Biological Environment

2.15 Biological Environment

The analysis of potential impacts of the proposed project on biological resources is based on the *Natural Environment Study* (NES) (April 2013).

Analysis of the potential impacts of the proposed project on biological resources considered the following categories of resources:

- Natural Communities (Section 2.15.1)
- Wetlands and Other Waters (Section 2.16)
- Plant Species (Section 2.17)
- Animal Species (Section 2.18)
- Threatened and Endangered Species (Section 2.19)
- Invasive Species (Section 2.20)

The following sections describe applicable regulatory settings; existing environments; impacts; and avoidance, minimization, and mitigation measures for these categories of biological resources.

The Biological Study Area (BSA) includes the length of the proposed project (6.5 linear miles) along the Interstate 5 (I-5) corridor and extends beyond the maximum area of potential direct effect where necessary to identify sensitive biological resources within and immediately adjacent to the BSA. The northern part of the BSA is in the Cities of Lake Forest and Laguna Hills on I-5 at El Toro Road. The BSA's southern terminus is south of the SR-73 interchange in the City of San Juan Capistrano. The BSA is located on the United States Geological Survey (USGS) *El Toro* and *San Juan Capistrano, California* 7.5-minute series topographic quadrangles.

The project segment of I-5 and the BSA traverse parts of the Cities of Lake Forest, Laguna Hills, Laguna Niguel, Laguna Woods, Mission Viejo, and San Juan Capistrano in Orange County, in mostly urban settings consisting of residential, recreation, commercial, and undeveloped land uses. Aliso Creek passes under the I-5 just north of Alicia Parkway in the northern end of the BSA. Within the BSA, Oso Creek extends under the I-5 from the Mission Viejo Country Club and meanders adjacent to I-5 on the west side of the freeway from south of Oso Parkway to just north of Crown Valley Parkway.

Natural Communities

2.15.1 Regulatory Setting

This section of the document discusses natural communities of concern. The focus of this section is on biological communities, not individual plant or animal species. This section also includes information on wildlife corridors, anadromous fish passage, and habitat fragmentation. Wildlife corridors are areas of habitat used by wildlife for seasonal or daily migration. Habitat fragmentation involves the potential for dividing sensitive habitat and thereby lessening its biological value.

In 2006, Orange County voters approved the renewal of Measure M, effectively extending the half cent sales tax to provide funding for transportation projects and programs in the county. As part of Measure M2, a portion of the M2 freeway program revenues were set aside for the M2 Environmental Mitigation Program (EMP) to provide funding for programmatic mitigation to offset biological impacts from the freeway projects in the 13 freeway segments covered by Measure M2. The Orange County Transportation Authority (OCTA) has prepared a Natural Community Conservation Plan/Habitat Conservation Plan (NCCP/HCP or Plan) as a mechanism to offset potential project-related effects on threatened and endangered species and their habitats in a comprehensive manner. The Plan achieves higher-value conservation than what would be expected through project-by-project mitigation in exchange for a streamlined project review and permitting process for the Measure M2 freeway program as a whole.

In addition, Caltrans is the owner/operator of the freeway system and the improvements are subject to California Department of Fish and Wildlife (CDFW) and U.S. Fish and Wildlife Service (USFWS) jurisdiction within the Plan Area (i.e., the area in which impacts would be evaluated and conservation would occur).

The M2 NCCP/HCP is being prepared to fulfill the requirements for issuance of an incidental take permit under Section 10 of the federal Endangered Species Act (ESA) and incidental take authorization under Section 2835 of the state Fish and Game Code (California Natural Community Conservation Planning Act—NCCPA). As an improvement identified in M2, any potential impacts of the proposed project on sensitive species or habitats would be addressed through the NCCP/HCP, if approved prior to construction.

Habitat areas that have been designated as critical habitat under the Federal Endangered Species Act (FESA) are discussed below in this document in Section 2.19. Wetlands and other waters are discussed in Section 2.16.

2.15.2 Affected Environment

A total of 11 vegetation communities, or subcommunities, were identified within the BSA and are shown on Figure 2.15-1 at the end of this section. These vegetation communities within the BSA consist of a mosaic of several habitat types. Table 2.15-1 lists each vegetation community, the habitat classification code (provided by the Orange County Environmental Management Agency in 1992), and the acreage of each community present within the BSA.

Table 2.15-1 Vegetation Communities Occurring in the BSA

Vegetation Community (Habitat Classification Code)	Total Acres
Scrub and Chaparral Habitats	
Sagebrush Scrub (2.3.6)	0.47
Riparian Habitats	
Herbaceous Riparian (7.1)	0.43
Mulefat Scrub (7.3)	5.40
Arroyo Willow Riparian Forest (7.6)	10.18
Perennial River (13.1)	0.60
Flood Control Channels (13.4)	0.41
Disturbed Habitats	
Ruderal Grassland (4.6)	15.95
Urban and Commercial (15.1)	77.33
Transportation (15.4)	186.26
Ornamental Landscaping (15.5)	99.79
Disturbed or Barren (16.1)	5.09
Total	**401.91**

Source: *Natural Environment Study* (April 2013)
BSA = biological study area

Two general natural community groups of special concern were identified within the BSA: riparian habitats and coastal sage scrub (CSS). The Riparian Natural Communities of Special Concern occur in the BSA, primarily in the following locations: (1) the west side of I-5 between Crown Valley Parkway and Oso Parkway; and (2) the west side of I-5 between Alicia Parkway and Los Alisos Boulevard. These riparian areas consist of several different habitat types of varying degrees of biological value. All of these areas are degraded by nonnative invasive species and human encroachment and are of poor to moderate quality.

CSS was identified at the following locations in the BSA: (1) the west side of I-5, just south of the Oso Parkway overcrossing, and (2) the west side of I-5, north of the Alicia Parkway overcrossing. However, the CSS (Sagebrush Scrub) habitat occurring within the BSA is highly degraded, as evident by the presence of scattered trash and debris as well as many nonnative invasive species. Also, the CSS in the BSA appears to be subject to periodic fuel modification, presumably as required for fire abatement. The overall habitat quality of the CSS in the BSA is poor.

Other than bands of riparian habitat that many animal species may use as wildlife corridors, there are no established wildlife corridors within the BSA.

Caltrans is required by Senate Bill 857 (SB 857) to construct projects without presenting barriers to anadromous fish passage (e.g., southern steelhead), remediate existing barriers, and prepare an annual report to the state Legislature detailing its progress. Because data regarding the historic use of Oso Creek by anadromous fish could not be substantiated, anadromous fish usage of Oso Creek is being considered historically absent. Therefore, the proposed project is not presenting barriers to anadromous fish passage in a viable fish-producing stream.

The I-5 freeway is an existing transportation corridor, which separates the natural habitat into two separate fragments. However, as discussed above, bands of riparian habitat allow for some wildlife movement between fragments.

2.15.3 Environmental Consequences

2.15.3.1 Temporary Impacts

No Build Alternative – Alternative 1

The No Build Alternative does not propose any construction or other disturbance in the BSA. Therefore, the No Build Alternative would result in no adverse impacts related to natural communities.

Build Alternatives – Alternative 2 (Preferred Alternative) and Alternative 3

The Build Alternatives would result in indirect temporary impacts to both CSS and riparian habitats. However, this impact would be limited to minimal encroachment (such as temporary removal of edge vegetation during construction or placement of ESA fencing), during preliminary borings (for geotechnical analysis and utility location identification), and/or during construction to allow for construction and equipment staging; otherwise, impacts are considered permanent. Temporary impacts would only occur during construction to allow for construction and equipment staging. Based on these definitions, neither Build Alternative is expected to result in

any direct temporary impacts to CSS. However, there may be minimal indirect temporary impacts to CSS due to increased traffic and noise while construction is being conducted in the vicinity of CSS. Temporary impacts to the riparian habitats (primarily at Aliso and Oso Creeks) are shown in Table 2.15-2 and include a temporary impact of 0.70 ac under Alternative 2 and 0.88 ac under Alternative 3.

Table 2.15-2 Project Impacts to Riparian Natural Communities by Build Alternative (acres)

Vegetation Type	Alternative 2 (Preferred Alternative)		Alternative 3	
	Permanent	Temporary	Permanent	Temporary
Herbaceous Riparian	0.00	0.00	0.00	0.00
Mulefat Scrub	0.00	0.49	0.00	0.66
Arroyo Willow Riparian Forest	0.15	0.21	0.15	0.22
Perennial River	0.00	0.00	0.00	0.00
Flood Control Channels	0.03	0.00	0.03	0.00
Total	**0.18**	**0.70**	**0.18**	**0.88**

Source: Natural Environment Study (April 2013)

Permanent Impacts

No Build Alternative – Alternative 1

The No Build Alternative proposes no construction or other disturbance in the BSA. Therefore, the No Build Alternative would result in no adverse impacts related to natural communities.

Build Alternatives – Alternative 2 (Preferred Alternative) and Alternative 3

The Build Alternatives would not result in direct permanent impacts to CSS through disturbance and/or removal of existing vegetation. Permanent indirect impacts (or permanent impacts caused by the project that occur at a later time or distance from the project, such as noise), are not expected to exceed existing conditions as a result of the Build Alternatives; however, such impacts are expected to extend into the surrounding natural habitat by approximately the same distance that I-5 is being widened.

The Build Alternatives would result in direct permanent impacts to riparian habitat through disturbance and/or removal of existing vegetation, primarily at Aliso and Oso Creeks due to support structures for widening these bridges. Permanent impacts include complete removal of vegetation and heavy encroachment by equipment.

These direct permanent impacts may have detrimental impacts to the long-term viability of the community and the plant and animal species associated with this natural community. However, the areas are currently degraded due to the presence of nonnative invasive species and human encroachment (e.g., human presence, trash) and are of poor quality, which makes these areas currently unsuitable for species with specific habitat requirements (e.g., southwestern willow flycatcher [SWWF]; see Section 2.19). While the riparian habitat within the BSA is of poor quality, it is still suitable for species with broader habitat requirements (e.g., Allen's hummingbird; see Section 2.18). Table 2.15-2 shows the amount of riparian habitat that would be permanently affected by each Build Alternative.

Based on the surveys and analysis completed for the Jurisdictional Delineation (December 2012), all of these areas may not be subject to jurisdiction under Sections 401 and 404 of the CWA or under Section 1600 of the Fish and Game Code. Because impacts to these nonjurisdictional areas were found to not be substantial, no mitigation is expected to be required under CEQA. However, if the agencies assert jurisdiction over an area believed not to be subject to their jurisdiction and the project impacts this area, compensatory mitigation may be required. Riparian areas subject to regulatory jurisdiction are discussed further in Section 2.16. If required, compensatory mitigation would be provided through the Measure M2 Freeway Transportation Mitigation Program, which allocates funds to acquire land and fund habitat restriction by acquiring properties and permanently preserving them as open space. Restoration projects restore open space lands to their native habitat and include the removal of invasive plant species.

Indirect permanent impacts due to automobile traffic, noise, and air contamination are expected to occur. At a minimum, these impacts are expected to extend into the surrounding natural habitat by approximately the same distance that I-5 would be widened under the Build Alternatives. Site Design, Source Control, and Treatment Best Management Practices (BMPs) have been incorporated into the project design of the Build Alternatives to help avoid and/or minimize potential indirect adverse impacts to riparian communities associated with increased traffic, noise, and impervious surfaces. Further analysis would be included in subsequent versions of this report. However, the Build Alternatives are not expected to substantially increase indirect permanent impacts to CSS and riparian communities.

Although there are not established wildlife movement corridors in the BSA, wildlife may utilize both Aliso Creek and Oso Creek to some extent. Because the Aliso Creek

and Oso Creek Bridges are relatively open and the Build Alternatives would not alter this condition, implementation of Build Alternatives 2 and 3 are not expected to result in permanent impacts to wildlife utilizing these creeks. However, there may be some temporary disruption during construction activities within or adjacent to these creeks.

2.15.4 Avoidance, Minimization, and/or Mitigation Measures

The following measures would be implemented to avoid and minimize project impacts to both CSS and riparian habitats.

BIO-1 Prior to clearing or construction, highly visible barriers (such as orange construction fencing) will be installed around riparian/riverine communities and coastal sage scrub (CSS) adjacent to the project disturbance limits to designate Environmentally Sensitive Areas (ESAs) to be avoided and preserved. No grading or fill activity of any type will be permitted within ESAs. In addition, heavy equipment, including motor vehicles, will not be allowed to operate within the ESAs. All construction equipment will be operated in such a manner as to prevent accidental damage to nearby ESAs. No structure of any kind, or incidental storage of equipment or supplies, will be allowed in ESAs. Silt fence barriers will be installed at the ESA boundaries to prevent accidental deposition of fill material into areas where vegetation is immediately adjacent to planned grading activities.

BIO-2 In order to avoid impacts to nesting birds, any native or exotic vegetation removal, tree trimming activities, or bridge demolition will occur outside of the bird nesting season. The nesting season is from February 15 through September 15. In the event that vegetation clearing is necessary during the nesting season, a qualified biologist will conduct a preconstruction survey to identify the locations of nests. Should nesting birds be found, an exclusionary buffer will be established by the biologist. This buffer will be clearly marked in the field by construction personnel under the guidance of the biologist, and construction or clearing will not be conducted in this zone until the biologist determines that the young have fledged or the nest is no longer active.

BIO-3 A biologist will monitor all vegetation clearing and any other construction activities (at the discretion of a qualified biologist) for the

duration of the project in areas adjacent to Environmentally Sensitive Areas (ESAs) to flush any wildlife species present prior to construction to avoid direct mortality to wildlife and to ensure compliance with and proper implementation of vegetation removal, Best Management Practices (BMPs), and ESAs, and to ensure that all biological resource-related avoidance and minimization measures are properly adhered to.

BIO-4 Shielded lighting will be used for any nighttime construction adjacent to native vegetated areas to avoid and minimize artificial night-lighting effects.

BIO-5 To mitigate for areas temporarily affected by the proposed project, areas that are adjacent to native habitat will be replaced with native vegetation in-kind to the existing adjacent native habitat, including coastal sage scrub (CSS). The habitat subject to this replacement will be determined at the discretion of the California Department of Transportation (Caltrans) biologist.

BIO-6 Should it later be determined that Oso Creek was historically used by anadromous fish, a Detailed Fish Passage Assessment will be conducted on the Oso Creek Bridge Crossing and submitted to the California Department of Fish and Wildlife (CDFW) and interagency coordination among the California Department of Transportation (Caltrans), the National Marine Fisheries Service (NMFS), and the CDFW will be conducted to determine whether a barrier to anadromous fish passage is present. If it is determined that there are structures blocking fish passage, structures blocking anadromous fish passage will be designed by the project engineer to mitigate for fish passage.

In addition to the measures described for Water Quality in Section 2.9.4, the following measures would be incorporated to avoid and minimize project impacts to riparian habitats specifically.

BIO-7 To minimize indirect impacts, all equipment maintenance, staging, and dispensing of fuel, oil, or any other such activities will occur in developed or designated nonsensitive upland habitat areas. The

designated upland areas will be located so as to prevent runoff from any spills from entering waters of the United States.

BIO-8 Weed control will be implemented to minimize the importation of nonnative plant material during and after construction. Eradication strategies will be implemented should an invasion of nonnative plant species occur.

As noted in Section 2.15.1, the OCTA M2 NCCP/HCP is currently in process and varying degrees of compliance with the avoidance and minimization measures specified in the NCCP/HCP may be required during the design, permitting, and construction phases of project implementation. Therefore, the following measure will be included as part of the proposed project:

BIO-9 During the Plans, Specifications, and Estimate (PS&E) phase, the design engineer will coordinate closely with the Orange County Transportation Authority (OCTA) to ensure consistency with OCTA's commitments and the permitting agencies' expectations pursuant to the M2 NCCP/HCP, including the Streambed Program, which is designed to facilitate the permitting process.

It is anticipated that a Biological Resources Avoidance and Minimization Plan (BRAMP), for agency review and approval, will be required. The BRAMP should include avoidance and minimization measures similar to BIO-1 through BIO-8. In addition, specific design and construction measures may be required for the following elements:

- Aquatic Species: to include pre-construction surveys and avoidance measures for southwestern pond turtle.
- Covered Plant Species: to include pre-construction rare plant surveys and avoidance measures
- Wildlife Crossings: to include consultation with biologist regarding design and construction of the Oso Creek Bridge modifications, in order to minimize impacts on wildlife movement under the bridge.

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LEGEND

- Biological Study Area
- Jurisdictional Areas
- CAGN Observed

Habitat:

- Arroyo Willow Riparian Forest
- Disturbed or Barren
- Flood Control Channel (Unvegetated Open Water)
- Herbaceous Riparian
- Mulefat Scrub
- Ornamental Landscaping
- Perennial River (Unvegetated Open Water)
- Ruderal Grassland
- Sagebrush Scrub
- Transportation
- Urban and Commercial

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SOURCE: RBF (1/2012)

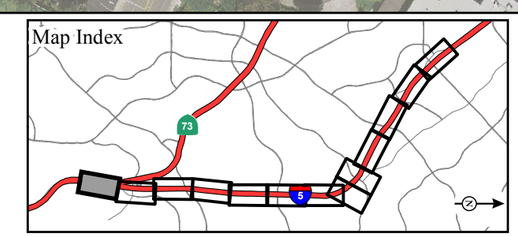

FIGURE 2.15-1
Sheet 1 of 13

I-5 Widening Project: SR-73 to El Toro Rd

Biological Resources

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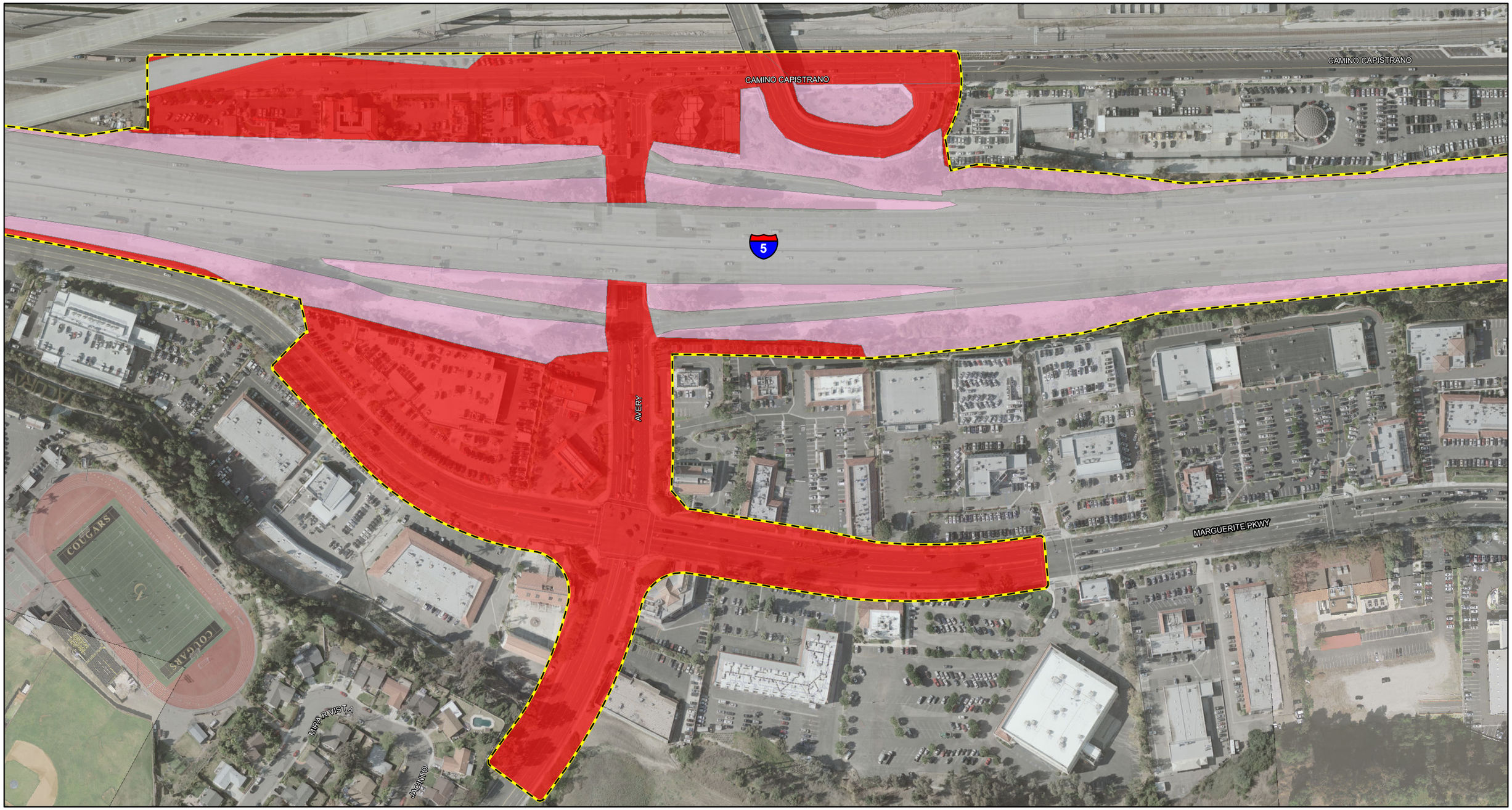

LEGEND

- Biological Study Area
- Jurisdictional Areas
- CAGN Observed

Habitat:

- Arroyo Willow Riparian Forest
- Disturbed or Barren
- Flood Control Channel (Unvegetated Open Water)
- Herbaceous Riparian
- Mulefat Scrub
- Ornamental Landscaping
- Perennial River (Unvegetated Open Water)
- Ruderal Grassland
- Sagebrush Scrub
- Transportation
- Urban and Commercial

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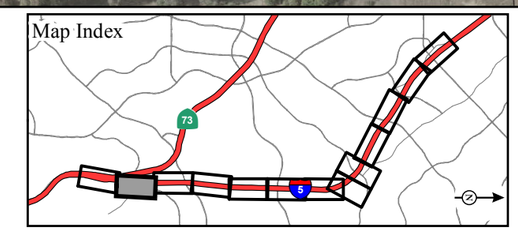

FIGURE 2.15-1
Sheet 2 of 13

I-5 Widening Project: SR-73 to El Toro Rd

Biological Resources

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LEGEND

- Biological Study Area
- Jurisdictional Areas
- CAGN Observed

Habitat:

- Arroyo Willow Riparian Forest
- Disturbed or Barren
- Flood Control Channel (Unvegetated Open Water)
- Herbaceous Riparian
- Mulefat Scrub
- Ornamental Landscaping
- Perennial River (Unvegetated Open Water)
- Ruderal Grassland
- Sagebrush Scrub
- Transportation
- Urban and Commercial

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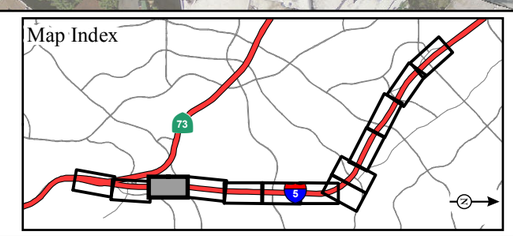

FIGURE 2.15-1
Sheet 3 of 13

I-5 Widening Project: SR-73 to El Toro Rd

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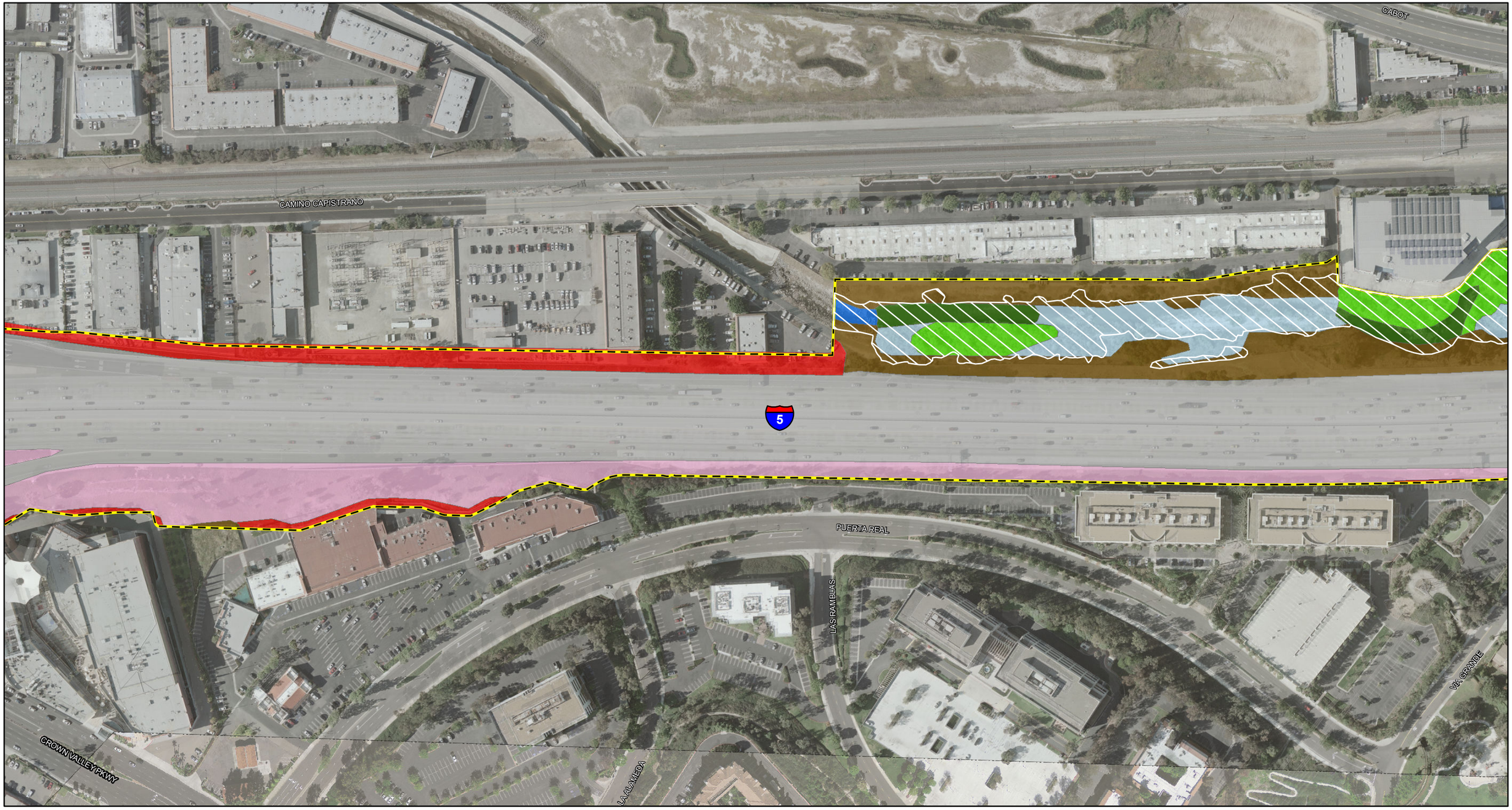

LEGEND

- Biological Study Area
- Jurisdictional Areas
- CAGN Observed

Habitat:

- Arroyo Willow Riparian Forest
- Disturbed or Barren
- Flood Control Channel (Unvegetated Open Water)
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- Ornamental Landscaping
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- Ruderal Grassland
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- Transportation
- Urban and Commercial

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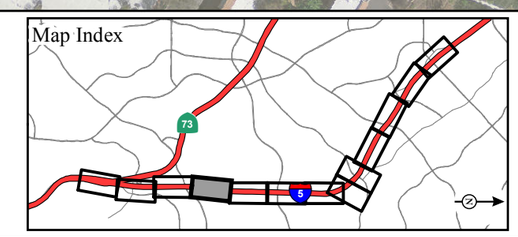

FIGURE 2.15-1
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I-5 Widening Project: SR-73 to El Toro Rd

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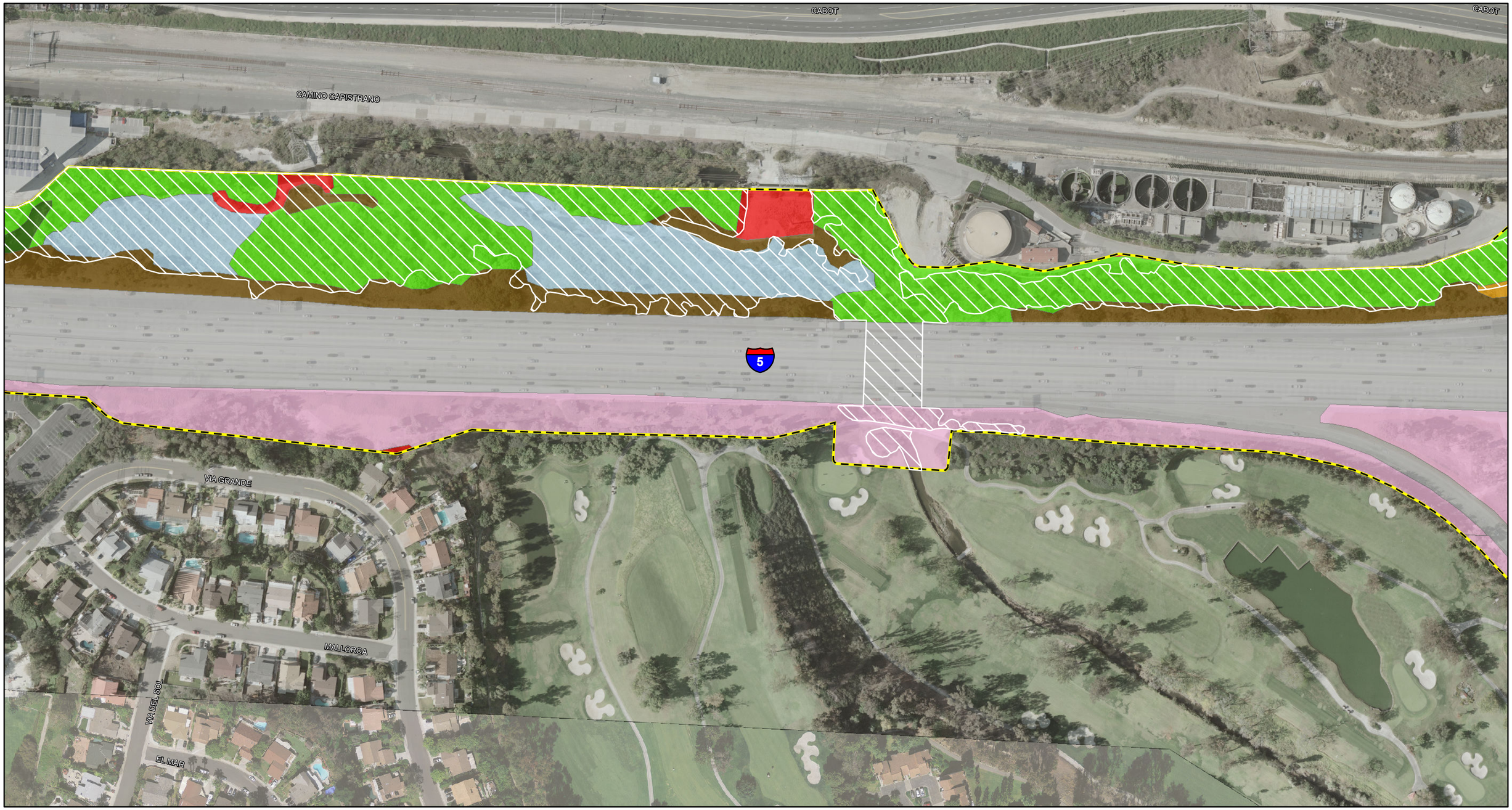

LEGEND

- Biological Study Area
- Jurisdictional Areas
- CAGN Observed

Habitat:

- Arroyo Willow Riparian Forest
- Disturbed or Barren
- Flood Control Channel (Unvegetated Open Water)
- Herbaceous Riparian
- Mulefat Scrub
- Ornamental Landscaping
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- Ruderal Grassland
- Sagebrush Scrub
- Transportation
- Urban and Commercial

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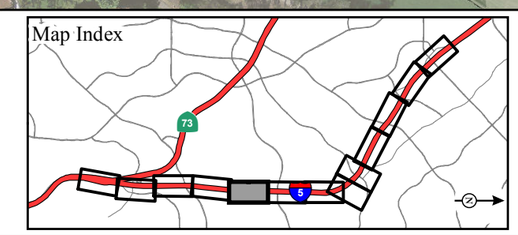

FIGURE 2.15-1
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I-5 Widening Project: SR-73 to El Toro Rd

Biological Resources

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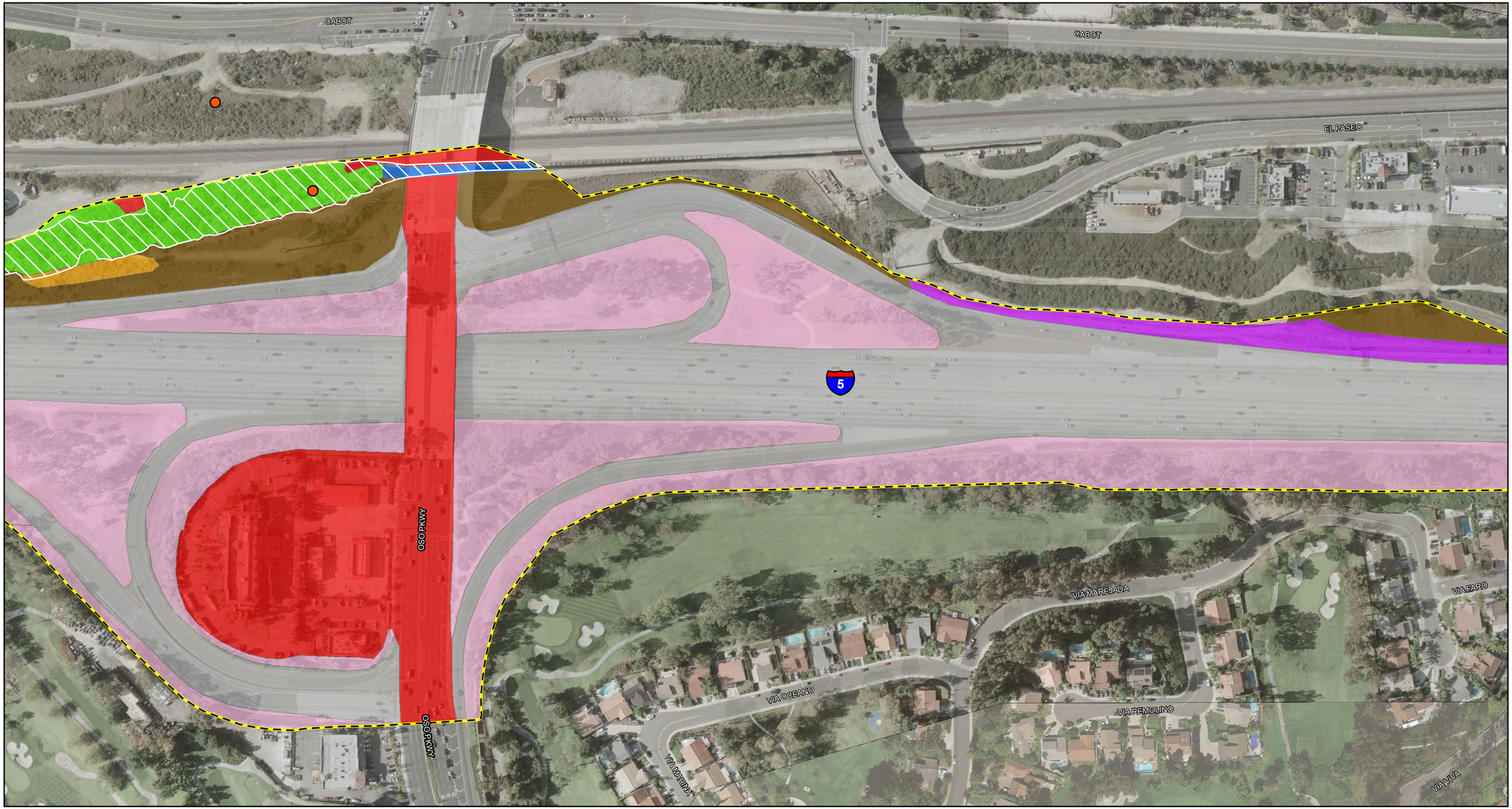

LEGEND

- Biological Study Area
- Jurisdictional Areas
- CAGN Observed

Habitat:

- Arroyo Willow Riparian Forest
- Disturbed or Barren
- Flood Control Channel (Unvegetated Open Water)
- Herbaceous Riparian
- Mulefat Scrub
- Ornamental Landscaping
- Perennial River (Unvegetated Open Water)
- Ruderal Grassland
- Sagebrush Scrub
- Transportation
- Urban and Commercial

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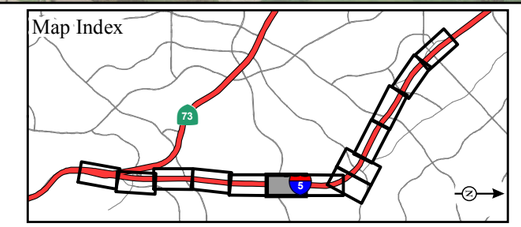

FIGURE 2.15-1
Sheet 6 of 13

I-5 Widening Project: SR-73 to El Toro Rd

Biological Resources

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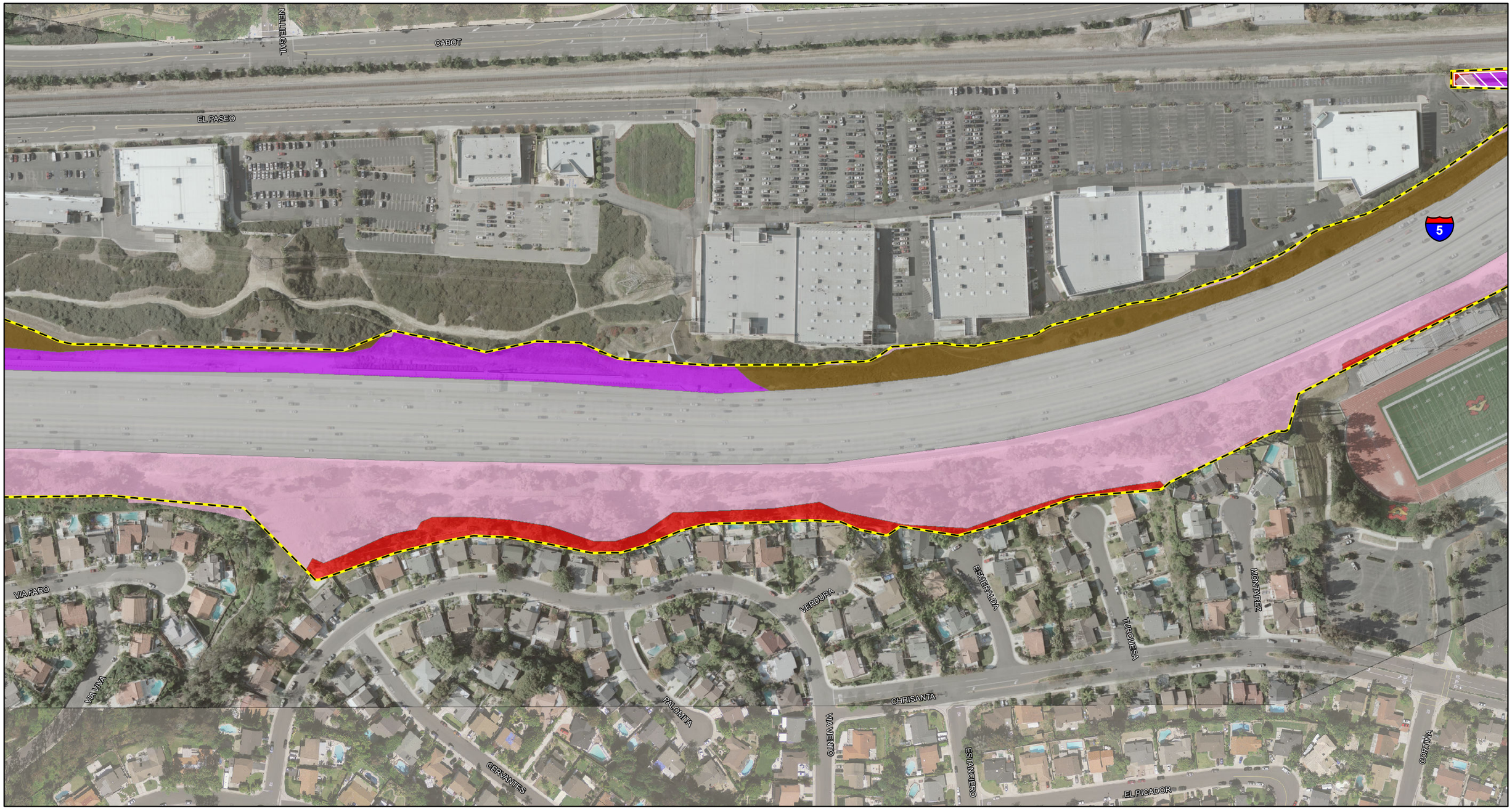

LEGEND

- Biological Study Area
- Jurisdictional Areas
- CAGN Observed

Habitat:

- Arroyo Willow Riparian Forest
- Disturbed or Barren
- Flood Control Channel (Unvegetated Open Water)
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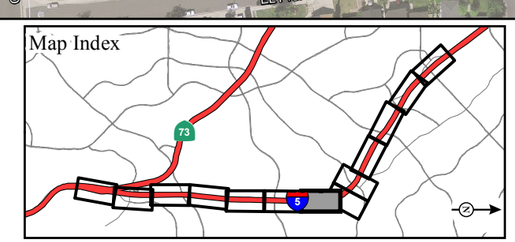

FIGURE 2.15-1
Sheet 7 of 13

I-5 Widening Project: SR-73 to El Toro Rd

Biological Resources

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LEGEND

- Biological Study Area
- Jurisdictional Areas
- CAGN Observed

Habitat:

- Arroyo Willow Riparian Forest
- Disturbed or Barren
- Flood Control Channel (Unvegetated Open Water)
- Herbaceous Riparian
- Mulefat Scrub
- Ornamental Landscaping
- Perennial River (Unvegetated Open Water)
- Ruderal Grassland
- Sagebrush Scrub
- Transportation
- Urban and Commercial

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SOURCE: RBF (1/2012)

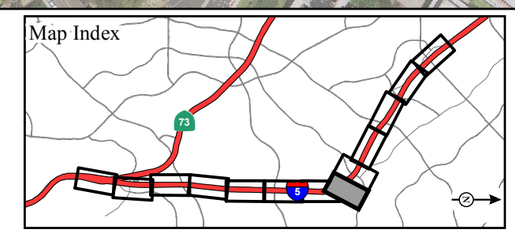

FIGURE 2.15-1
Sheet 8 of 13

I-5 Widening Project: SR-73 to El Toro Rd

Biological Resources

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LEGEND

- Biological Study Area
- Jurisdictional Areas
- CAGN Observed

Habitat:

- Arroyo Willow Riparian Forest
- Disturbed or Barren
- Flood Control Channel (Unvegetated Open Water)
- Herbaceous Riparian
- Mulefat Scrub
- Ornamental Landscaping
- Perennial River (Unvegetated Open Water)
- Ruderal Grassland
- Sagebrush Scrub
- Transportation
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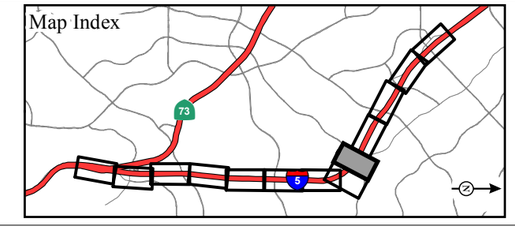

FIGURE 2.15-1
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I-5 Widening Project: SR-73 to El Toro Rd

Biological Resources

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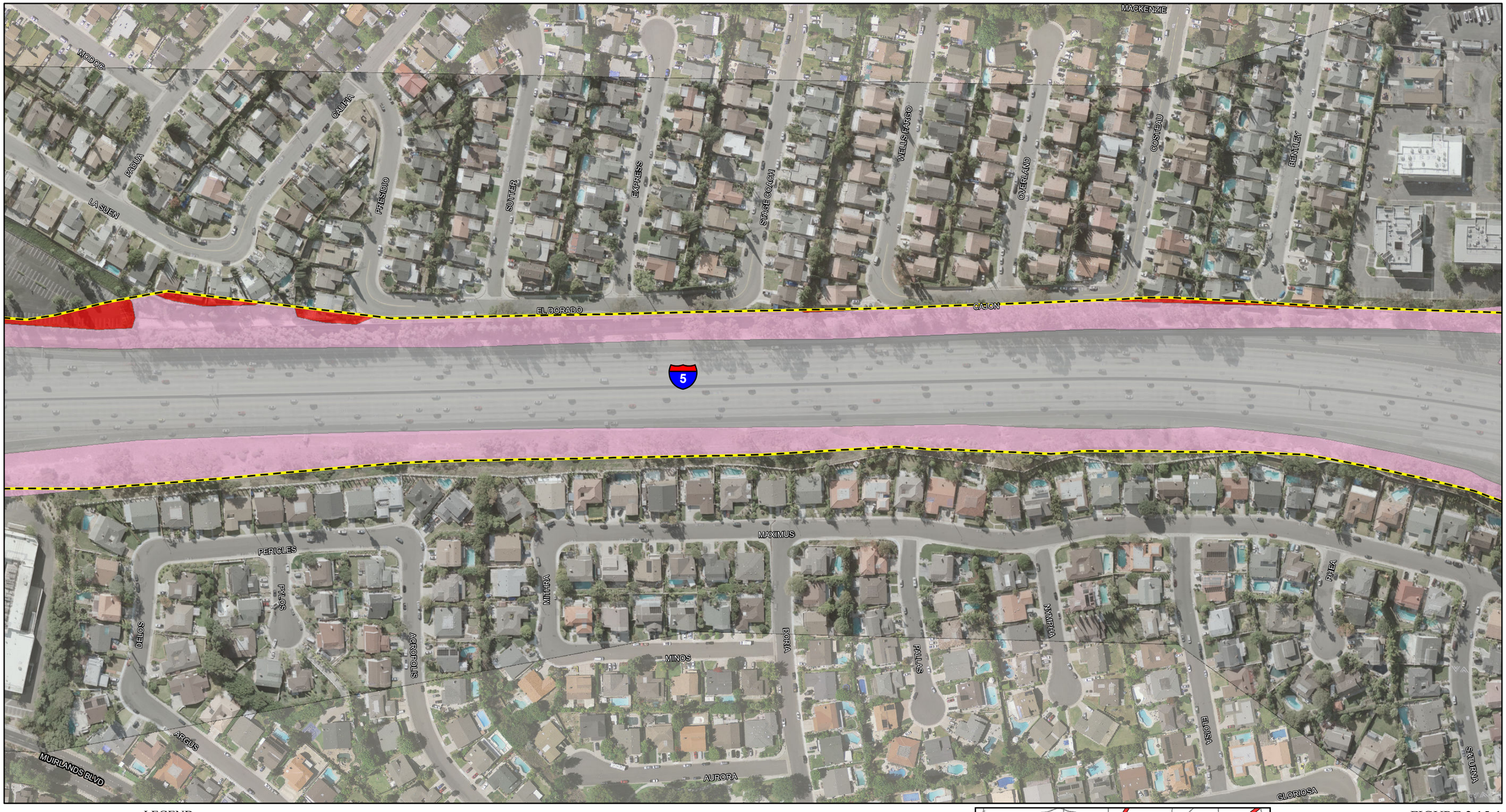

LEGEND

- Biological Study Area
- Jurisdictional Areas
- CAGN Observed

Habitat:

- Arroyo Willow Riparian Forest
- Disturbed or Barren
- Flood Control Channel (Unvegetated Open Water)
- Herbaceous Riparian
- Mulefat Scrub
- Ornamental Landscaping
- Perennial River (Unvegetated Open Water)
- Ruderal Grassland
- Sagebrush Scrub
- Transportation
- Urban and Commercial

0 100 200
FEET

SOURCE: RBF (1/2012)

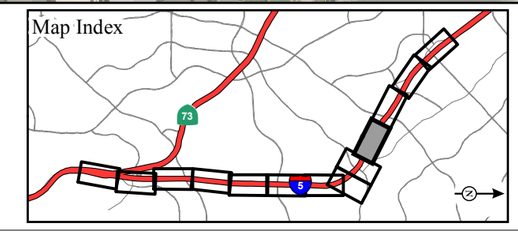

FIGURE 2.15-1
Sheet 10 of 13

I-5 Widening Project: SR-73 to El Toro Rd

Biological Resources

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0 100 200
FEET

SOURCE: RBF (1/2012)

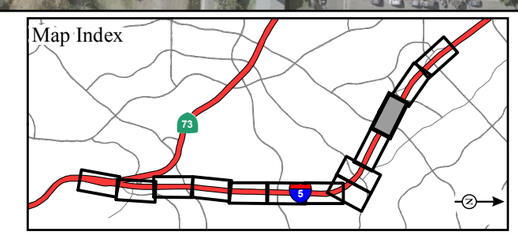

FIGURE 2.15-1
Sheet 11 of 13

I-5 Widening Project: SR-73 to El Toro Rd

Biological Resources

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LEGEND

- Biological Study Area
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- Ruderal Grassland
- Sagebrush Scrub
- Transportation
- Urban and Commercial

0 100 200
FEET

SOURCE: RBF (1/2012)

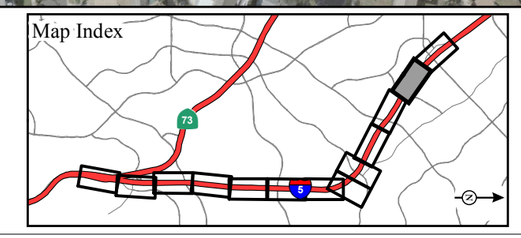

FIGURE 2.15-1
Sheet 12 of 13

I-5 Widening Project: SR-73 to El Toro Rd

Biological Resources

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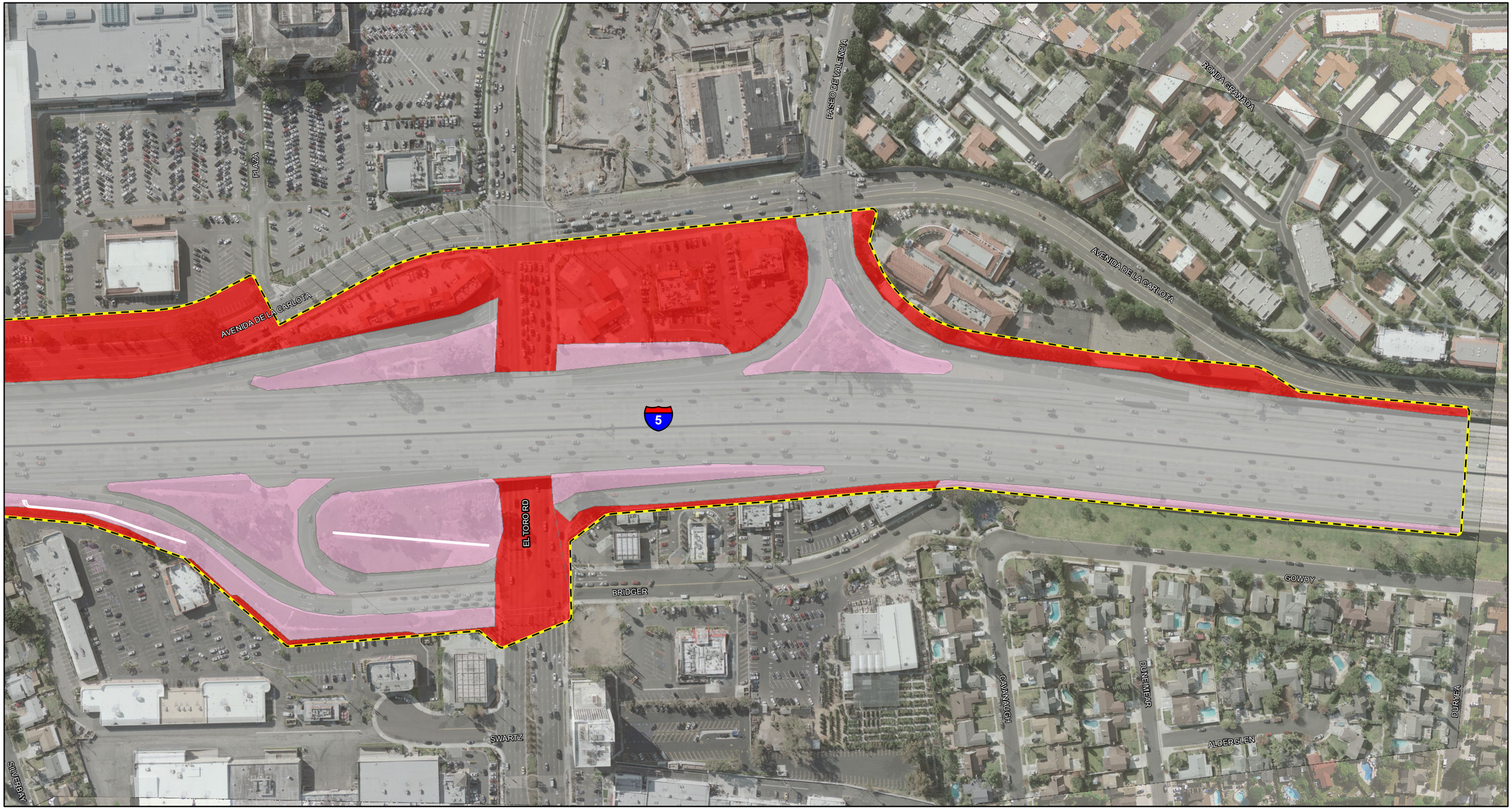

LEGEND

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0 100 200
FEET

SOURCE: RBF (1/2012)

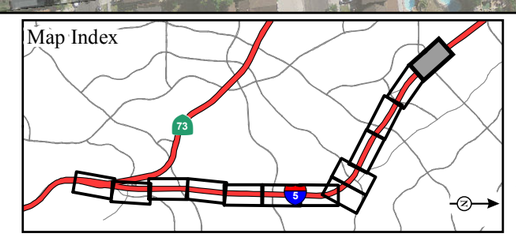

FIGURE 2.15-1
Sheet 13 of 13

I-5 Widening Project: SR-73 to El Toro Rd

Biological Resources

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