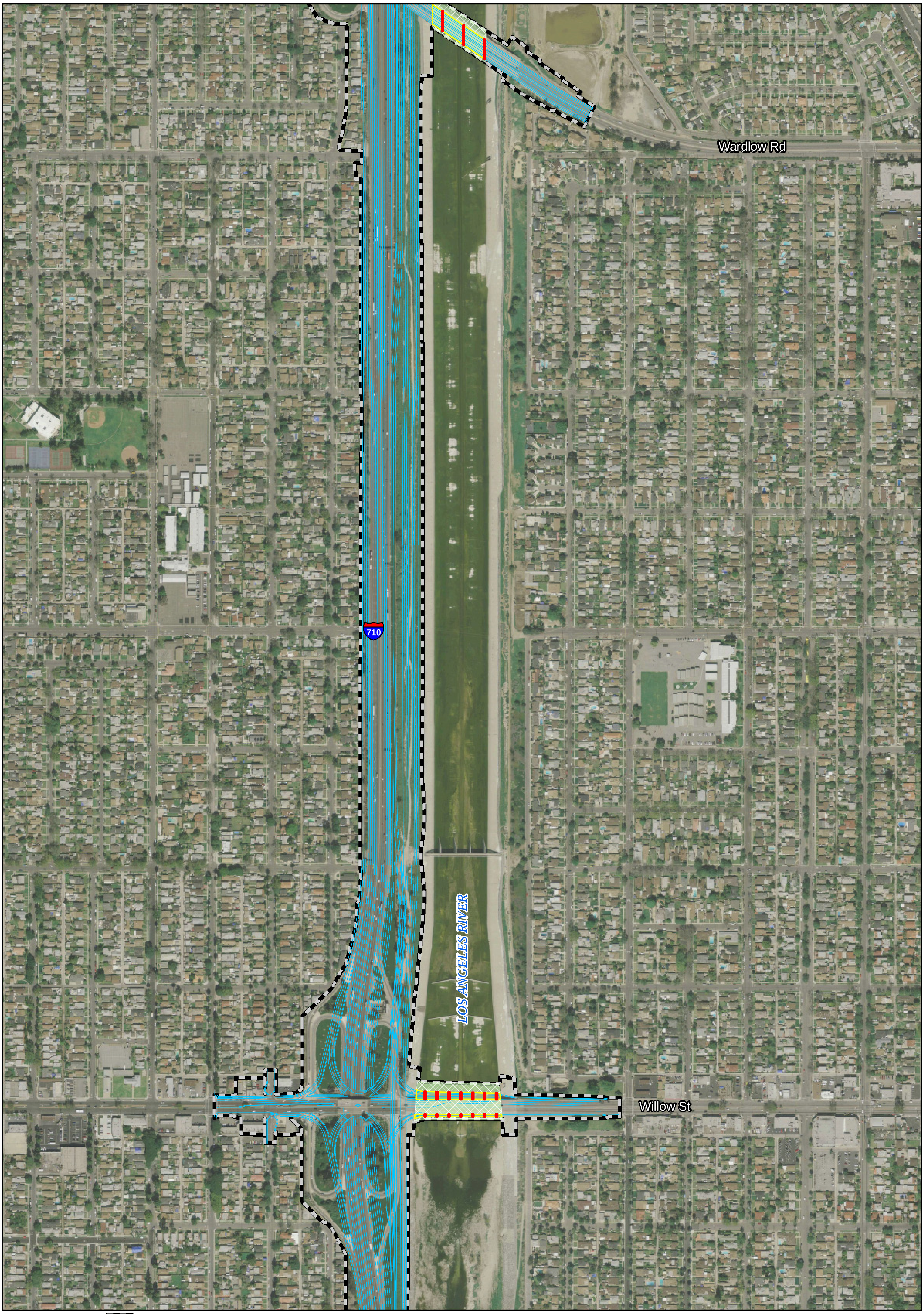
SOURCE: BING (2009); TBM (2010)

I:\URS0801A\GIS\BIO\Habitat_Impacts_Alt6.mxd (1/3/12)

Appendix J
Sheet 2 of 15

I-710 Corridor Project
Project Effects to Vegetation Communities
Alternative 6A, 6B & 6C

PM 4.9/24.9
EA 249900



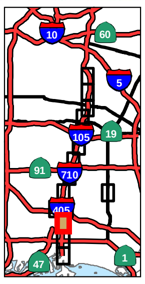
- Biological Study Area
- Permanent Effects
- Permanent Indirect Effects
- Temporary Effects
- Alternative 6A, 6B and 6C Geometrics
- Developed/Ornamental/Ruderal
- Earthen-bottom Intertidal Portions of the L.A. River
- Freshwater Emergent Marsh
- Riparian Scrub
- Concrete-lined Freshwater Portions of the L.A. River
- Open Water
- Coastal Zone
- Jurisdictional Features (includes L.A. River)
- Other Drainage Features Within Developed Areas (non-jurisdictional)

N

0 250 500
FEET

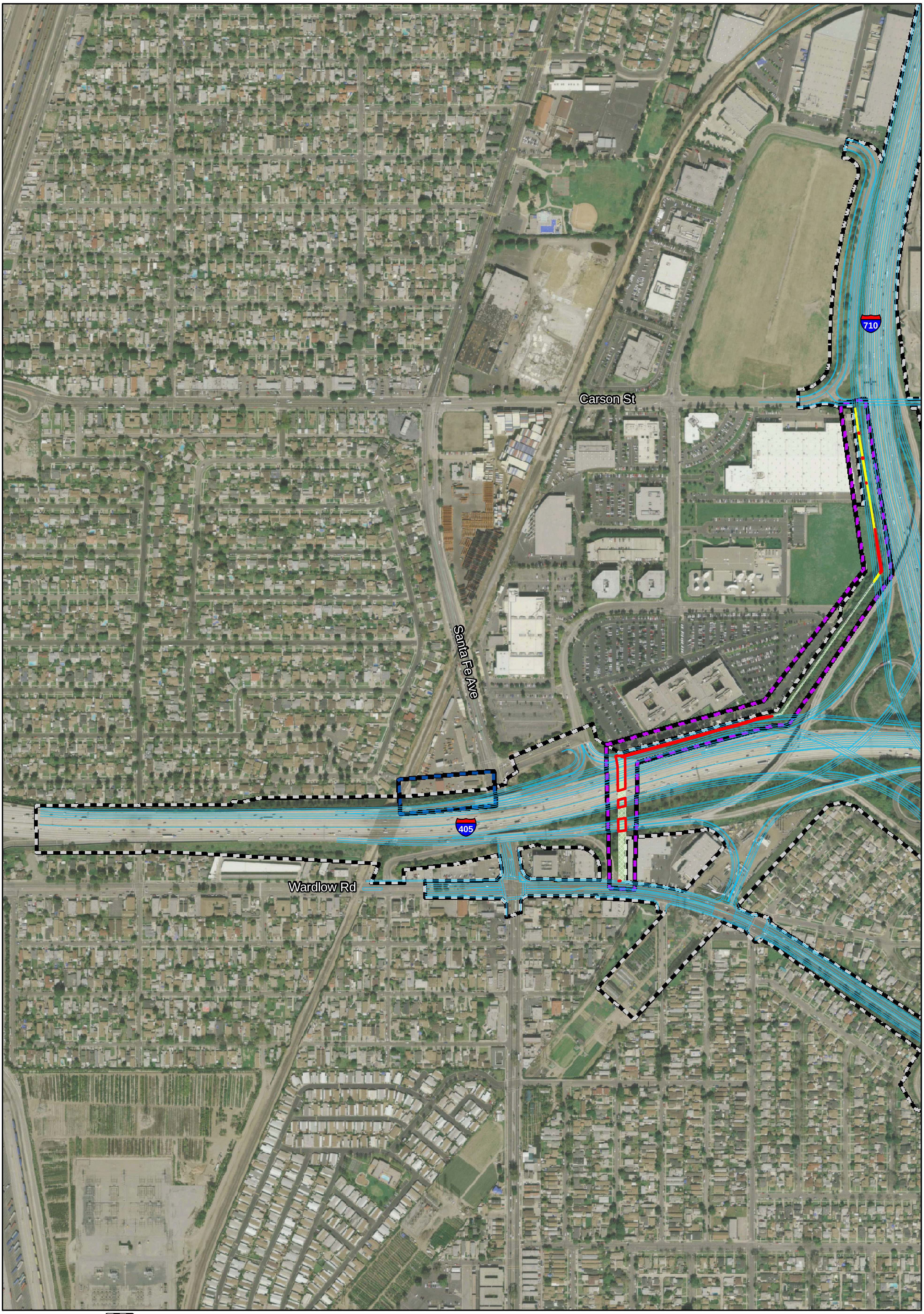
SOURCE: BING (2009); TBM (2010)

I:\URS0801A\GIS\BIO\Habitat_Impacts_Alt6.mxd (1/3/12)



Appendix J
Sheet 3 of 15

I-710 Corridor Project
Project Effects to
Vegetation Communities
Alternative 6A, 6B & 6C
PM 4.9/24.9
EA 249900



Biological Study Area
Permanent Effects
Permanent Indirect Effects
Temporary Effects
Alternative 6A, 6B and 6C Geometrics
Developed/Ornamental/Ruderal
Earthen-bottom Intertidal Portions of the L.A. River
Freshwater Emergent Marsh
Riparian Scrub
Concrete-lined Freshwater Portions of the L.A. River
Open Water
Coastal Zone
Jurisdictional Features (includes L.A. River)
Other Drainage Features Within Developed Areas (non-jurisdictional)

N

0 250 500
FEET

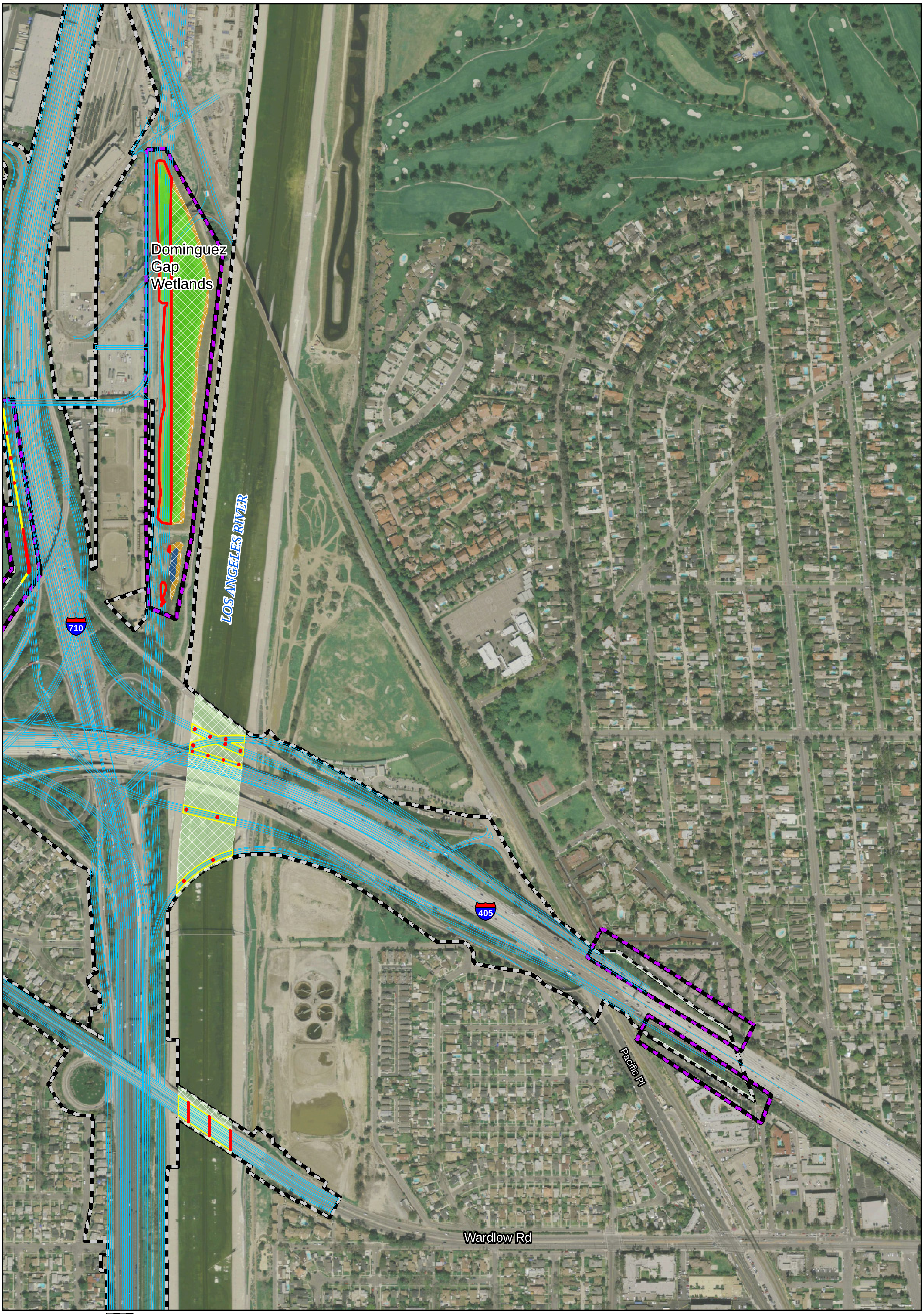
SOURCE: BING (2009); TBM (2010)

Appendix J
Sheet 4 of 15

I-710 Corridor Project
Project Effects to Vegetation Communities
Alternative 6A, 6B & 6C

PM 4.9/24.9
EA 249900

I:\URS0801A\GIS\BIO\Habitat_Impacts_Alt6.mxd (1/3/12)



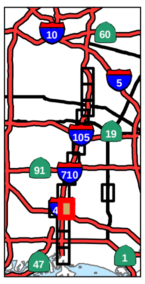
Biological Study Area
Permanent Effects
Permanent Indirect Effects
Temporary Effects
Alternative 6A, 6B and 6C Geometrics

Developed/Ornamental/Ruderal
Earthen-bottom Intertidal Portions of the L.A. River
Freshwater Emergent Marsh
Riparian Scrub
Concrete-lined Freshwater Portions of the L.A. River
Open Water

Coastal Zone
Jurisdictional Features (includes L.A. River)
Other Drainage Features Within Developed Areas (non-jurisdictional)

N

0 250 500
FEET

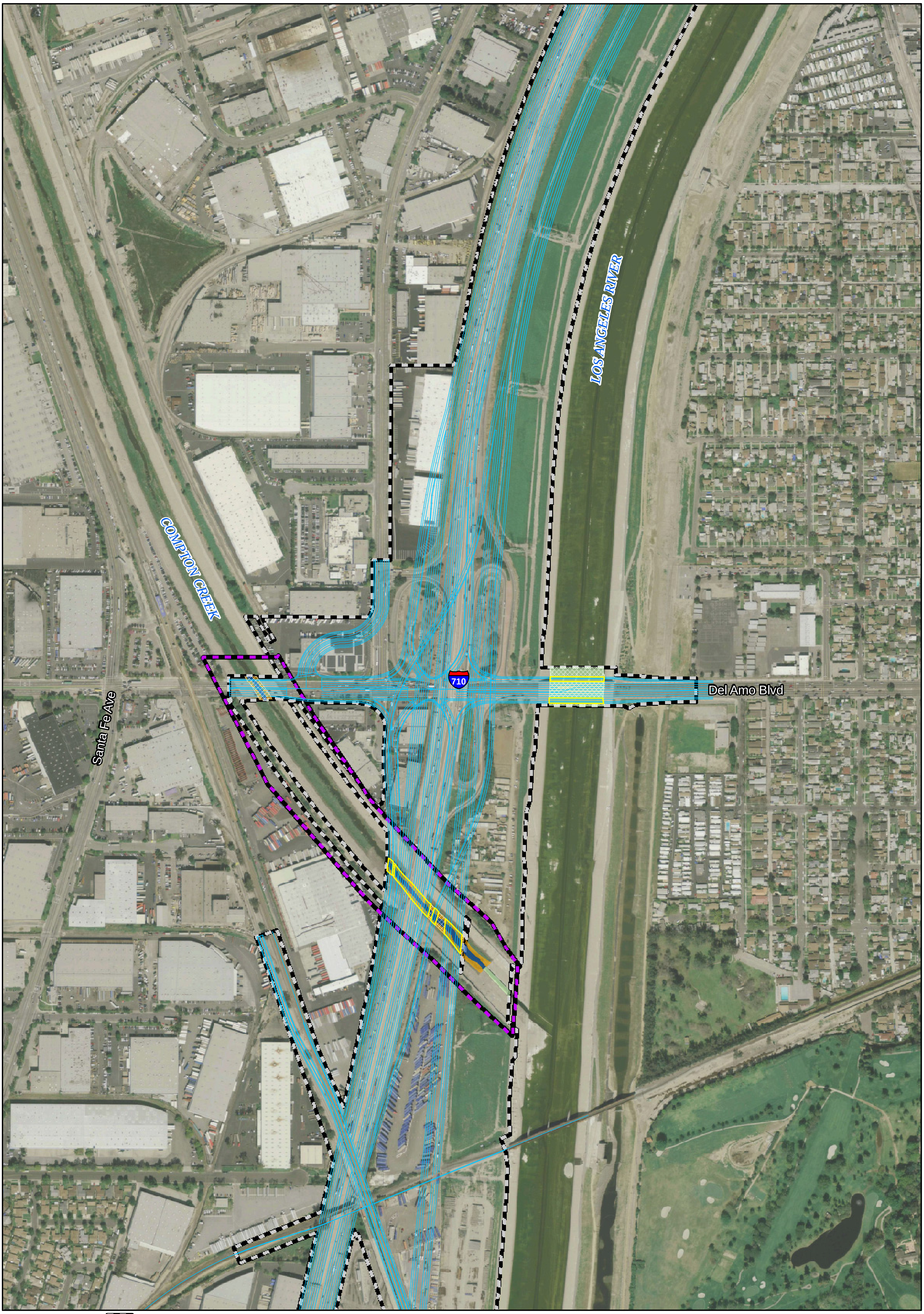


Appendix J
Sheet 5 of 15

I-710 Corridor Project
Project Effects to Vegetation Communities
Alternative 6A, 6B & 6C
PM 4.9/24.9
EA 249900

SOURCE: BING (2009); TBM (2010)

I:\URS0801A\GIS\BIO\Habitat_Impacts_Alt6.mxd (1/3/12)



Biological Study Area
Permanent Effects
Permanent Indirect Effects
Temporary Effects
Alternative 6A, 6B and 6C Geometrics

Developed/Ornamental/Ruderal
Earthen-bottom Intertidal Portions of the L.A. River
Freshwater Emergent Marsh
Riparian Scrub
Concrete-lined Freshwater Portions of the L.A. River
Open Water

Coastal Zone
Jurisdictional Features (includes L.A. River)
Other Drainage Features Within Developed Areas (non-jurisdictional)

0 250 500
FEET

SOURCE: BING (2009); TBM (2010)

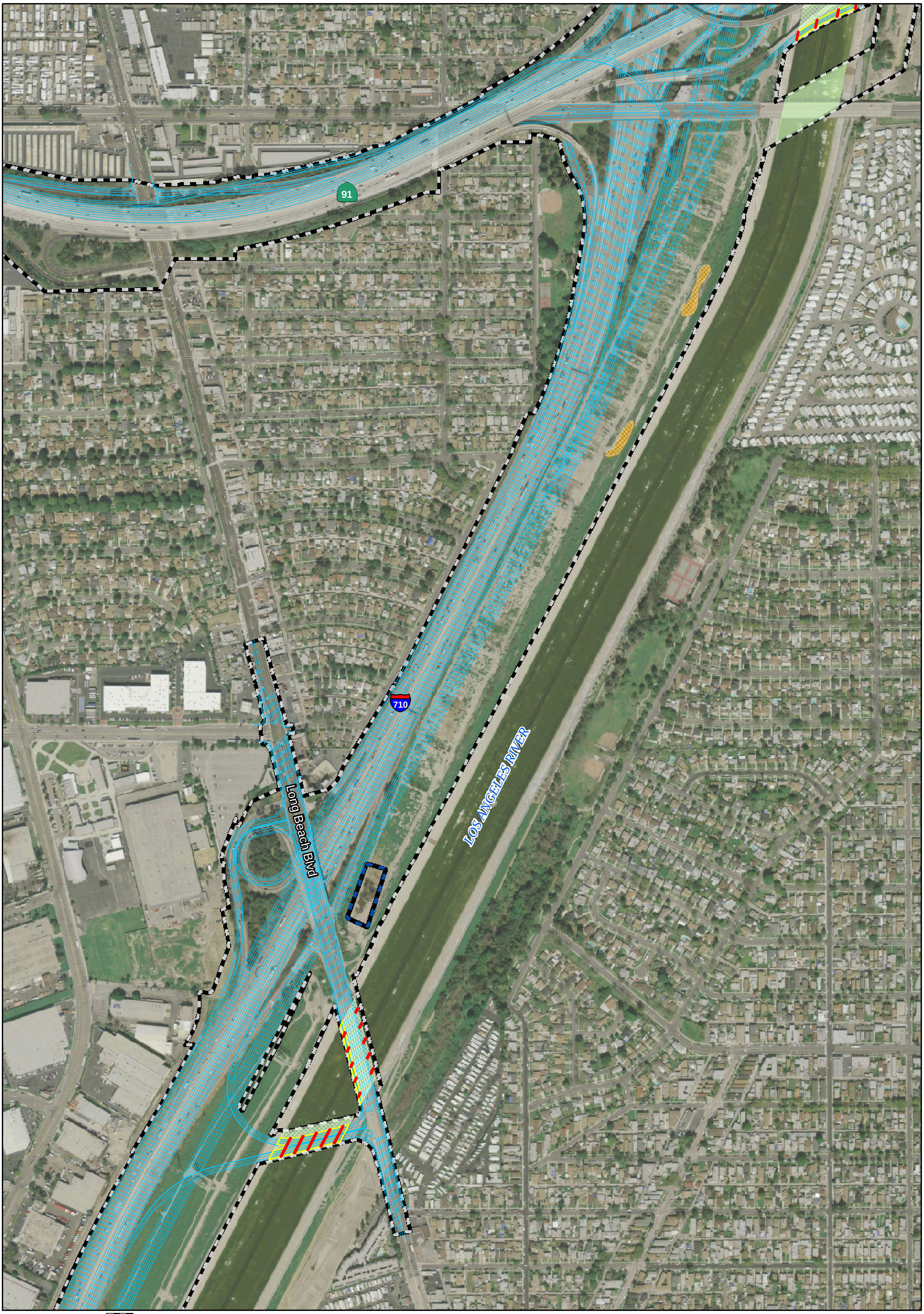
I:\URS0801A\GIS\BIO\Habitat_Impacts_Alt6.mxd (1/3/12)

Appendix J
Sheet 6 of 15

I-710 Corridor Project

Project Effects to Vegetation Communities Alternative 6A, 6B & 6C

PM 4.9/24.9
EA 249900

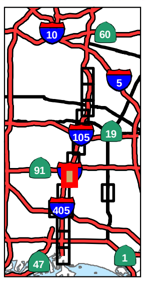


- Biological Study Area
- Permanent Effects
- Permanent Indirect Effects
- Temporary Effects
- Alternative 6A, 6B and 6C Geometrics
- Developed/Ornamental/Ruderal
- Earthen-bottom Intertidal Portions of the L.A. River
- Freshwater Emergent Marsh
- Riparian Scrub
- Concrete-lined Freshwater Portions of the L.A. River
- Open Water
- Coastal Zone
- Jurisdictional Features (includes L.A. River)
- Other Drainage Features Within Developed Areas (non-jurisdictional)

N

0 250 500
FEET

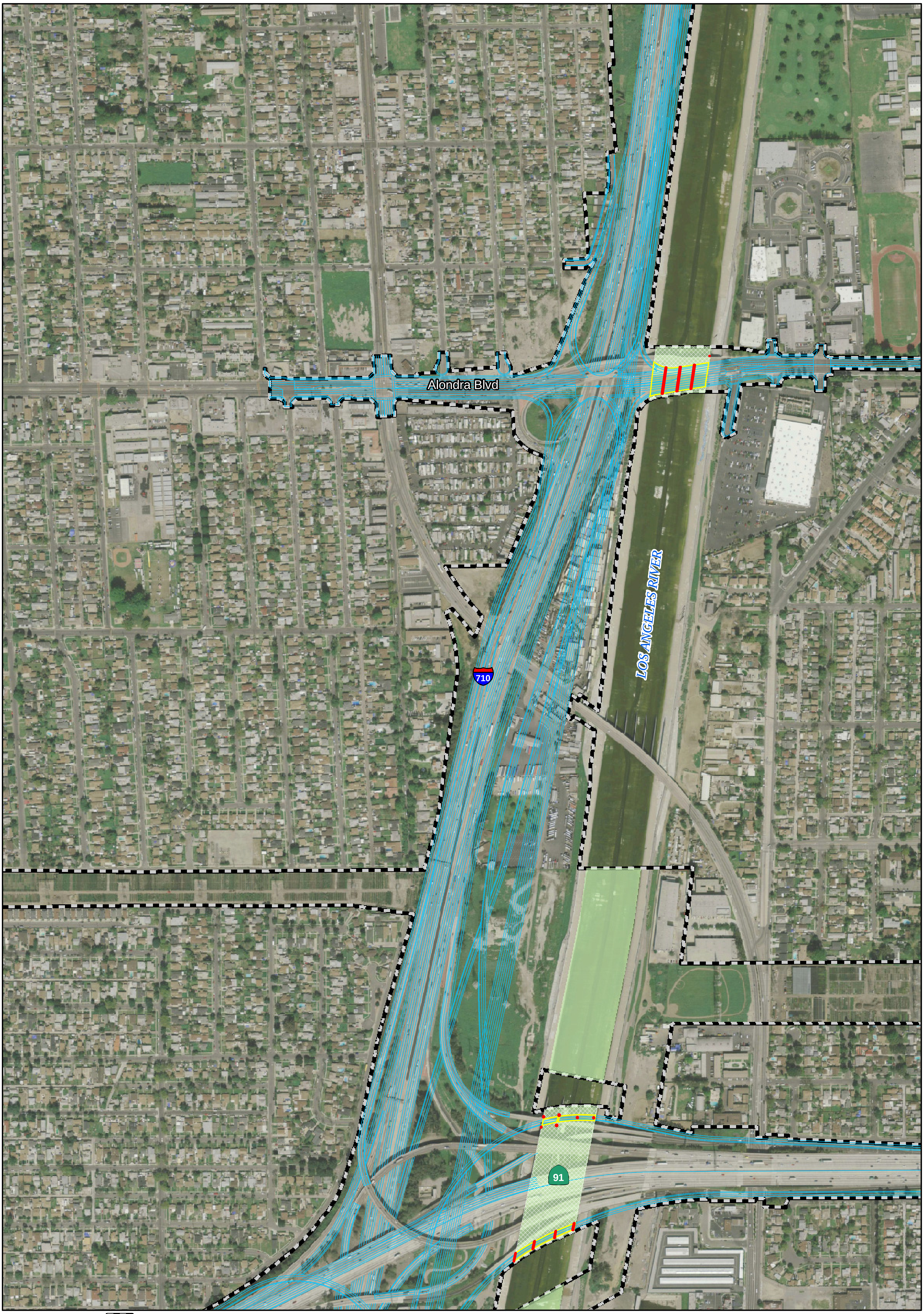
SOURCE: BING (2009); TBM (2010)



Appendix J
Sheet 7 of 15

I-710 Corridor Project
Project Effects to Vegetation Communities
Alternative 6A, 6B & 6C
PM 4.9/24.9
EA 249900

I:\URS0801A\GIS\BIO\Habitat_Impacts_Alt6.mxd (1/3/12)



Biological Study Area
Permanent Effects
Permanent Indirect Effects
Temporary Effects
Alternative 6A, 6B and 6C Geometrics

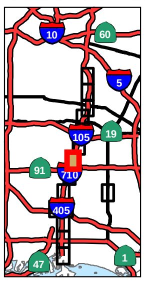
Developed/Ornamental/Ruderal
Earthen-bottom Intertidal Portions of the L.A. River
Freshwater Emergent Marsh
Riparian Scrub
Concrete-lined Freshwater Portions of the L.A. River
Open Water

Coastal Zone
Jurisdictional Features (includes L.A. River)
Other Drainage Features Within Developed Areas (non-jurisdictional)

N

0 250 500
FEET

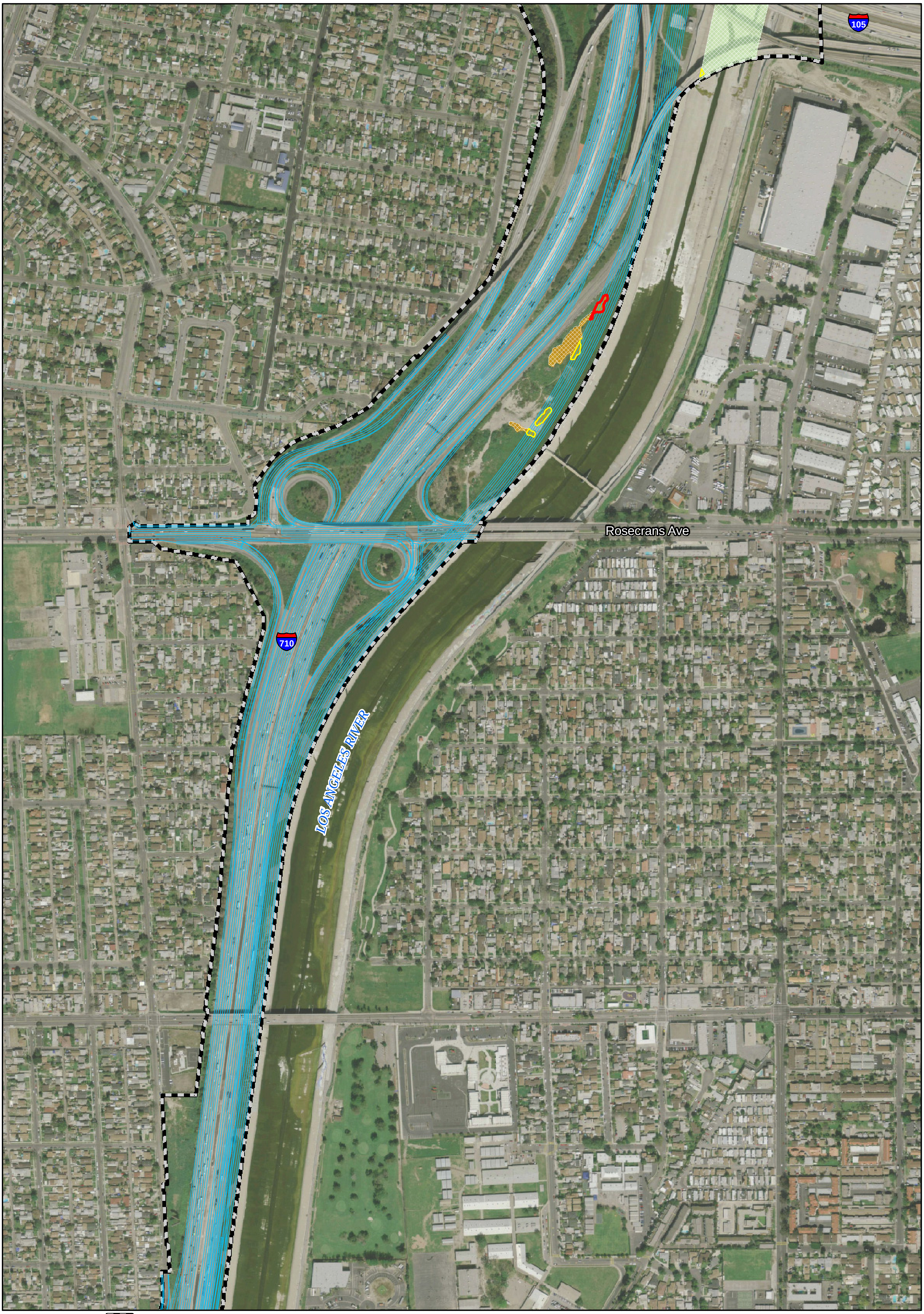
SOURCE: BING (2009); TBM (2010)



Appendix J
Sheet 8 of 15

I-710 Corridor Project
Project Effects to Vegetation Communities
Alternative 6A, 6B & 6C
PM 4.9/24.9
EA 249900

I:\URS0801A\GIS\BIO\Habitat_Impacts_Alt6.mxd (1/3/12)



Biological Study Area
Permanent Effects
Permanent Indirect Effects
Temporary Effects
Alternative 6A, 6B and 6C Geometrics

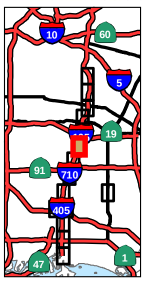
Developed/Ornamental/Ruderal
Earthen-bottom Intertidal Portions of the L.A. River
Freshwater Emergent Marsh
Riparian Scrub
Concrete-lined Freshwater Portions of the L.A. River
Open Water

Coastal Zone
Jurisdictional Features (includes L.A. River)
Other Drainage Features Within Developed Areas (non-jurisdictional)

N

0 250 500
FEET

SOURCE: BING (2009); TBM (2010)



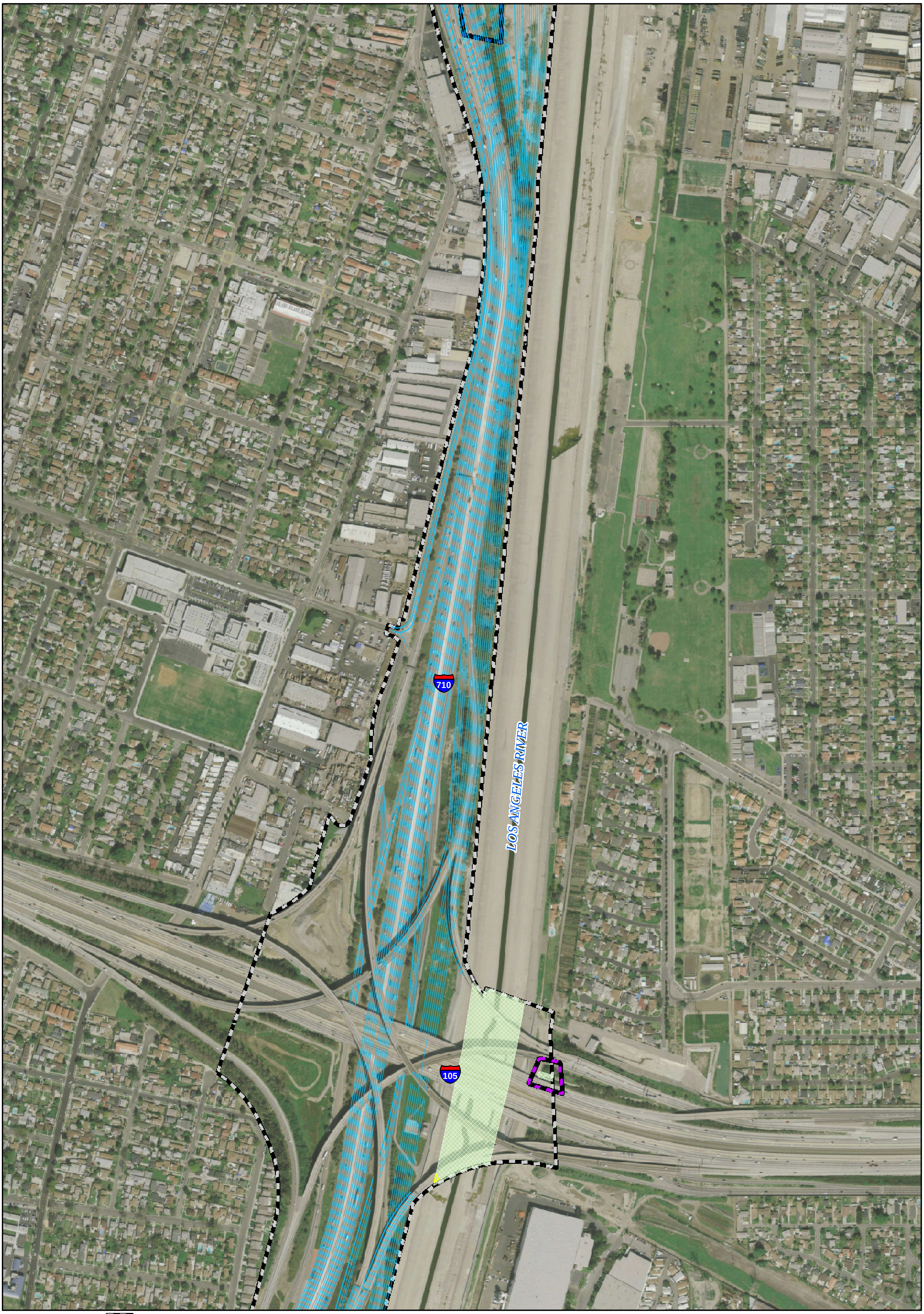
Appendix J
Sheet 9 of 15

I-710 Corridor Project

Project Effects to Vegetation Communities Alternative 6A, 6B & 6C

PM 4.9/24.9
EA 249900

I:\URS0801A\GIS\BIO\Habitat_Impacts_Alt6.mxd (1/3/12)



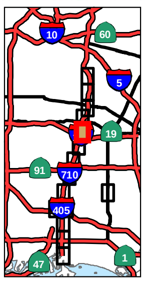
Biological Study Area
Permanent Effects
Permanent Indirect Effects
Temporary Effects
Alternative 6A, 6B and 6C Geometrics

Developed/Ornamental/Ruderal
Earthen-bottom Intertidal Portions of the L.A. River
Freshwater Emergent Marsh
Riparian Scrub
Concrete-lined Freshwater Portions of the L.A. River
Open Water

Coastal Zone
Jurisdictional Features (includes L.A. River)
Other Drainage Features Within Developed Areas (non-jurisdictional)

N

0 250 500
FEET



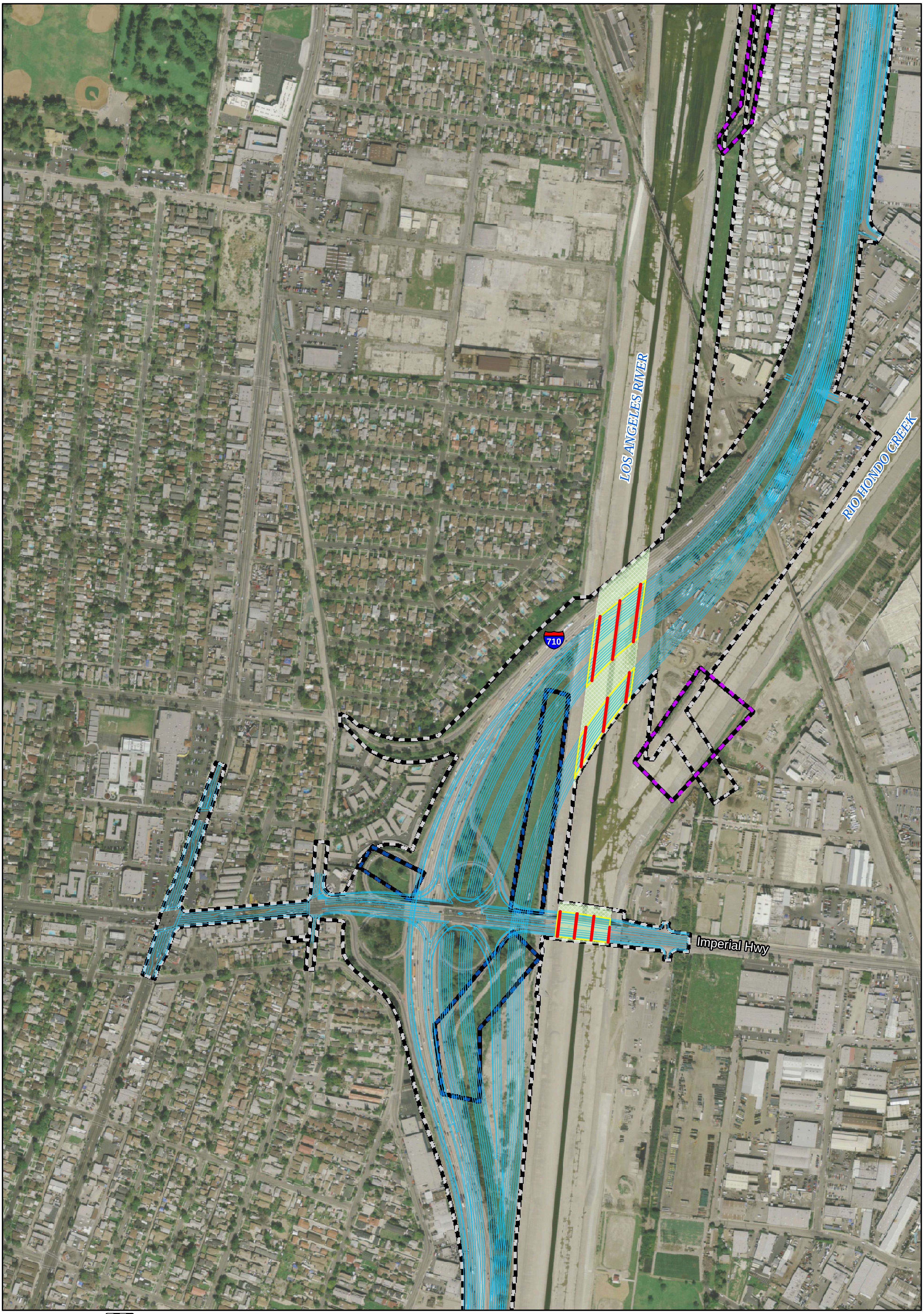
Appendix J
Sheet 10 of 15

I-710 Corridor Project
Project Effects to Vegetation Communities
Alternative 6A, 6B & 6C

PM 4.9/24.9
EA 249900

SOURCE: BING (2009); TBM (2010)

I:\URS0801A\GIS\BIO\Habitat_Impacts_Alt6.mxd (1/3/12)



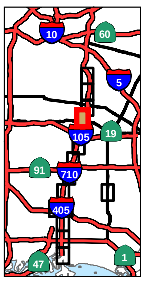
Biological Study Area
Permanent Effects
Permanent Indirect Effects
Temporary Effects
Alternative 6A, 6B and 6C Geometrics

Developed/Ornamental/Ruderal
Earthen-bottom Intertidal Portions of the L.A. River
Freshwater Emergent Marsh
Riparian Scrub
Concrete-lined Freshwater Portions of the L.A. River
Open Water

Coastal Zone
Jurisdictional Features (includes L.A. River)
Other Drainage Features Within Developed Areas (non-jurisdictional)

0 250 500
FEET

SOURCE: BING (2009); TBM (2010)

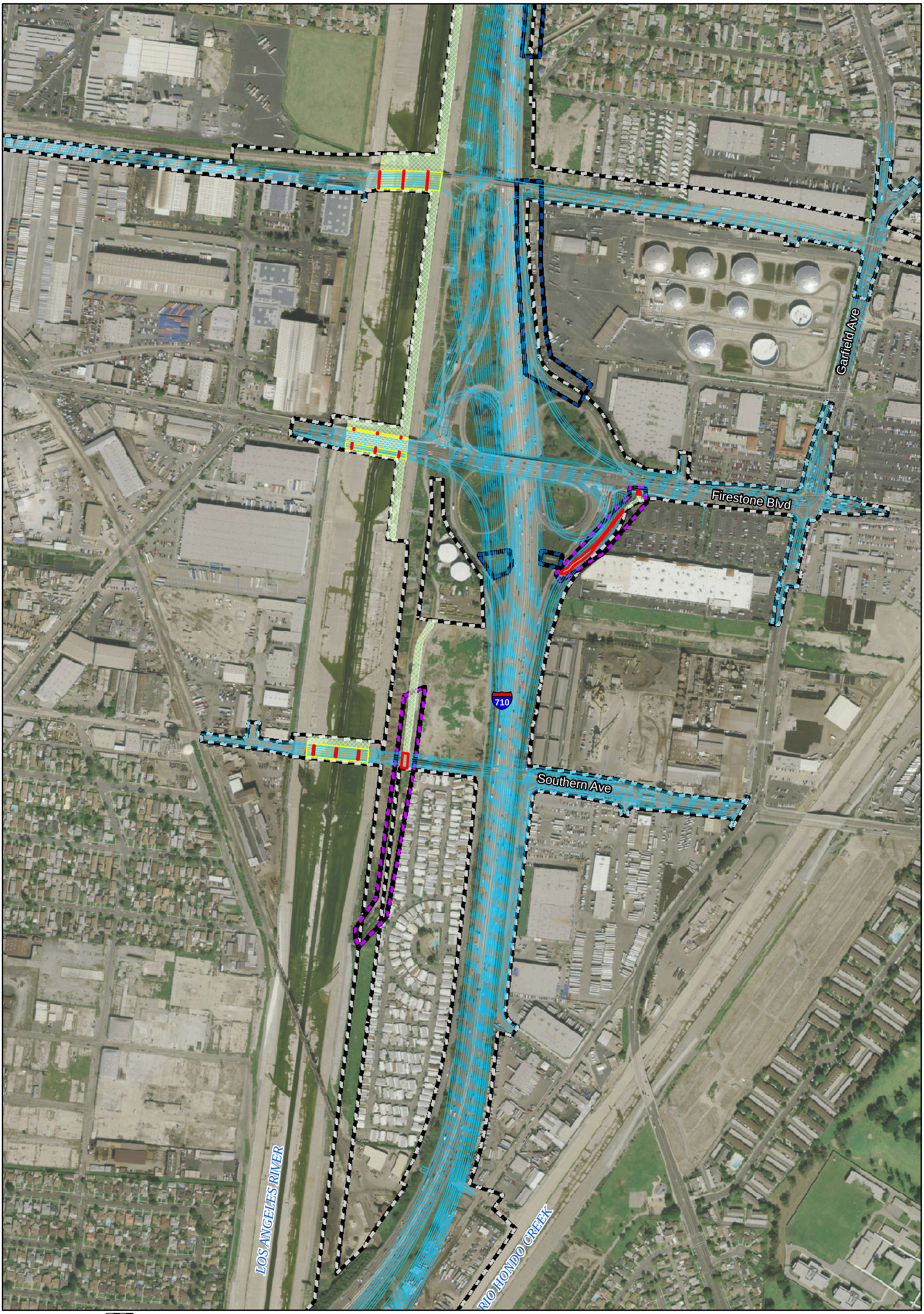


Appendix J
Sheet 11 of 15

I-710 Corridor Project
Project Effects to Vegetation Communities
Alternative 6A, 6B & 6C

PM 4.9/24.9
EA 249900

I:\URS0801A\GIS\BIO\Habitat_Impacts_Alt6.mxd (1/3/12)



Biological Study Area
Permanent Effects
Permanent Indirect Effects
Temporary Effects
Alternative 6A, 6B and 6C Geometrics

Developed/Ornamental/Ruderal
Earthen-bottom Intertidal Portions of the L.A. River
Freshwater Emergent Marsh
Riparian Scrub
Concrete-lined Freshwater Portions of the L.A. River
Open Water

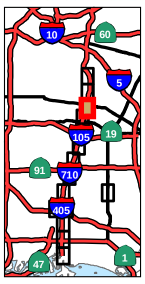
Coastal Zone
Jurisdictional Features (includes L.A. River)
Other Drainage Features Within Developed Areas (non-jurisdictional)

N

0 250 500
FEET

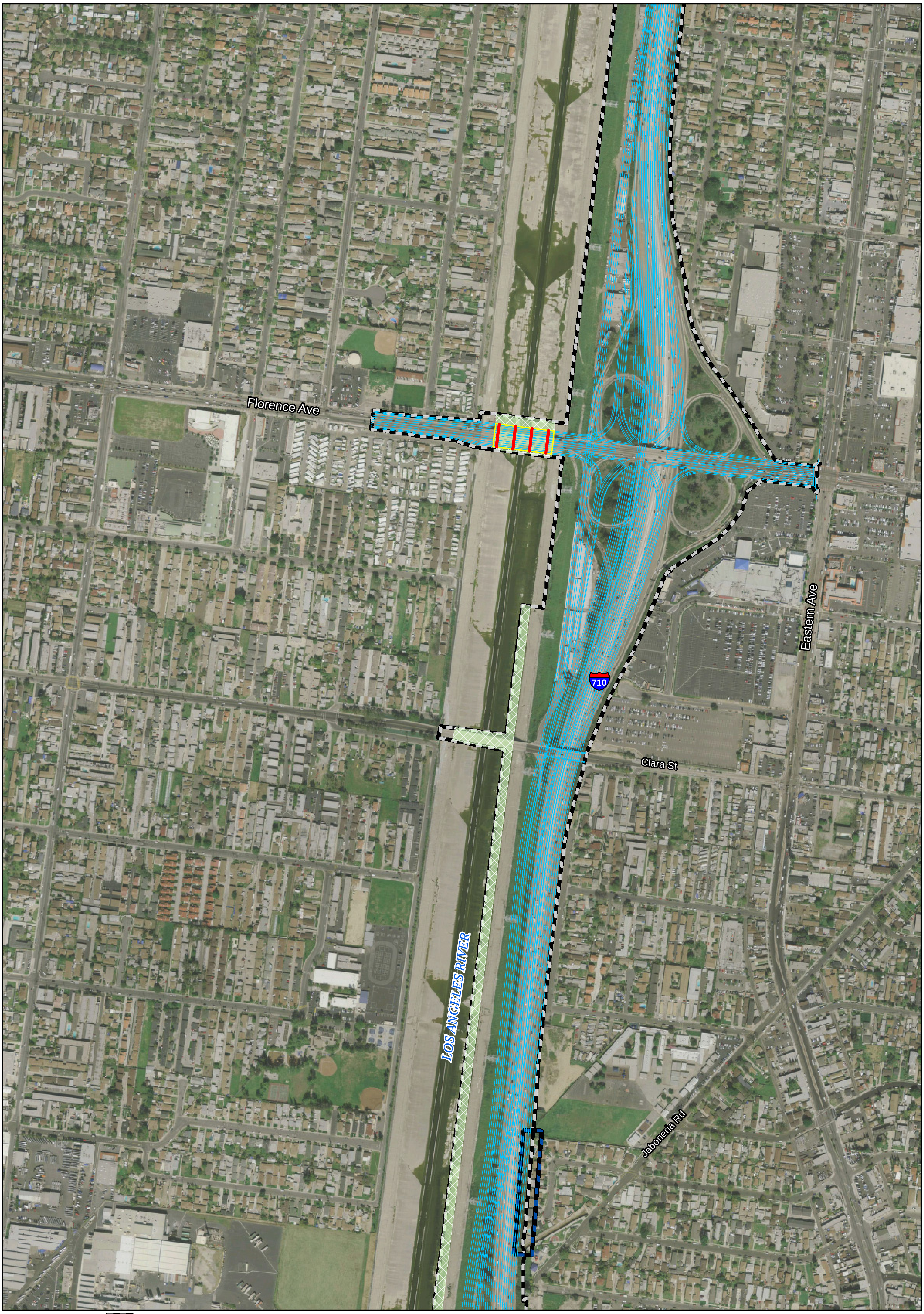
SOURCE: BING (2009); TBM (2010)

I:\URS0801A\GIS\BIO\Habitat_Impacts_Alt6.mxd (1/3/12)



Appendix J
Sheet 12 of 15

I-710 Corridor Project
Project Effects to Vegetation Communities
Alternative 6A, 6B & 6C
PM 4.9/24.9
EA 249900



Biological Study Area
Permanent Effects
Permanent Indirect Effects
Temporary Effects
Alternative 6A, 6B and 6C Geometrics

Developed/Ornamental/Ruderal
Earthen-bottom Intertidal Portions of the L.A. River
Freshwater Emergent Marsh
Riparian Scrub
Concrete-lined Freshwater Portions of the L.A. River
Open Water

Coastal Zone
Jurisdictional Features (includes L.A. River)
Other Drainage Features Within Developed Areas (non-jurisdictional)

0 250 500
FEET

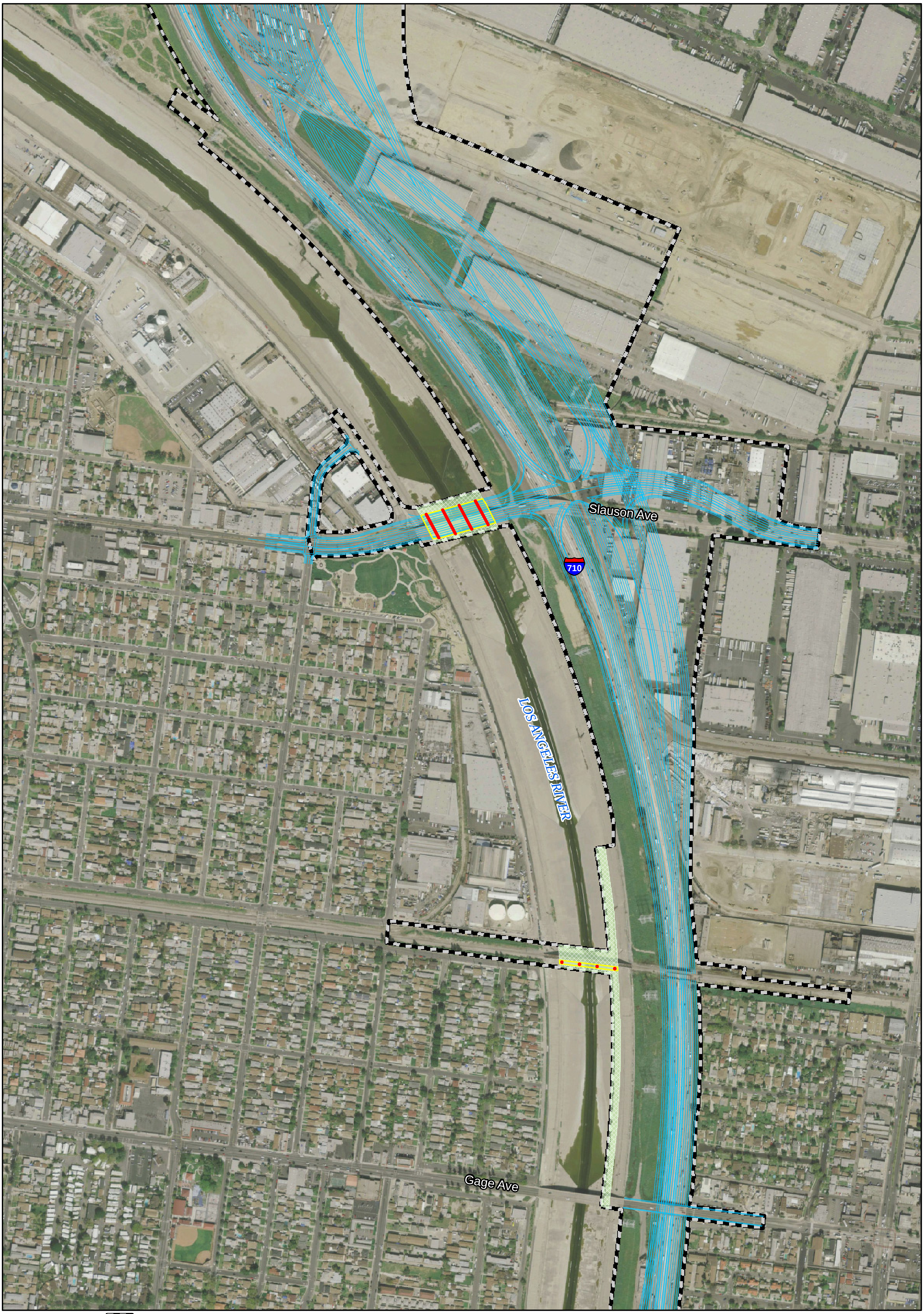
SOURCE: BING (2009); TBM (2010)

Appendix J
Sheet 13 of 15

I-710 Corridor Project
Project Effects to Vegetation Communities
Alternative 6A, 6B & 6C

PM 4.9/24.9
EA 249900

I:\URS0801A\GIS\BIO\Habitat_Impacts_Alt6.mxd (1/3/12)



Biological Study Area
Permanent Effects
Permanent Indirect Effects
Temporary Effects
Alternative 6A, 6B and 6C Geometrics

Developed/Ornamental/Ruderal
Earthen-bottom Intertidal Portions of the L.A. River
Freshwater Emergent Marsh
Riparian Scrub
Concrete-lined Freshwater Portions of the L.A. River
Open Water

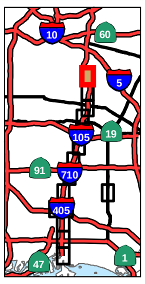
Coastal Zone
Jurisdictional Features (includes L.A. River)
Other Drainage Features Within Developed Areas (non-jurisdictional)

N

0 250 500
FEET

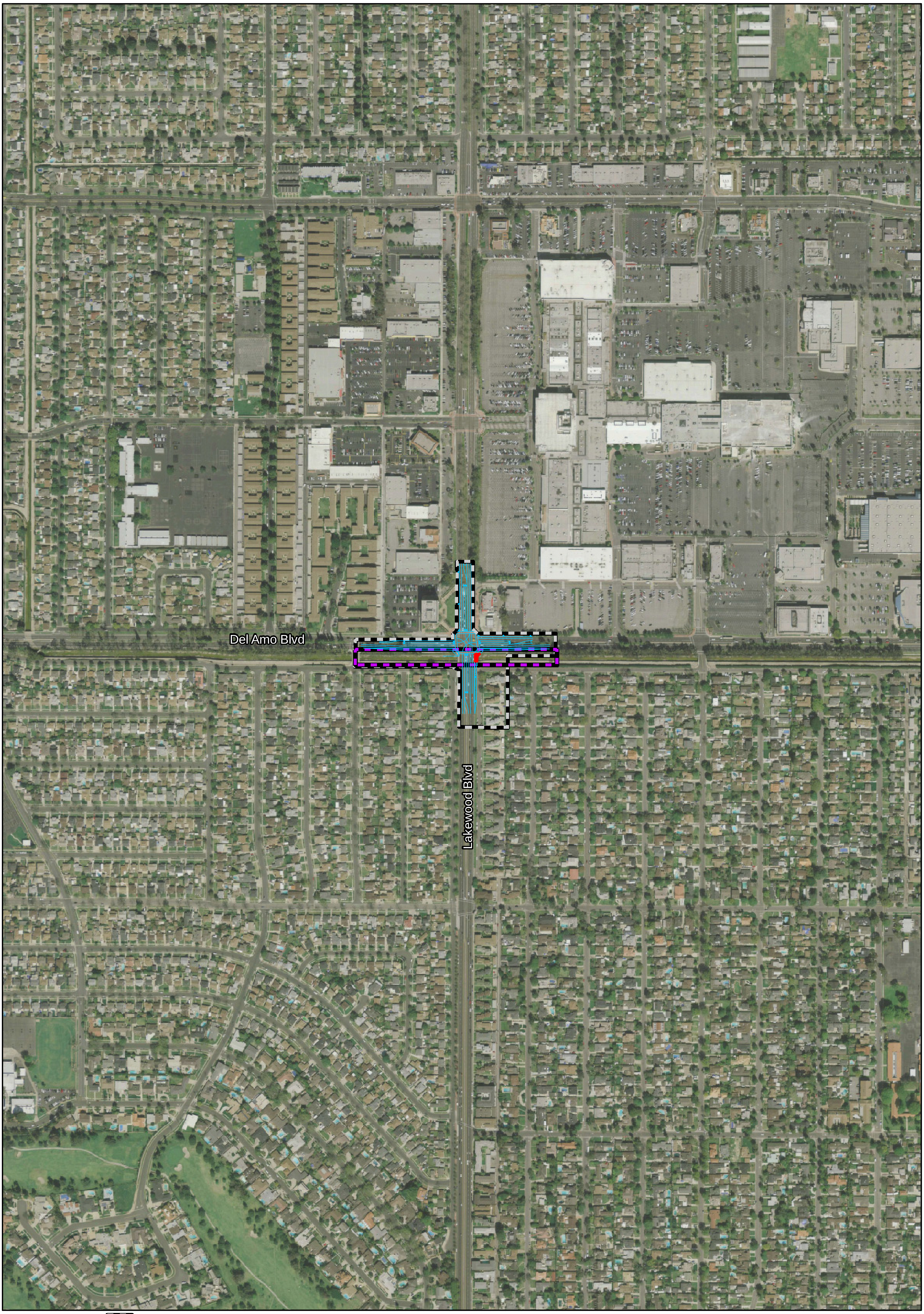
SOURCE: BING (2009); TBM (2010)

I:\URS0801A\GIS\BIO\Habitat_Impacts_Alt6.mxd (1/3/12)



Appendix J
Sheet 14 of 15

I-710 Corridor Project
Project Effects to Vegetation Communities Alternative 6A, 6B & 6C
PM 4.9/24.9
EA 249900



Biological Study Area
Permanent Effects
Permanent Indirect Effects
Temporary Effects
Alternative 6A, 6B and 6C Geometrics

Developed/Ornamental/Ruderal
Earthen-bottom Intertidal Portions of the L.A. River
Freshwater Emergent Marsh
Riparian Scrub
Concrete-lined Freshwater Portions of the L.A. River
Open Water

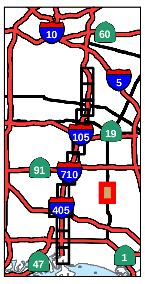
Coastal Zone
Jurisdictional Features (includes L.A. River)
Other Drainage Features Within Developed Areas (non-jurisdictional)

N

0 250 500
FEET

SOURCE: BING (2009); TBM (2010)

I:\URS0801A\GIS\BIO\Habitat_Impacts_Alt6.mxd (1/3/12)



Appendix J
Sheet 15 of 15

I-710 Corridor Project
Project Effects to Vegetation Communities
Alternative 6A, 6B & 6C
PM 4.9/24.9
EA 249900

APPENDIX K
APPROVED JURISDICTIONAL DETERMINATION REGARDING PRESENCE/ABSENCE OF GEOGRAPHIC JURISDICTION

This page intentionally left blank

DEPARTMENT OF THE ARMY
LOS ANGELES DISTRICT, CORPS OF ENGINEERS
P.O. BOX 532711
LOS ANGELES, CALIFORNIA 90053-2325

June 8, 2012

REPLY TO
ATTENTION OF:
Office of the Chief
Regulatory Division

Mr. Paul Caron
District Biologist
California Department of Transportation, District 7
Division of Environmental Planning
100 South Main Street, Suite 100
Los Angeles, California 90012-3606

SUBJECT: Approved Jurisdictional Determination Regarding Presence/Absence of Geographic Jurisdiction

Dear Mr. Caron:

Reference is made to your February 8, 2011 request for an approved jurisdictional determination from the U.S. Army Corps of Engineers (Corps) for the Interstate 710 (I-710) Corridor Project located between Ocean Boulevard in the City of Long Beach and State Route 60 in east Los Angeles, Los Angeles County, California. Your project has been assigned Corps File No. SPL-2008-00934.

As you may know, the Corps' evaluation process for determining whether or not a Department of the Army permit is needed involves two tests. If both tests are met, then a permit is required. The first test determines whether or not the proposed project is located in a water of the United States (i.e., it is within the Corps' geographic jurisdiction). The second test determines whether or not the proposed project is a regulated activity under section 10 of the Rivers and Harbors Act or section 404 of the Clean Water Act. As part of the evaluation process, pertaining to the first test only, we have made the jurisdictional determination below.

Based on available information, including the May 2012 jurisdictional delineation (JD) report entitled "*Final Report, Jurisdictional Delineation Report, Interstate 710 Corridor Project Between Ocean Boulevard and State Route 60 Interchange, WBS ID: 165.15.10* (LSA Associates), we have determined there are waters of the United States within the project area, as well as non-jurisdictional aquatic resources in the review area depicted on the enclosed map (Enclosure 1). The basis for our determination can be found in the enclosed summary table and is documented in twenty-one separate JD forms included in the project's administrative record.

This letter contains an approved jurisdictional determination for the I-710 Corridor Project. If you object to this decision, you may request an administrative appeal under Corps regulations at 33 C.F.R. part 331. Enclosed you will find a Notification of Appeal Process (NAP) fact sheet and Request for Appeal (RFA) form (Enclosure 3). If you request to appeal this decision you must submit a completed RFA form to the Corps South Pacific Division Office at the following address:

Thomas J. Cavanaugh
Administrative Appeal Review Officer
South Pacific Division, Corps of Engineers
1455 Market Street, Room 1760
San Francisco, CA 94103-1399
Tel: (415) 503-6574 Fax: (415) 503-6646

In order for an RFA to be accepted by the Corps, the Corps must determine that it is complete, that it meets the criteria for appeal under 33 C.F.R. part 331.5, and that it has been received by the Division Office within 60 days of the date on the NAP. Should you decide to submit an RFA form, it must be received at the above address by **August 8, 2012**. It is not necessary to submit an RFA form to the Division office if you do not object to the decision in this letter.

This verification is valid for five years from the date of this letter, unless new information warrants revision of the determination before the expiration date. If you wish to submit new information regarding the approved jurisdictional determination for this site, please submit this information to: Susan A. Meyer at the letterhead address by **August 8, 2012**. The Corps will consider any new information so submitted and respond within 60 days by either revising the prior determination, if appropriate, or reissuing the prior determination. A revised or reissued jurisdictional determination can be appealed as described above.

If you have any questions, please contact Susan A. Meyer of my staff at (808) 835-4599 or susan.a.meyer@usace.army.mil. Please be advised that you can comment on your experience with Regulatory Division by accessing the Corps web-based customer survey form at http://per2.nwp.usace.army.mil/survey.html.

Sincerely,

For Mark Cohen
Deputy Chief, Regulatory Division

Enclosures

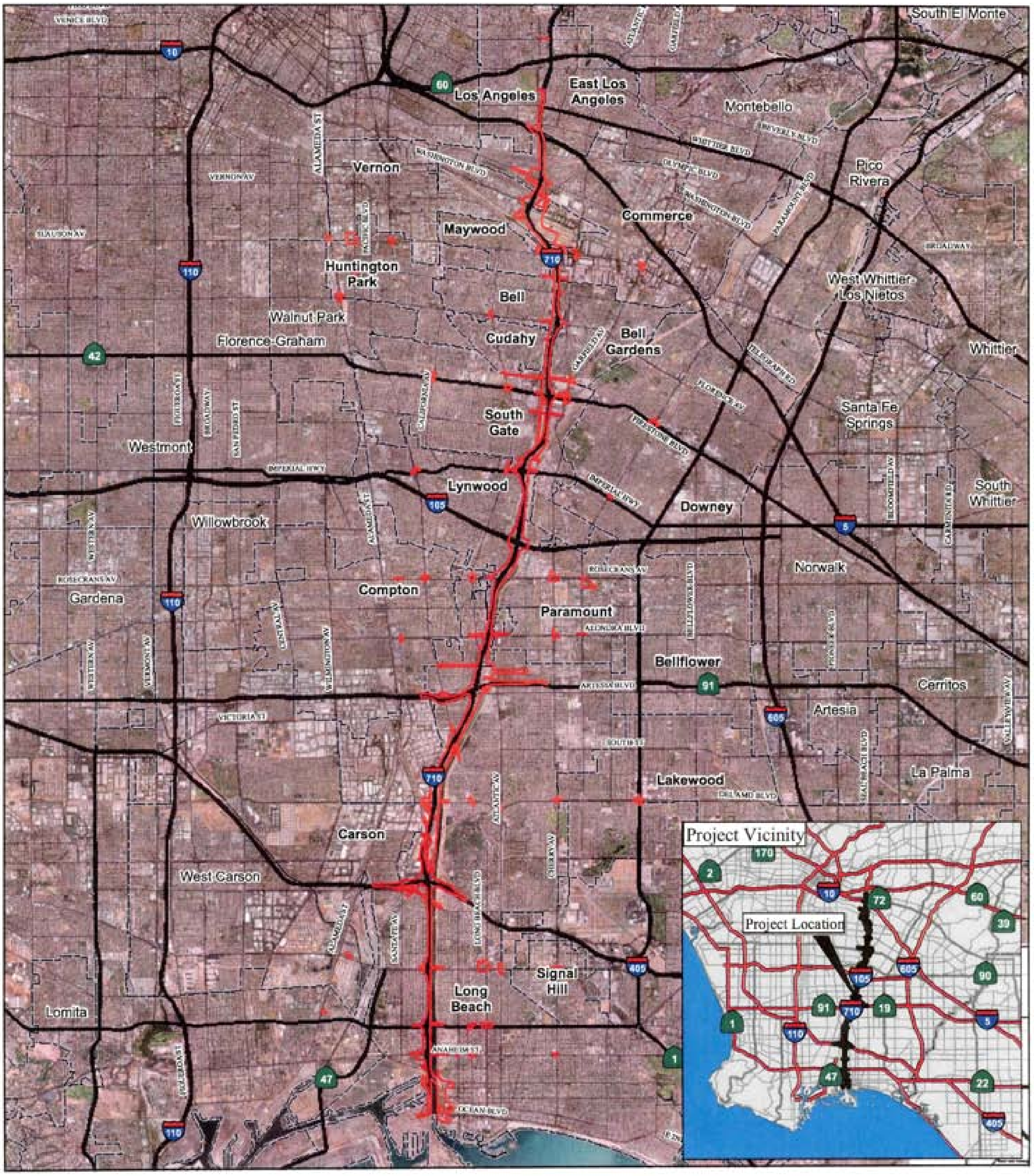
1. Project Location Map and JD Review Area
2. Table A: Jurisdictional Summary
3. Request for Appeal Form and Administrative Appeal Process

CF (w/out enclosures):
Mr. Ron Kosinski, Caltrans, District 7
Mr. Art Homrighausen, LSA Associates, Inc.
Mr. L.B. Nye, California Regional Water Quality Control Board

ENCLOSURE 1

Project Location Map & JD Review Area

(Corps File No. SPL-2008-00934)



LEGEND

Limits of the Biological Study Area

N

0 6250 12500
FEET

SOURCE: AirPhotoUSA (2007); TBM (2007)

I-710 Corridor Project

Regional Location Map

ENCLOSURE 2

Table A

Jurisdictional Summary of Waters of the United States

(Corps File No. SPL-2008-00934)

Table A: Jurisdictional Summary of Waters of the United States

I-710 Corridor Project, Los Angeles County, CA (Corps File No. SPL-2008-00934)

Drainage Name	Location		Jurisdictional Area[1] (acres)		Basis of Jurisdictional Determination[2]	Authority	
	Latitude	Longitude	Non-wetland WoUS	Wetland WoUS		Sect. 404	Sect. 10
Los Angeles River	33.8900	-118.1870	122.66 (of which 10.85 acres are tidally influenced)	0.60 (0.05 acre is tidal wetland)	Traditional Navigable Water (TNW). [Note: 111.81 acres are fresh waters subject to section 404 and 10.9 acres are tidal waters subject to section 10 and/or section 404 jurisdiction, including 0.05-acre tidal wetland]	✓	✓
Drainage 1	33.8213	-118.1957	0.03	0.00	Non-RPW with a significant nexus to a TNW	✓	
Drainage 2	33.8225	-118.1965	0.04	0.00	Non-RPW with a significant nexus to a TNW	✓	
Drainage/Basin 3	33.8330	-118.2060	0.00	0.00	Wetland basin constructed in uplands for water treatment; not considered a WoUS per 33 C.F.R. 328.3		
Drainage 4	33.8270	-118.2110	1.04	0.00	Non-RPW with a significant nexus to a TNW	✓	
Drainage 5	33.8260	-118.2170	0.00	0.00	Drainage ditch constructed in uplands; 1986 preamble		
Drainage 6—Compton Creek	33.8450	-118.2070	0.56	2.54	Perennial RPW flowing directly to a TNW	✓	
Drainage 7	33.8620	-118.1984	0.00	0.00	Lacks evidence of an OHWM and does not meet all 3 wetland parameters; not a WoUS per 33 C.F.R. 328.3		
Drainage 8	33.9122	-118.1769	0.00	0.00	Drainage ditch constructed in uplands; not a WoUS per 1986 preamble		
Drainage 9	33.9296	-118.1778	0.00	0.00	Drainage ditch constructed in uplands; not a WoUS per 1986 preamble		
Drainage 10	33.93146	-118.1794	0.00	0.00	Drainage ditch constructed in uplands; not a WoUS per 1986 preamble		
Drainage 11	33.9310	-118.1770	0.00	0.00	Drainage ditch constructed in uplands; not a WoUS per 1986 preamble		
Drainage 12—Rio Hondo	33.9333	-118.1740	0.39	0.00	RPW (i.e., supports low flows throughout most of the year) flowing directly to a TNW	✓	
Drainage 13	33.9443	-118.1727	0.98	0.00	Non-RPW with a significant nexus to a TNW	✓	
Drainage 14	33.9480	-118.1708	0.00	0.00	Lacks evidence of OHWM; not a WoUS per 33 C.F.R. 328.3		
Drainage 15	33.9480	-118.1700	0.00	0.00	Drainage ditch constructed in uplands; not a WoUS per 1986 preamble		
Drainage 16	33.9490	-118.1687	0.00	0.00	Drainage ditch constructed in uplands; not a WoUS per 1986 preamble		
Drainage 17	33.95219	-118.17025	0.00	0.00	Drainage ditch constructed in uplands; not a WoUS per 1986 preamble		
Drainage 18	33.9570	-118.1702	0.00	0.00	Drainage ditch constructed in uplands; not a WoUS per 1986 preamble and no evidence of an OHWM; not a WoUS per 33 C.F.R. 328.3		
Drainage 19	33.7682	-118.2070	0.00	0.00	Drainage ditch constructed in uplands; not a WoUS per 1986 preamble		
Drainage 20—Los Cerritos Channel	33.8469	-118.1430	0.87	0.00	Perennial RPW flowing directly to a TNW	✓	
TOTAL			**126.57**	**3.14**			

[1] Jurisdictional area for non-wetland WoUS was calculated by LSA Associates using GIS. The area represents an approximation based on the linear distance of the drainage feature and its estimated width at the observable lateral limit (elevation) of the ordinary high water mark within the review area. For wetlands, the jurisdictional area is based on the area encompassed by the delineated wetland boundaries established in accordance with the Corps 1987 Wetlands Delineation Manual and Arid West Regional Supplement.

[2] All approved jurisdictional determinations have been documented using the HQUSACE "Approved Jurisdictional Determination Form" and, where required by agency guidance, preliminary/draft determinations for non-RPWs that required a significant nexus evaluation were coordinated with U.S. EPA Region IX prior to the issuance of an approved JD. All final JD forms are included in the administrative record for Corps File No. SPL-2008-00934.

RPW = Relatively permanent water; OHWM = Ordinary high water mark; WoUS = Waters of the United States; 1986 preamble = Preamble language in the 1986 regulations at 33 CFR Parts 320-330 (*Federal Register*, Regulatory Programs of the Corps of Engineers, Final Rule, p. 41217, 11/13/86).

ENCLOSURE 3

Request for Appeal Form
and
Administrative Appeal Process

NOTIFICATION OF ADMINISTRATIVE APPEAL OPTIONS AND PROCESS AND REQUEST FOR APPEAL

Applicant: Caltrans, District 7	File Number: SPL-2008-00934	Date: June 8, 2012

Attached is:		See Section below
	INITIAL PROFFERED PERMIT (Standard Permit or Letter of permission)	A
	PROFFERED PERMIT (Standard Permit or Letter of permission)	B
	PERMIT DENIAL	C
X	APPROVED JURISDICTIONAL DETERMINATION	D
	PRELIMINARY JURISDICTIONAL DETERMINATION	E

SECTION I - The following identifies your rights and options regarding an administrative appeal of the above decision. Additional information may be found at http://usace.army.mil/inet/functions/cw/cecwo/reg or Corps regulations at 33 CFR Part 331.

A: INITIAL PROFFERED PERMIT: You may accept or object to the permit.

- ACCEPT: If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.
- OBJECT: If you object to the permit (Standard or LOP) because of certain terms and conditions therein, you may request that the permit be modified accordingly. You must complete Section II of this form and return the form to the district engineer. Your objections must be received by the district engineer within 60 days of the date of this notice, or you will forfeit your right to appeal the permit in the future. Upon receipt of your letter, the district engineer will evaluate your objections and may: (a) modify the permit to address all of your concerns, (b) modify the permit to address some of your objections, or (c) not modify the permit having determined that the permit should be issued as previously written. After evaluating your objections, the district engineer will send you a proffered permit for your reconsideration, as indicated in Section B below.

B: PROFFERED PERMIT: You may accept or appeal the permit.

- ACCEPT: If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.
- APPEAL: If you choose to decline the proffered permit (Standard or LOP) because of certain terms and conditions therein, you may appeal the declined permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

C: PERMIT DENIAL: You may appeal the denial of a permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

D: APPROVED JURISDICTIONAL DETERMINATION: You may accept or appeal the approved JD or provide new information.

- ACCEPT: You do not need to notify the Corps to accept an approved JD. Failure to notify the Corps within 60 days of the date of this notice, means that you accept the approved JD in its entirety, and waive all rights to appeal the approved JD.
- APPEAL: If you disagree with the approved JD, you may appeal the approved JD under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

E: PRELIMINARY JURISDICTIONAL DETERMINATION: You do not need to respond to the Corps regarding the preliminary JD. The Preliminary JD is not appealable. If you wish, you may request an approved JD (which may be appealed), by contacting the Corps district for further instruction. Also you may provide new information for further consideration by the Corps to reevaluate the JD.

SECTION II - REQUEST FOR APPEAL or OBJECTIONS TO AN INITIAL PROFFERED PERMIT

REASONS FOR APPEAL OR OBJECTIONS: (Describe your reasons for appealing the decision or your objections to an initial proffered permit in clear concise statements. You may attach additional information to this form to clarify where your reasons or objections are addressed in the administrative record.)

ADDITIONAL INFORMATION: The appeal is limited to a review of the administrative record, the Corps memorandum for the record of the appeal conference or meeting, and any supplemental information that the review officer has determined is needed to clarify the administrative record. Neither the appellant nor the Corps may add new information or analyses to the record. However, you may provide additional information to clarify the location of information that is already in the administrative record.

POINT OF CONTACT FOR QUESTIONS OR INFORMATION:

<table>
<tr><td colspan="2">If you have questions regarding this decision and/or the appeal process you may contact:

DISTRICT ENGINEER
Los Angeles District, Corps of Engineers
ATTN: Chief, Regulatory Division
P.O. Box 532711
Los Angeles, CA 90053-2325

TEL (213) 452-3425 FAX (213) 452-4196</td><td colspan="2">If you only have questions regarding the appeal process you may also contact:

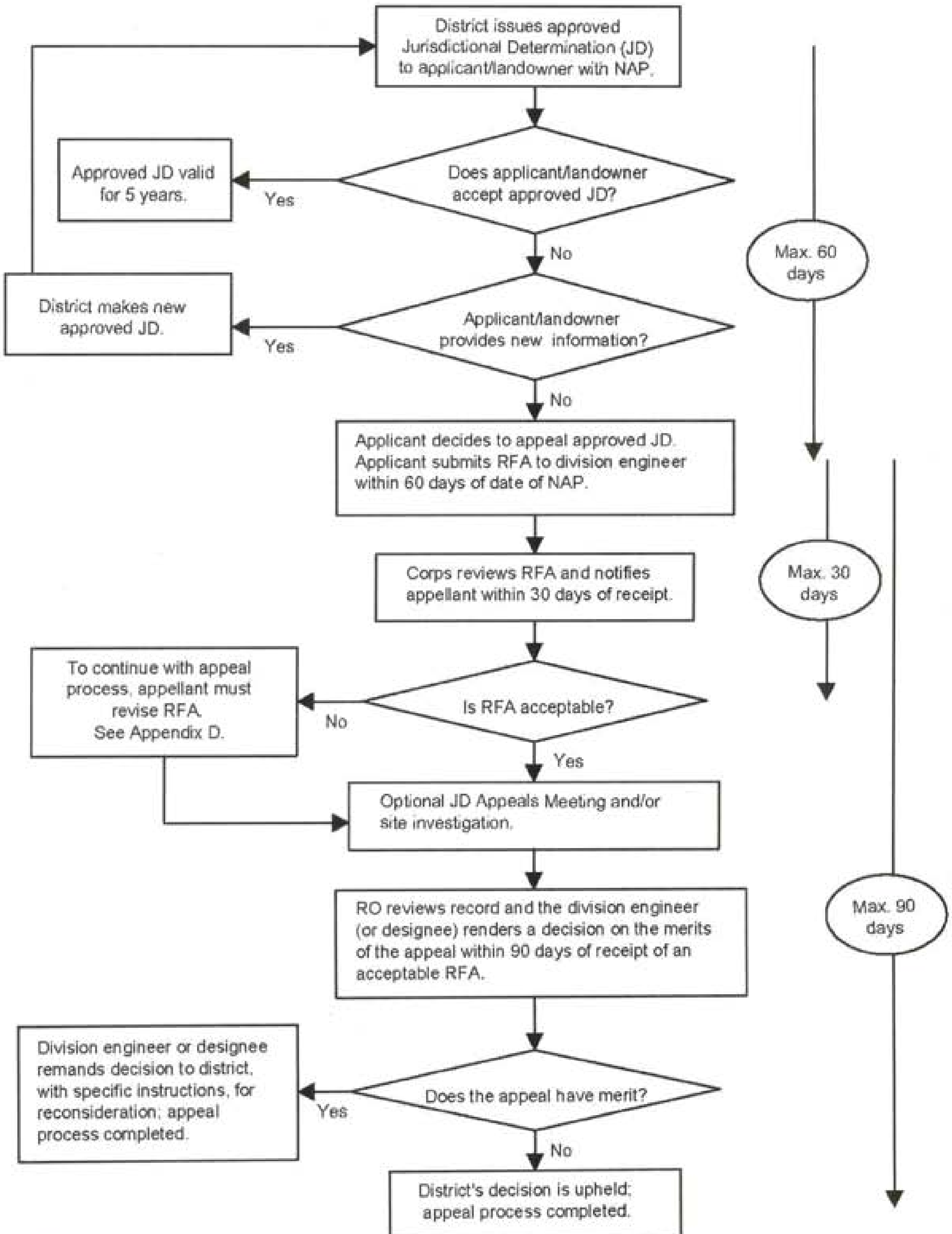
Thomas J. Cavanaugh, Appeal Review Officer
U.S. Army Corps of Engineers, CESPD-PDS-O
1455 Market Street, Room 1760
San Francisco, CA 94103-1399

TEL (415) 503-6574 FAX (415) 503-6646</td></tr>
<tr><td colspan="4">RIGHT OF ENTRY: Your signature below grants the right of entry to Corps of Engineers personnel, and any government consultants, to conduct investigations of the project site during the course of the appeal process. You will be provided a 15 day notice of any site investigation, and will have the opportunity to participate in all site investigations.</td></tr>
<tr><td colspan="2">

____

Signature of appellant or agent.</td><td>Date:</td><td>Telephone number:</td></tr>
</table>

Administrative Appeal Process for Approved Jurisdictional Determinations



Appendix C