

## **BIOLOGICAL ENVIRONMENT**

Wetlands and other waters are discussed in Section 2.17, Wetlands and Other Waters. As noted earlier in the introduction to Chapter 2, habitat suitability for threatened and endangered species in the biological study area (BSA) was deemed low, and none were detected during biological surveys; therefore, the build alternatives are not anticipated to impact any threatened or endangered species. As a result, there is not a Threatened and Endangered Species section in this document.

### **2.16 Natural Communities**

#### **2.16.1 Regulatory Setting**

This section of the document discusses natural communities of concern. The focus of this section is on biological communities, not individual plants, or animal species. This section also includes information on wildlife corridors 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.

#### **2.16.2 Affected Environment**

The information in this section is based on the *Natural Environment Study* (February 2023) prepared for the proposed Project.

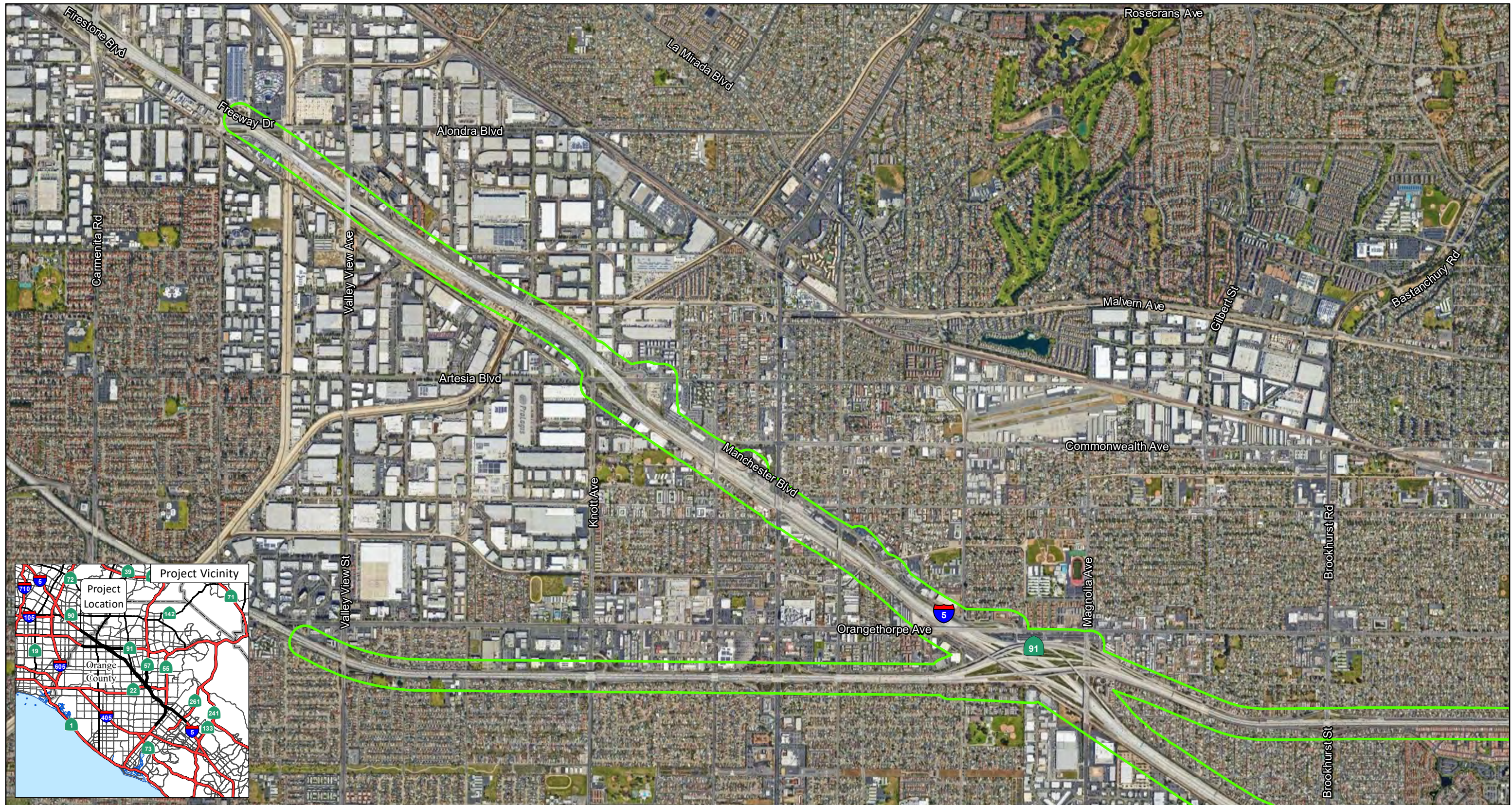
##### **2.16.2.1 Biological Study Area**


The Study Area assessed for biological resources is referred to as the BSA. The BSA is approximately 3,300 acres (approximately 18 linear miles along the Interstate [I] 5 corridor) and is shown on Figure 2.16-1. The BSA represents the area of potential direct and indirect impacts to biological resources from the build alternatives and includes the existing I-5, State Route (SR) 55, SR-57, and SR-91 rights-of-way plus a 300-foot buffer from the edge of the proposed right-of-way (or 300 feet from the outer limits of the work area). The northern limit of the BSA is in Santa Fe Springs just north of Alondra Boulevard. The BSA's southern terminus is in Irvine just south of SR-261.

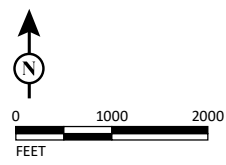
The proposed Project segment of I-5 and the BSA traverses parts of the cities of La Mirada and Santa Fe Springs in Los Angeles County and the cities of Irvine, Tustin, Santa Ana, Orange, Anaheim, Fullerton, and Buena Park in Orange County in mostly urban settings consisting of residential, recreation, commercial, and undeveloped land uses. Prominent or natural aquatic resources within the BSA include the Peters

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 Biological Study Area



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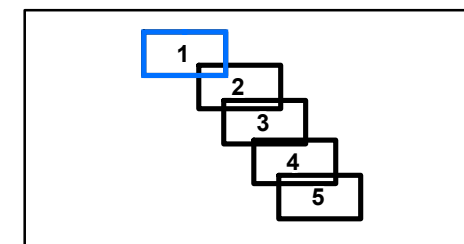


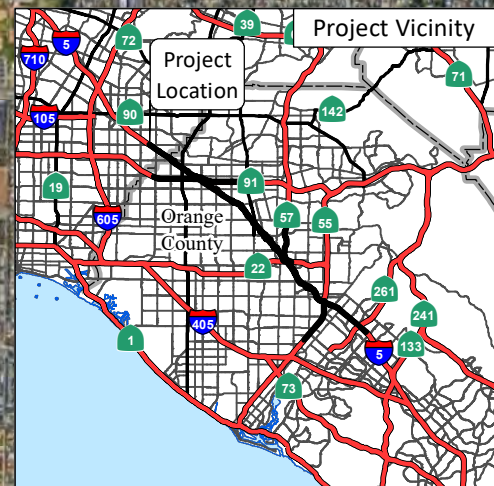
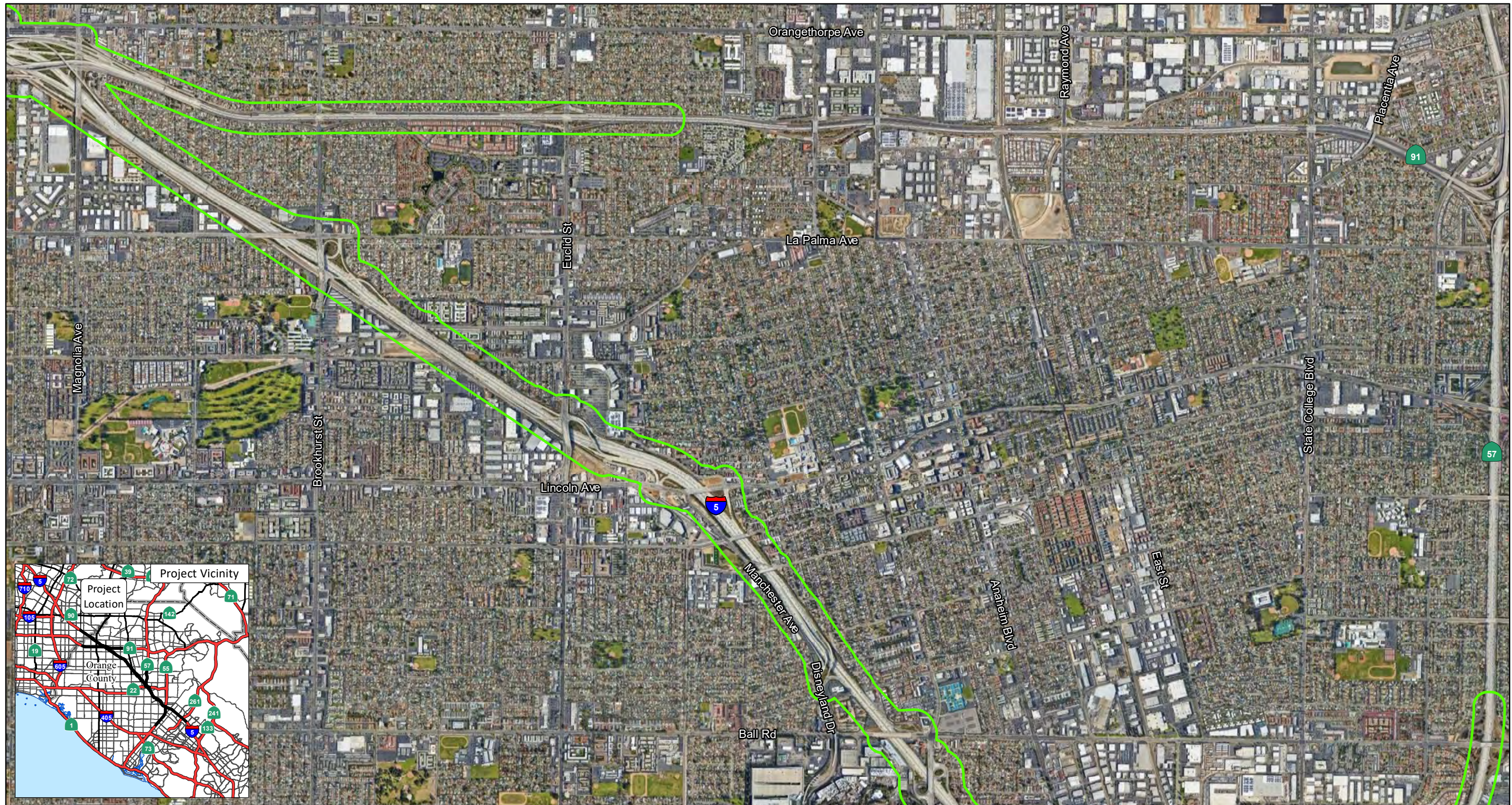
FIGURE 2.16-1  
 Sheet 1 of 5

*I-5 Managed Lanes Project*  
*(Red Hill Avenue to Orange County/Los Angeles County Line)*  
 Aerial Photos of the Biological Study Area  
 EA No. 00950



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Biological Study Area



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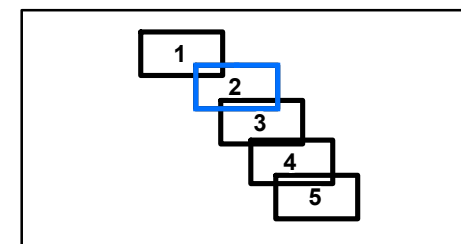


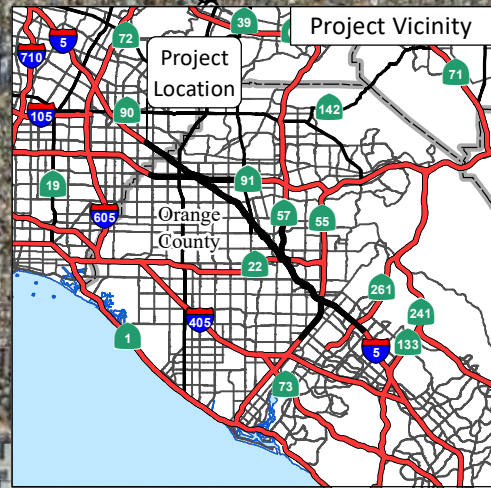
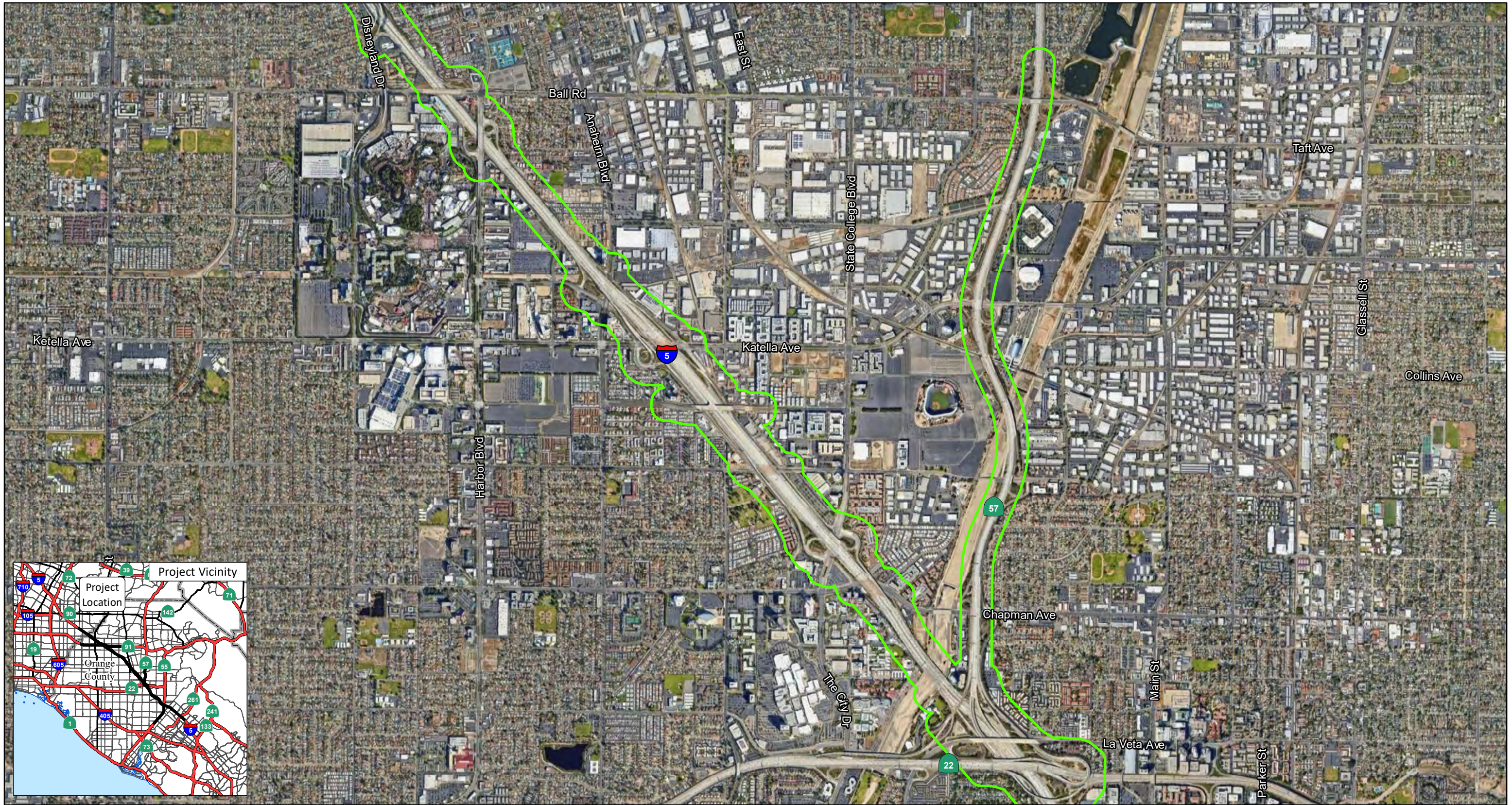
FIGURE 2.16-1  
Sheet 2 of 5

*I-5 Managed Lanes Project  
(Red Hill Avenue to Orange County/Los Angeles County Line)  
Aerial Photos of the Biological Study Area  
EA No. 00950*



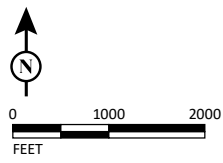
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Biological Study Area



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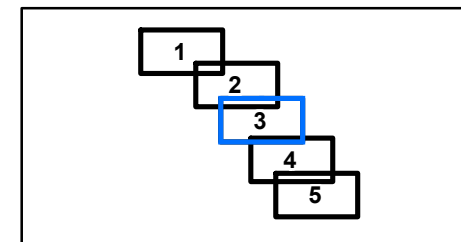


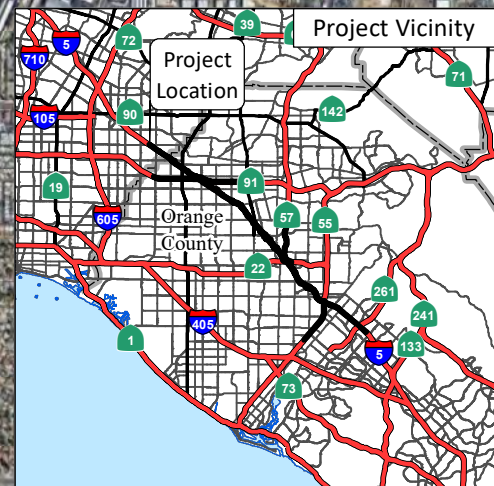
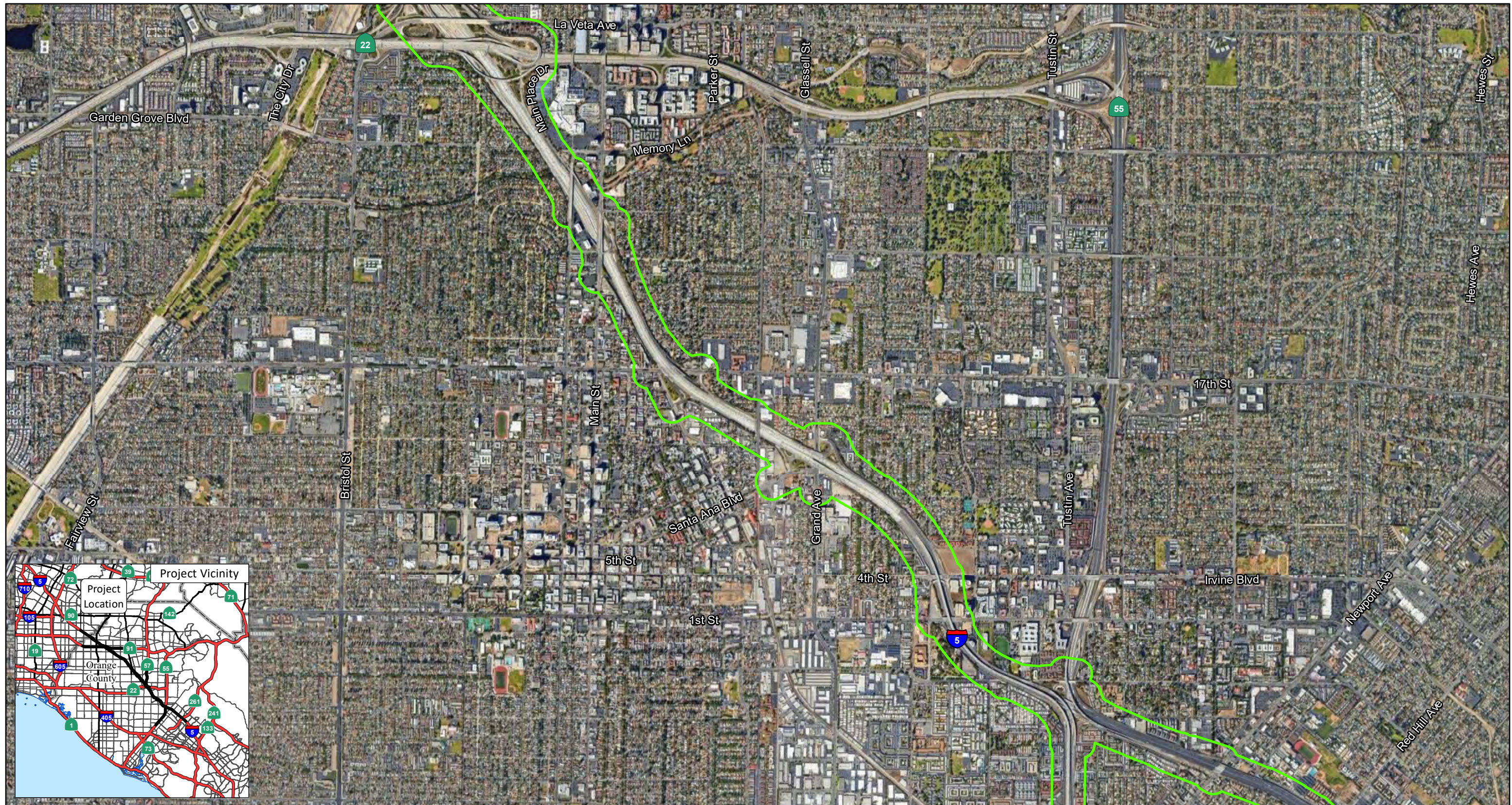
FIGURE 2.16-1  
Sheet 3 of 5

*I-5 Managed Lanes Project  
(Red Hill Avenue to Orange County/Los Angeles County Line)  
Aerial Photos of the Biological Study Area  
EA No. 00950*



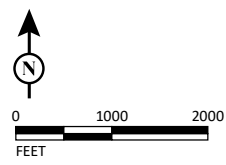
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Biological Study Area



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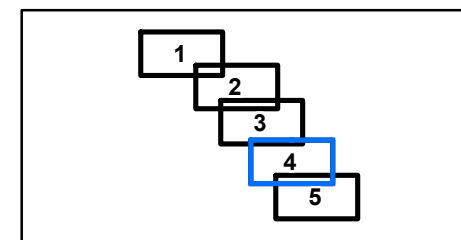


FIGURE 2.16-1  
Sheet 4 of 5

*I-5 Managed Lanes Project*  
*(Red Hill Avenue to Orange County/Los Angeles County Line)*  
Aerial Photos of the Biological Study Area  
EA No. 00950




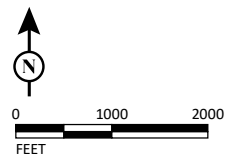
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 Biological Study Area



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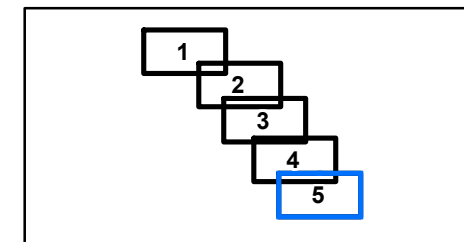


FIGURE 2.16-1  
Sheet 5 of 5

*I-5 Managed Lanes Project*  
*(Red Hill Avenue to Orange County/Los Angeles County Line)*  
Aerial Photos of the Biological Study Area  
EA No. 00950



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Canyon Wash, El Modena-Irvine Channel, Santiago Creek, Bitterbrush Channel, Santa Ana River, Carbon Creek, Fullerton Creek, Coyote Creek, and La Cañada Verde Creek.

The BSA is highly urbanized and mostly barren of vegetation.

### **2.16.2.2 Vegetation Communities**

Vegetation communities or land cover types in the BSA include bare ground, developed, developed above-riverine below, developed above-streambed below, freshwater marsh, landscaped, riprap, riverine, ruderal, and streambed.

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 sensitive plants or animals occurring on site. The only habitat and natural community of special concern within the BSA is riparian, in the form of freshwater marsh (refer to Figure 2.16-2). The developed above-riverine below, developed above-streambed below, riverine, and streambed land covers coincide with jurisdictional aquatic resources. Therefore, discussion of jurisdictional aquatic resources in Section 2.17 will also cover these four land covers.

#### ***Freshwater Marsh***

Within the BSA, 0.04 acre of freshwater marsh emergent wetland occurs east of I-5 near the northbound Artesia Boulevard off-ramp. This riparian vegetation type consists of seasonally or permanently flooded low-lying areas dominated by broadleaf cattail (*Typha latifolia*), narrowleaf cattail (*Typha angustifolia*), and green willow herb (*Epilobium ciliatum*).

### **2.16.2.3 Wildlife Corridors and Movement**

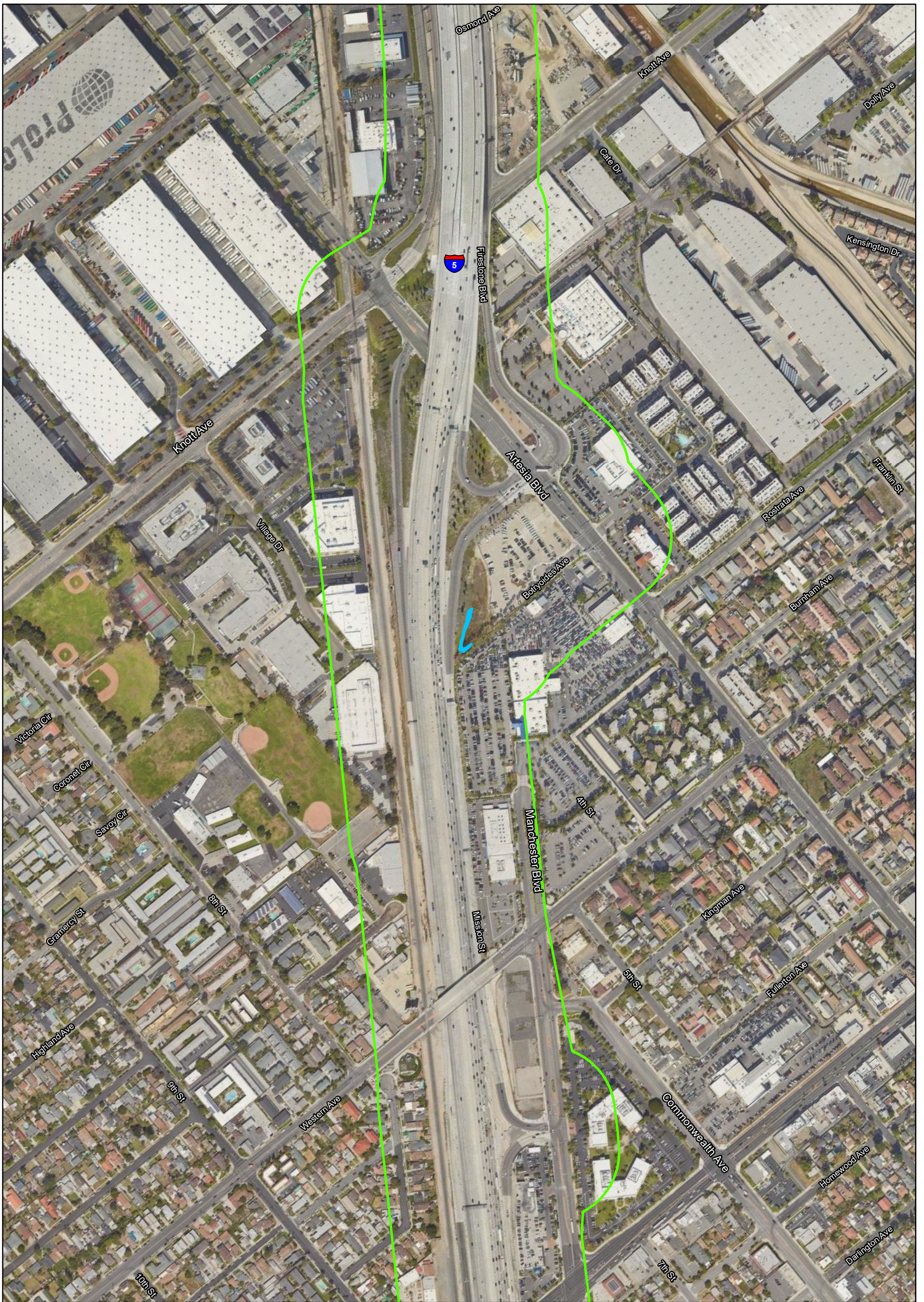
The BSA is characterized predominantly by developed, landscaped, and ruderal land covers.

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*).



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- ▭ Biological Study Area
- ▭ Special Interest Vegetation
- ▭ Freshwater Marsh

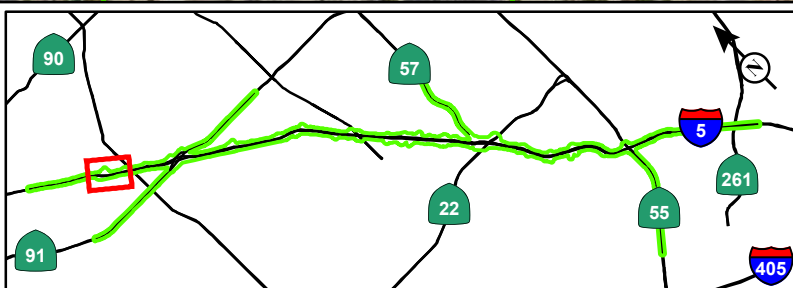
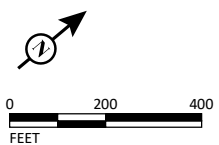


FIGURE 2.16-2

*I-5 Managed Lanes Project  
(Red Hill Avenue to Orange County/  
Los Angeles County Line)  
Special Interest Vegetation*

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SOURCE: Google (2021); WSP (2022)

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Wildlife movement in the BSA has been substantially constrained for many years by human-made barriers (e.g., lack of suitable vegetative cover, existing roadways, storm water conveyance structures, and fencing, along with the associated surrounding development). The urban setting of the BSA provides limited opportunities for habitat continuity. Wildlife movement of species such as coyotes could occur within the BSA, but substantial movement is not expected within the 10 substantial drainage features—La Canada Verde Creek, Coyote Creek, Fullerton Creek, Carbon Creek, Crescent Retarding Basin, Santa Ana River, Bitterbrush Channel, Santiago Creek, El Modena-Irvine Channel, and Peters Canyon Wash—due to lack of habitat and cover.

### 2.16.3 Environmental Consequences

#### 2.16.3.1 Temporary Impacts

##### ***Build Alternative (Alternative 2)***

Implementation of Alternative 2 would not result in temporary impacts to freshwater marsh. Table 2.16.1 depicts temporary and permanent impacts to vegetation communities in the BSA.

**Table 2.16.1: Impacts to Vegetation Communities and Land Covers by Build Alternative**

| Vegetation Communities/<br>Land Covers | Alternative 2             |                           | Alternative 3             |                           | Alternative 4             |                           |
|--|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|
|  | Permanent Impacts (acres) | Temporary Impacts (acres) | Permanent Impacts (acres) | Temporary Impacts (acres) | Permanent Impacts (acres) | Temporary Impacts (acres) |
| Bare Ground                            | 0.00                      | 0.00                      | 0.00                      | 7.61                      | 0.00                      | 7.61                      |
| Developed                              | 0.15                      | 0.00                      | 175.62                    | 657.63                    | 183.99                    | 648.94                    |
| Developed Above-Riverine Below         | 0.00                      | 0.00                      | 0.82                      | 2.79                      | 0.82                      | 2.79                      |
| Developed Above-Streambed Below        | 0.00                      | 0.00                      | 0.08                      | 0.77                      | 0.08                      | 0.77                      |
| Freshwater Marsh                       | 0.00                      | 0.00                      | 0.00                      | 0.04                      | 0.00                      | 0.04                      |
| Landscaped                             | 1.23                      | 0.00                      | 5.98                      | 132.39                    | 7.52                      | 130.85                    |
| Riprap                                 | 0.00                      | 0.00                      | 0.00                      | 0.20                      | 0.00                      | 0.20                      |
| Riverine                               | 0.00                      | 0.00                      | 0.00                      | 0.88                      | 0.00                      | 0.88                      |
| Ruderal                                | 0.81                      | 0.00                      | 1.16                      | 25.39                     | 1.16                      | 25.39                     |
| Streambed                              | 0.00                      | 0.00                      | 0.00                      | 3.36                      | 0.00                      | 3.36                      |
| <b>TOTAL</b>                           | <b>2.19</b>               | <b>0.00</b>               | <b>183.66</b>             | <b>831.05</b>             | <b>192.57</b>             | <b>820.82</b>             |

Source: LSA Associates, Inc. (2023) (calculated using GIS software).

\*Totals may appear inaccurate due to rounding.



### **Build Alternatives (Alternatives 3 and 4)**

Implementation of Alternatives 3 and 4 would result in temporary impacts to the entirety (0.04 acre) of the freshwater marsh land cover, with a majority of impacts affecting developed and landscaped land covers. Table 2.16.1 depicts temporary impacts to vegetation communities in the BSA as a result of Alternatives 3 and 4.

Temporary direct impacts of Alternatives 3 and 4 would include vegetation removal, grubbing, and/or grading. Temporary indirect impacts include potential impacts to adjacent habitats caused by an increase or change in off-site runoff, erosion, and spread of invasive species during construction. These impacts would not be new to the BSA due to the current operation of I-5 but would temporarily increase the level of indirect disturbance near the freshwater marsh during construction activities associated with Alternatives 3 and 4. Implementation of Project Features PF-BIO-1 through PF-BIO-7, listed below, would minimize potential indirect impacts to adjacent habitats resulting from general construction activities.

**PF-BIO-1 Delineation of Environmentally Sensitive Areas.** Prior to Project activities, highly visible barriers (e.g., orange construction fencing) will be installed along the boundaries of the Project footprint/ equipment access routes to designate Environmentally Sensitive Areas (ESAs) that are to be preserved. This will include ESA fencing along jurisdictional aquatic resources located adjacent to Project impact areas. No Project activity of any type will be permitted within the 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 the ESAs. No structure of any kind, or incidental storage of equipment or supplies, will be allowed within these protected zones.

**PF-BIO-2 Invasive Species Control.** All construction equipment accessing unpaved areas will be cleaned with water to remove dirt, seeds, vegetative material, or other debris that could contain or hold seeds of noxious weeds before arriving at and leaving the Project site.

**PF-BIO-3 Equipment Staging Best Management Practices (BMPs).** All equipment maintenance, staging, and dispensing of fuel, oil, or any other such activities will occur in developed or designated nonsensitive upland areas. The designated upland areas will be located



in such a manner as to prevent any loose soil or spill runoff from entering jurisdictional waterways or adjacent sensitive vegetation communities. All construction materials will be removed from worksites following completion of Project activities.

- PF-BIO-4 Water Quality BMPs.** To avoid impacts to water quality during construction, stormwater and erosion control BMPs are recommended to prevent loose soil or pollutants associated with the Project from inadvertently entering the aquatic resources and sensitive vegetation communities located within and adjacent to the Biological Study Area (BSA). Example BMPs include silt fencing and straw wattle placed in such a manner that they are able to catch or filter sediment or other construction-related debris to prevent it from eroding into the nearby drainage channels.
- PF-BIO-5 Erosion Control Material Sourcing.** Only certified weed-free straw, mulch, and/or fiber rolls will be used for erosion control. Invasive species will not be used in any landscaping palettes for the Project.
- PF-BIO-6 On-Site Training.** All personnel involved in on-site Project construction will be required to participate in a pre-construction environmental training program to ensure they understand the avoidance and minimization measures and environmental regulations pertinent to the Project.
- PF-BIO-7 Vegetation.** Prior to initiation of construction, a revegetation plan will be prepared for freshwater marsh and jurisdictional aquatic resources temporarily impacted by Project activities. The goal of the revegetation plan will be to restore these areas to their pre-construction condition. The revegetation plan will include the procedures to install and maintain the revegetated areas, details and timing of monitoring and maintenance activities, reporting requirements, and success criteria. The revegetation plan will be consistent with all measures identified in the jurisdictional aquatic resources permitting, including the Nationwide Permit, Streambed Alteration Agreement (SAA), and Section 401 Water Quality Certification, and will be reviewed and approved by the United States Army Corps of Engineers (USACE),



California Department of Fish and Wildlife (CDFW), and Regional Water Quality Control Board (RWQCB) prior to its implementation.

Stormwater and litter impacts would be avoided through compliance with the Construction General Permit and implementation of Project-specific BMPs, which are included as Project Features. These include Project Features PF-WQ-3 and PF-WQ-4 in Section 2.9, Water Quality and Storm Water Runoff. These Project Features would require Alternatives 3 and 4 to obtain coverage under the National Pollutant Discharge Elimination System (NPDES) General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities, would remain compliant with the General Waste Discharge Requirements for Groundwater Extraction Discharges to Surface Waters within the Santa Ana Region and the California Department of Transportation (Caltrans) municipal separate storm sewer system permit, and would include Caltrans-approved design pollution prevention BMPs, treatment BMPs, and full trash capture devices.

During construction of Alternatives 3 and 4, incremental increases in night lighting, noise, human activity, and impacts to water quality could temporarily impact and discourage coyote presence in the BSA. However, this species would likely continue to utilize the BSA when construction workers are not present, and equipment is not operating. Therefore, construction of Alternatives 3 and 4 would not result in any substantial adverse temporary impacts to wildlife movement.

#### ***Alternative 1 (No Build Alternative)***

The No Build Alternative would not include construction of any of the improvements proposed under the build alternatives. Therefore, the No Build Alternative would not result in temporary impacts to natural communities or wildlife movement.

### **2.16.3.2 Permanent Impacts**

#### ***Build Alternatives (Alternatives 2, 3, and 4)***

Implementation of the build alternatives would not result in permanent impacts to riparian habitat in the form of freshwater marsh. Furthermore, implementation of the build alternatives is not expected to permanently affect wildlife movement or decrease the functionality of any wildlife crossings within the BSA. No permanent barriers would be placed within any known wildlife movement corridors.

#### ***Alternative 1 (No Build Alternative)***

The No Build Alternative would not include the operation of any of the improvements proposed under the build alternatives. Therefore, the No Build



Alternative would not result in permanent impacts to natural communities or wildlife movement.

#### **2.16.4 Avoidance, Minimization, and/or Mitigation Measures**

The build alternatives will incorporate the Project Features as outlined above in Section 2.16.3.1 to help avoid and/or minimize potential impacts. No additional avoidance, minimization, and/or mitigation measures other than the Standard Project Features are required.



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