JURISDICTIONAL DELINEATION

Interstate 10 Corridor Project

San Bernardino and Los Angeles Counties

07-LA-10 PM 44.9/48.3
08-SBD-10 PM 0.0/R37.0

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STATE OF CALIFORNIA
Department of Transportation

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SECTION 1: SUMMARY

1.1 - Introduction

The California Department of Transportation (Caltrans), in conjunction with San Bernardino Associated Governments (SANBAG), proposes to add lane(s) and provide additional improvements on Interstate 10 (I-10) from approximately 2 miles west of the Los Angeles/San Bernardino (LA/SB) county line in Pomona to Ford Street in Redlands. The I-10 corridor is within the Inland Empire, a region that encompasses approximately 27,000 square miles of the metropolitan areas within Riverside, Los Angeles, and San Bernardino counties. The I-10 Corridor Project (I-10 CP) will consider one no-build and two build alternatives. Both build alternatives include the construction of additional lane(s) in each direction of I-10, auxiliary lanes, shoulders, median barriers, soundwalls, retaining walls, drainage facilities, and improvements to bridges and ramps. The purpose of the proposed project is to improve the movement of people and goods through the I-10 corridor. A full glossary of terms used in this delineation can be found in Appendix A.

This Jurisdictional Delineation Report provides a summary of the United States Army Corps of Engineers (USACE), Regional Water Quality Control Board (RWQCB), and California Department of Fish and Wildlife (CDFW) jurisdictional waters that may occur within the project Biological Study Area (BSA). All jurisdictional areas shown in exhibits in this report are for the purposes of USACE jurisdictional determination only and are labeled as “USACE Jurisdictional” or “USACE Non-Jurisdictional.” All features, including both USACE Jurisdictional and USACE Non-Jurisdictional features, are considered CDFW and RWQCB jurisdictional pursuant to Section 1600 *et al.* of the Fish and Game Code and the Porter-Cologne Water Quality Control Act, respectively. RWQCB and CDFW jurisdictional areas are discussed in Section 4.

1.1.1 - Project Description

Caltrans, in cooperation with SANBAG, proposes to add freeway lanes through all or a portion of the 33-mile stretch of I-10 from the LA/SB county line to Ford Street in San Bernardino County. The project limits, including transition areas, extend from approximately 0.4 mile west of White Avenue in Pomona at Post Mile (PM) 44.9 to Live Oak Canyon Road in Yucaipa at PM 37.0.

1.1.2 - Purpose of Project

The purpose of the project is to improve traffic operations on I-10 in San Bernardino County to reduce congestion, increase throughput, and enhance trip reliability for the planning design year of 2045.

The objectives of the project are to:

- Reduce volume-to-capacity (v/c) ratios along the corridor;
- Improve travel times within the corridor;

- Provide a facility that is compatible with transit and other modal options;
- Provide consistency with the Southern California Association of Governments (SCAG) Regional Transportation Plan;
- Provide a cost-effective project solution; and
- Minimize environmental impacts and right-of-way (ROW) acquisition.

1.1.3 - Need for Project

Deficiencies of I-10 within the project limits are summarized below:

- Substantial portions of the I-10 mainline general purpose (GP) lanes peak-period traffic demand currently exceeds capacity;
- Nearly all of the I-10 mainline GP lanes are projected to exceed capacity in future years; and
- I-10 existing mainline high-occupancy vehicle (HOV) lanes operation is degraded during peak periods.

1.1.4 - Project Alternatives

Alternative 1 (No-Build Alternative)

Alternative 1 (No–Build Alternative) would maintain the existing lane configuration of I-10 within the project limits with no additional mainline lanes or associated improvements to be provided.

Build Alternative 2 One HOV Lane in Each Direction

Alternative 2 (One HOV Lane in Each Direction) would extend the existing HOV lane in each direction of I-10 from the current HOV terminus near Haven Avenue in Ontario to Ford Street in Redlands, a distance of approximately 25 miles.

Build Alternative 3 Two Express Lanes in Each Direction

Alternative 3 (Two Express Lanes in Each Direction) would provide two Express Lanes in each direction of I-10 from the LA/SB county line to California Street (near State Route [SR]-210) in Redlands and one Express Lane in each direction from California Street to Ford Street in Redlands, a total of 33 miles. The Express Lanes would be price managed lanes in which vehicles not meeting the minimum occupancy requirement would pay a toll. West of Haven Avenue, a single new lane would be constructed and combined with the existing HOV lane to provide two Express Lanes in each direction; east of Haven Avenue, all Express Lanes would be constructed by the project.

1.1.5 - Jurisdictional Delineation Summary

ECORP Consulting, Inc. (ECORP) conducted a Delineation of Jurisdictional Waters and Wetlands along a 37-mile BSA in LA/SB Counties, California (Exhibits 1 and 2). The BSA is based on the requirements (i.e., existing and proposed ROW, construction staging areas, and temporary construction easements) to construct the proposed alternatives to their full highway design standards. The BSA is larger than that encompassed by any of the proposed alternatives, to (1) show context for the data collected and (2)

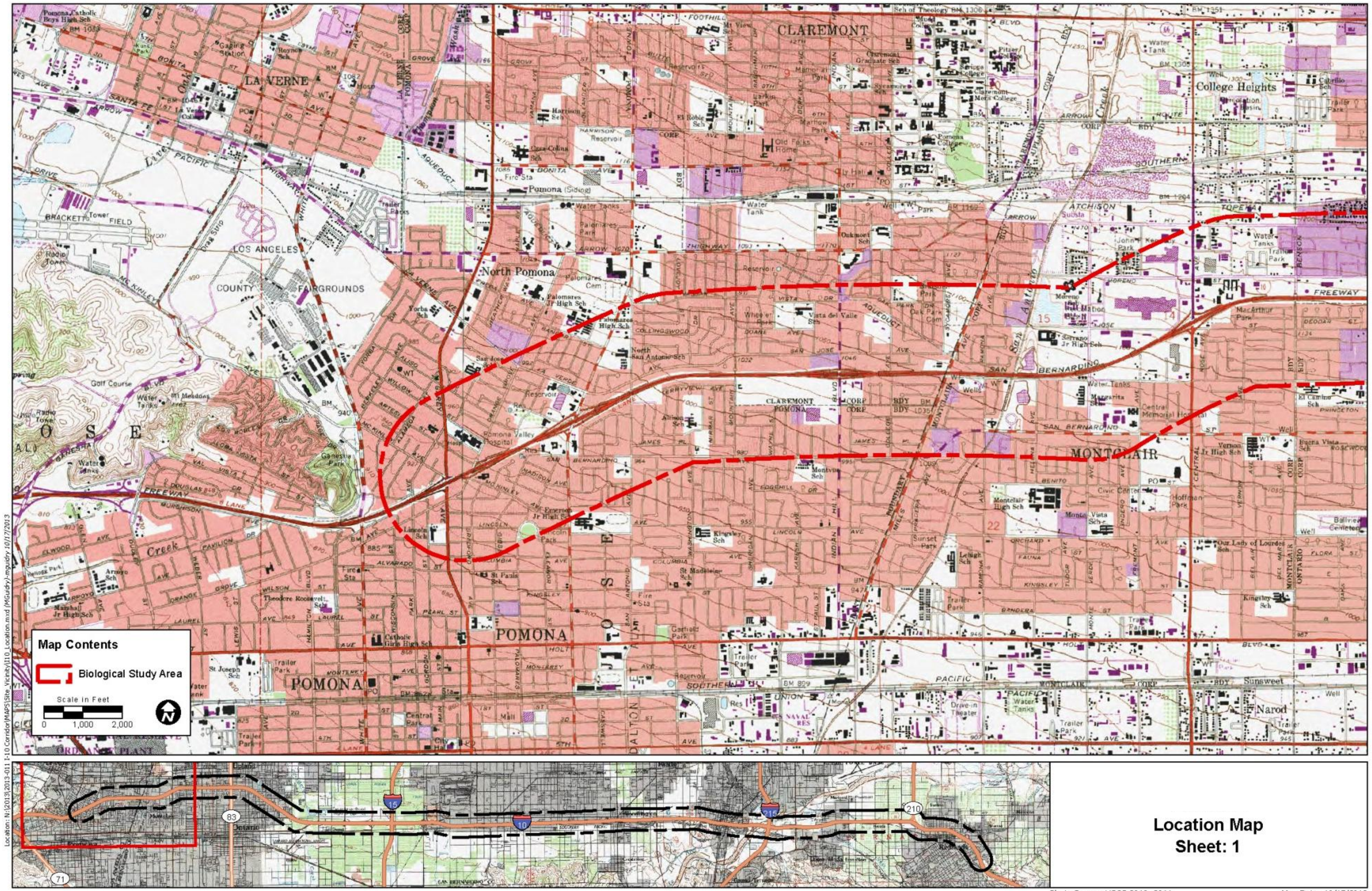

Exhibit 1: Location Map

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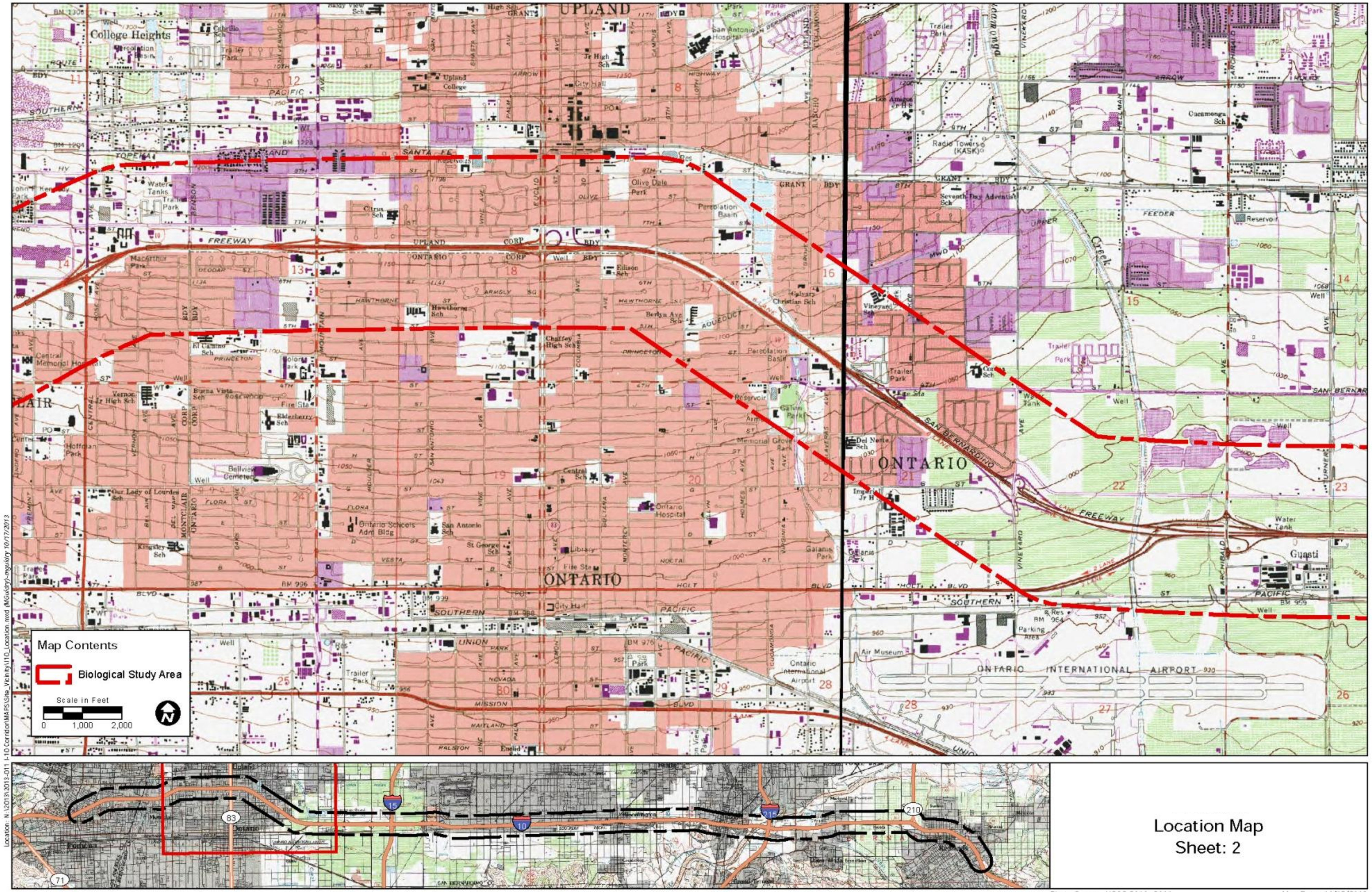

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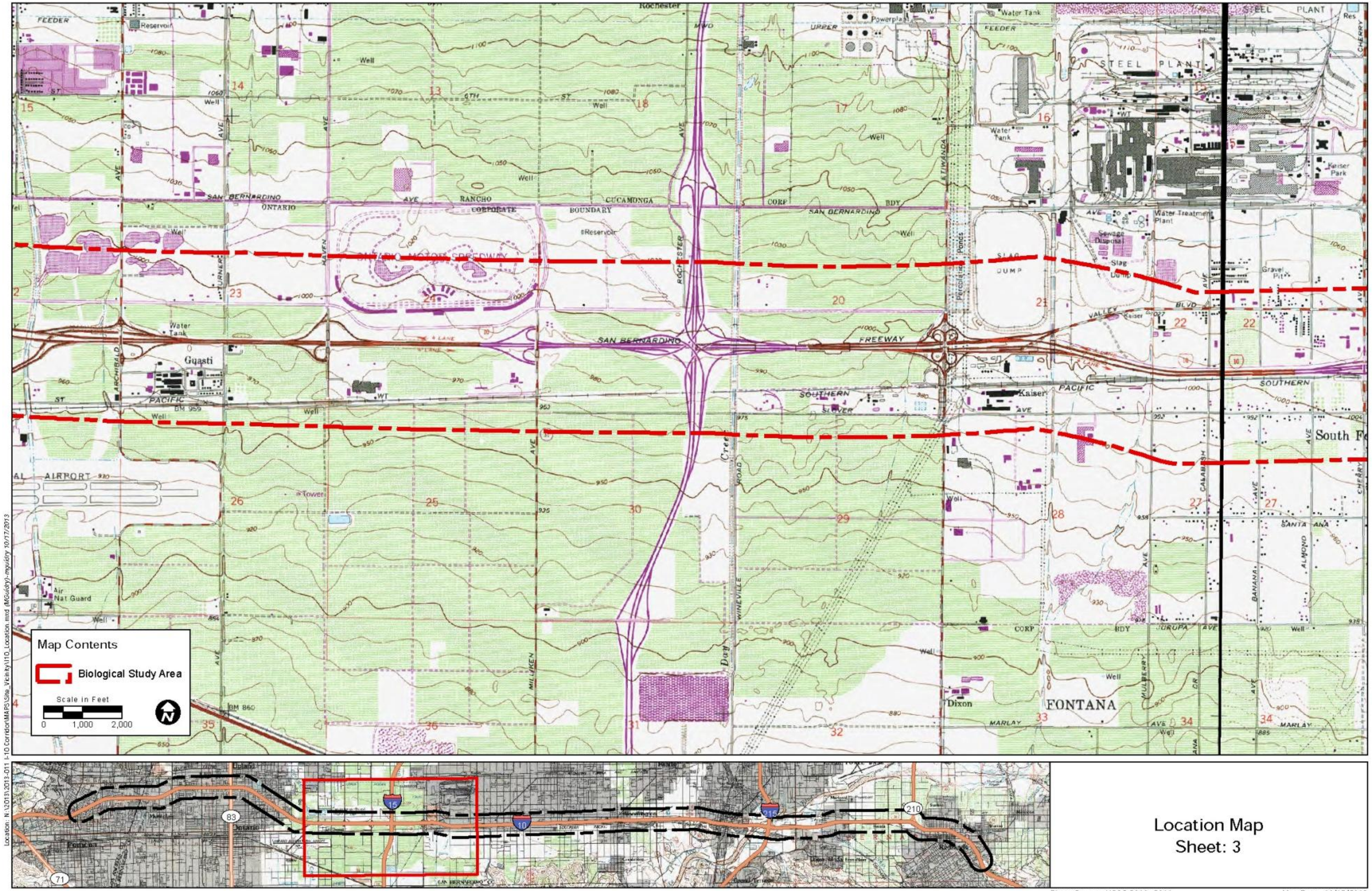

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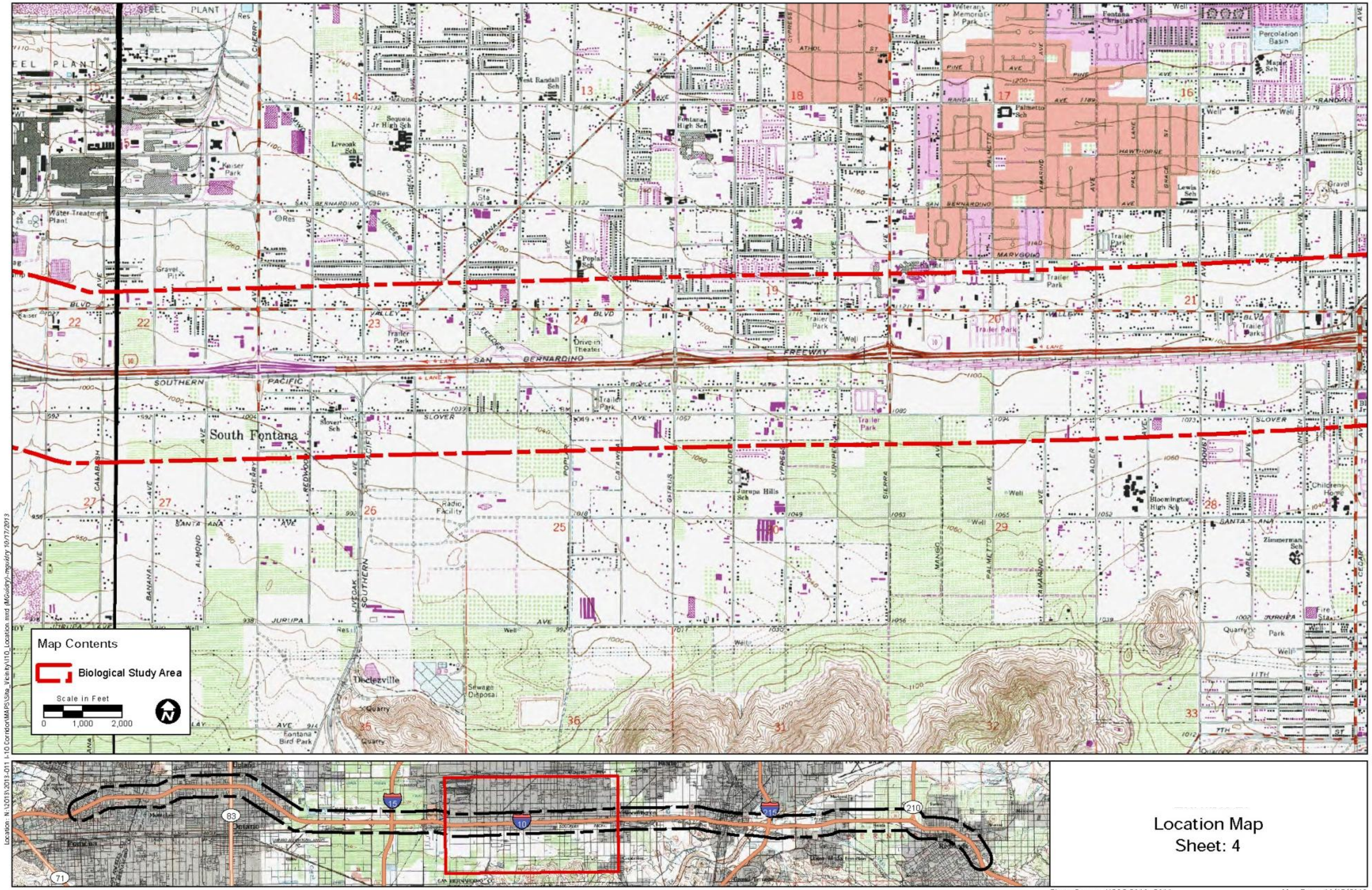

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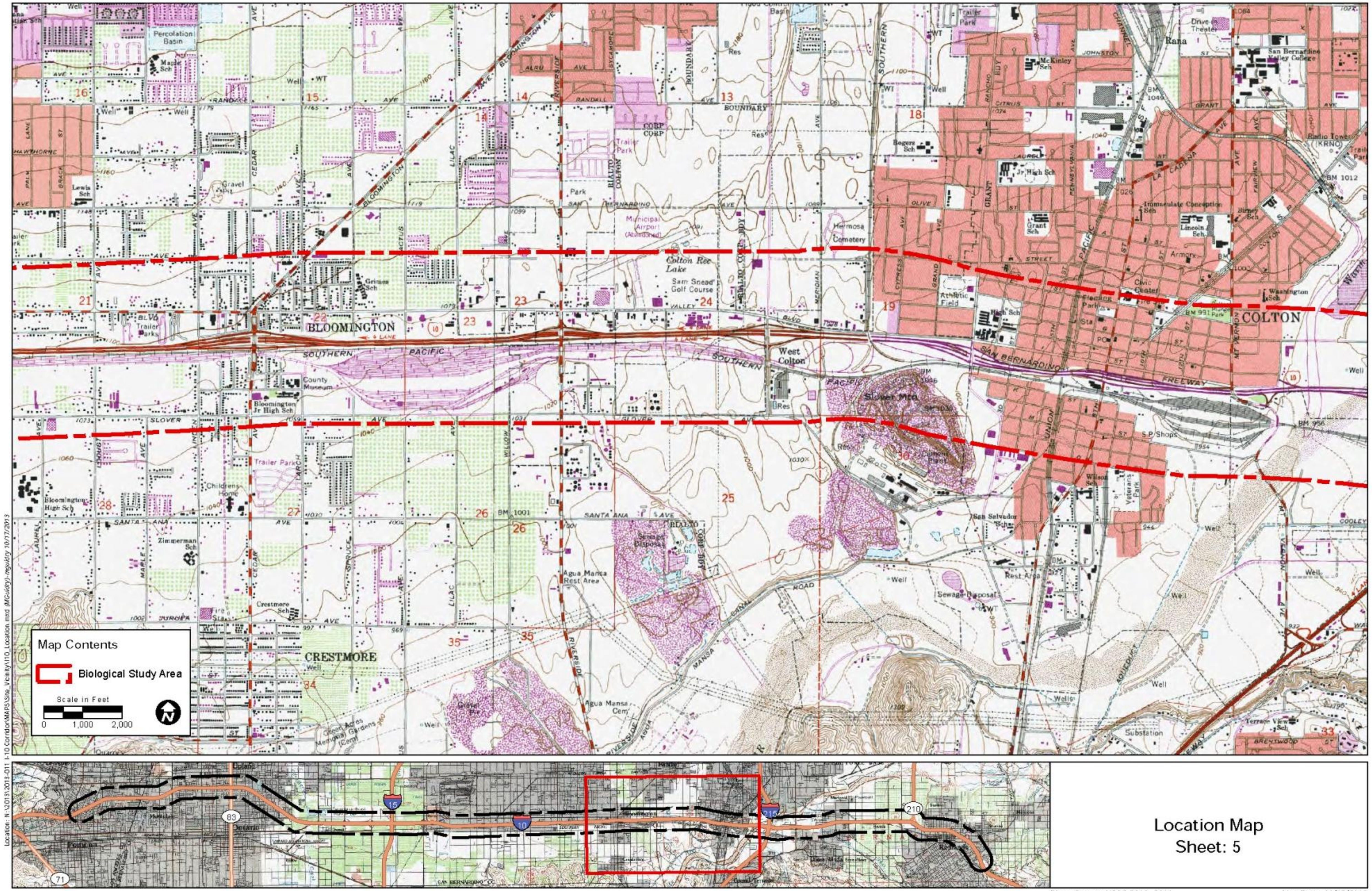

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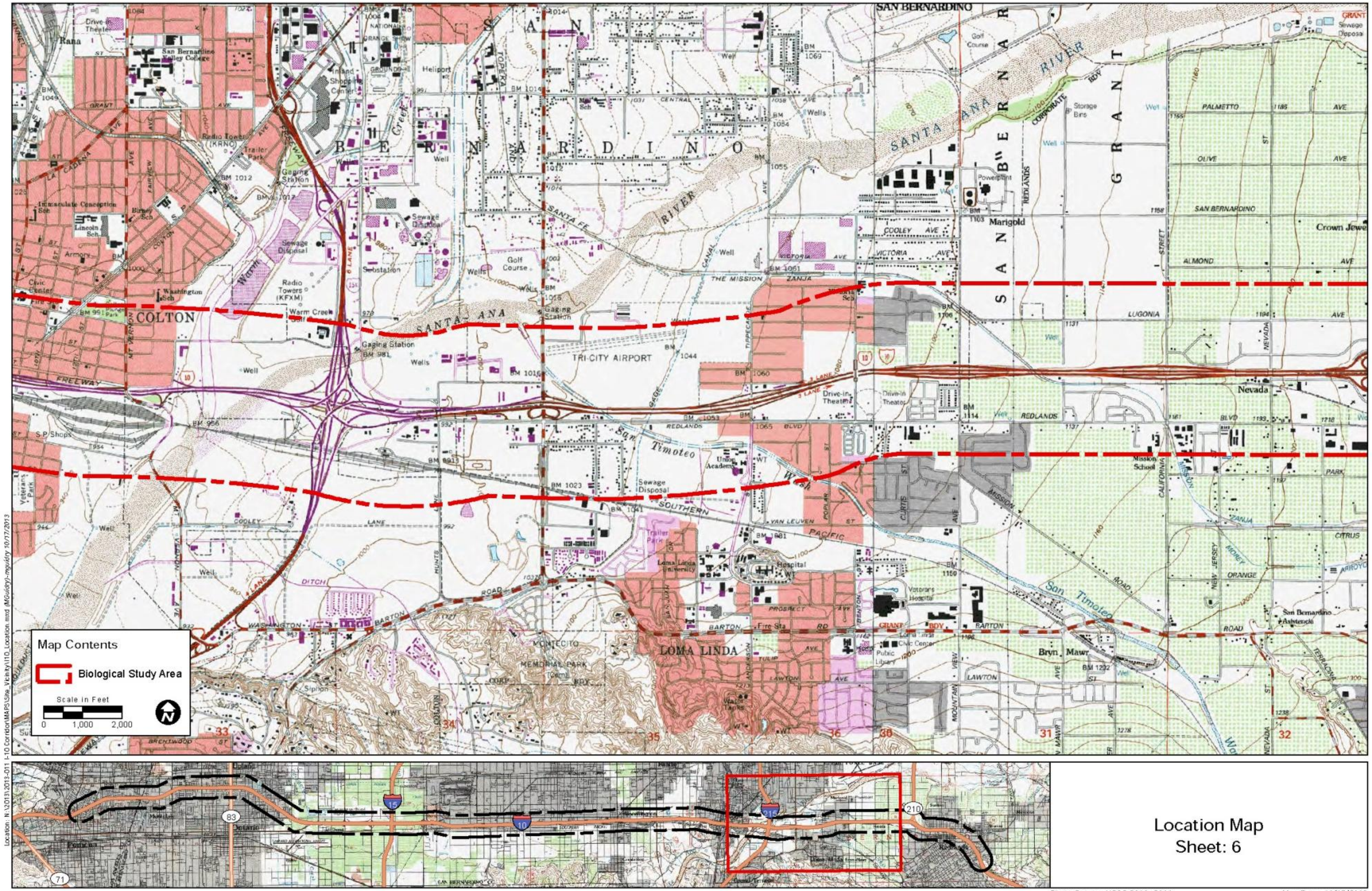

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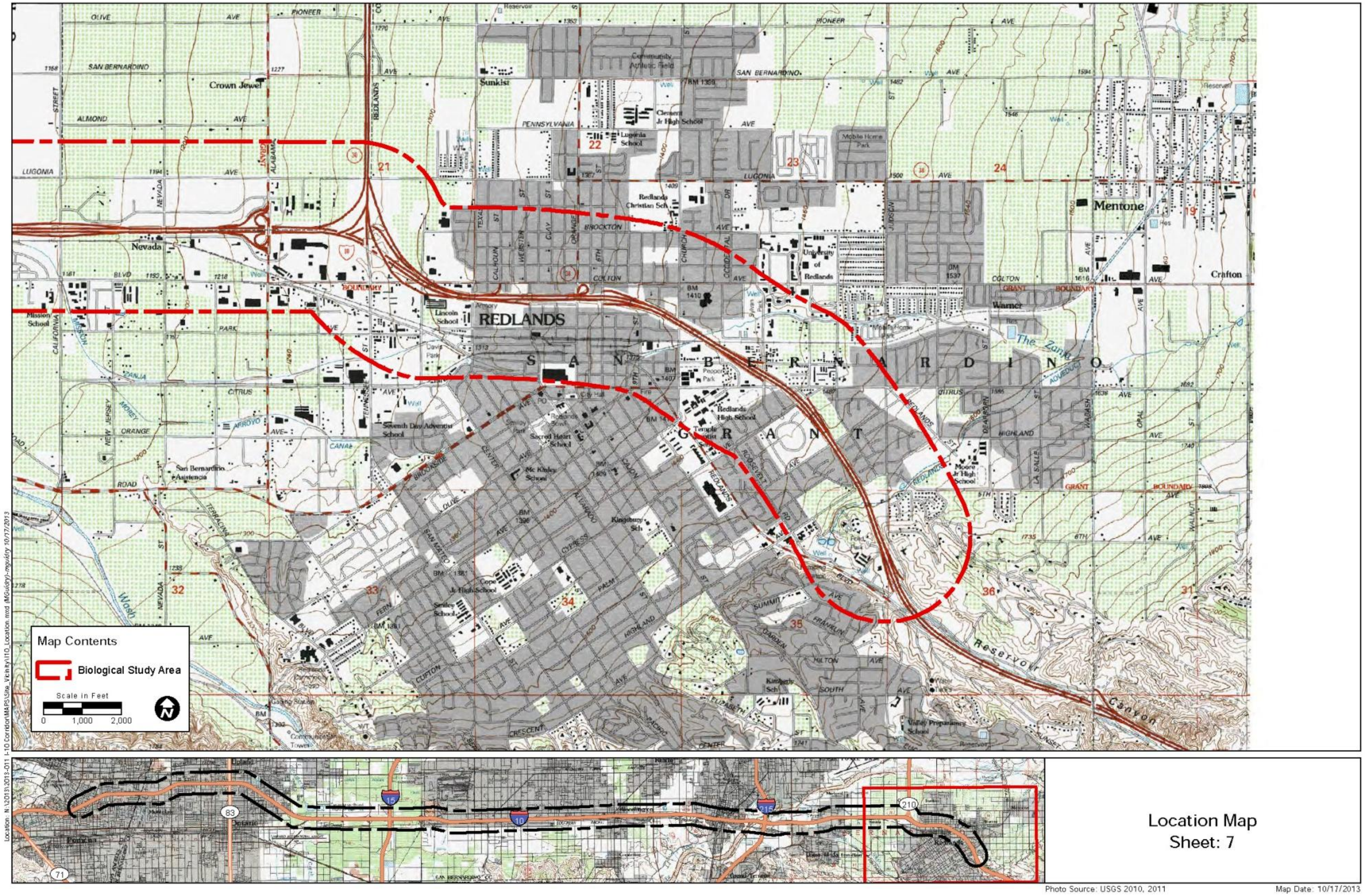

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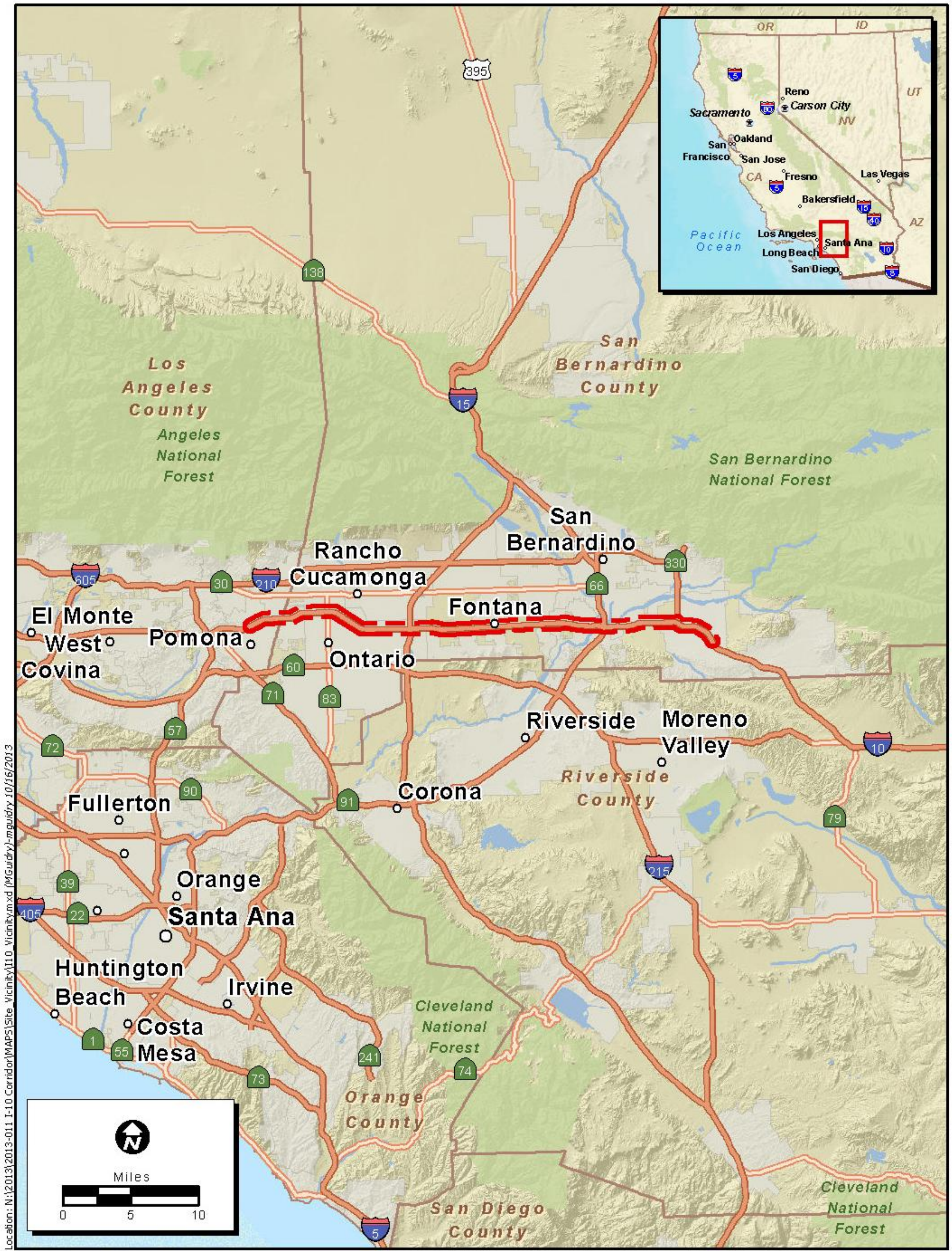

Exhibit 2: Site Vicinity

provide enough coverage to account for potential change in the project design over time. This Jurisdictional Delineation Report discusses the context of the BSA within both watersheds and soil mapping (Exhibits 3 and 4) and provides the results of the delineation within the BSA completed by ECORP on January 22, 23, 29, and 30, 2013. Additional photos and data collection occurred on June 6, 7, and 18, 2013, and on November 6, 2013. Photographs of various features recorded in this delineation are provided in Appendix C.

Fifty-two (52) separate features were mapped within the BSA. Appendix B shows the location and proposed jurisdictional status (USACE Jurisdictional or USACE Non-Jurisdictional). However, it should be noted that all features shown in Appendix B are considered CDFW and RWQCB jurisdictional pursuant to Section 1600 *et al.* of the Fish and Game Code and the Porter-Cologne Water Quality Control Act, respectively. USACE, RWQCB, and CDFW jurisdiction is discussed in detail in Section 4.

Areas shown as USACE Jurisdictional are generally major flood control channels (e.g., Day Creek Channel, San Antonio Creek Channel), which have been constructed to convey most of the historic natural flows directly to the Santa Ana River and/or Prado Flood Control Basin. Many of these features convey flows between Waters of the U.S. These USACE Jurisdictional features generally correspond with historic rivers or streams that are identifiable on historic aerial photographs and topographic maps going back to the early part of the previous century.

Caltrans will request a preliminary jurisdictional finding for the proposed “USACE Jurisdictional” features shown in Appendix B and listed in Appendix D under the Preliminary Jurisdictional Determination. Preliminary USACE Jurisdictional areas represent approximately 156.81 acres and 74,363 linear feet of non-wetland Waters of the U.S. In addition, 0.28 acre at 256 linear feet of wetland Waters of the U.S. exist within the BSA. Prior to issuing a 404 permit for the project, a 401 water quality certification would be required for impacts to the jurisdictional areas.

Areas shown in Appendix B as USACE Non-Jurisdictional ditches/channels do not correspond with historic rivers or streams and are not identifiable on historic aerial photos and topographic maps provided in Appendices F and G, respectively. USACE Non-Jurisdictional features are excavated within uplands and were not constructed within historic Waters of the U.S., nor do they convey flows between Waters of the U.S. The Non-Jurisdictional features include 25 features excavated on otherwise dry land outside of historic drainage courses. USACE Non-Jurisdictional features consist primarily of cement-lined, manufactured channels to convey stormwater from the freeway, freeway landscaping, and adjacent urban areas. Caltrans will submit a Preliminary Jurisdictional Delineation (PJD) request to USACE to obtain concurrence on these findings. Features within the project area not subject to the jurisdiction of USACE represent 12.93 acres and 50,213 linear feet.

Additionally, within the BSA, five potential wetland areas were identified: portions of Feature 3 near San Antonio Creek Channel, portions of Feature 5 east of Mountain Avenue, portions of Features 14 and 15 north of I-10 on the east and west sides of Milliken Avenue, and portions of Feature 32 just west of Rancho Road. All of these potential wetland features were sampled according to federal wetland delineation methods. Sample point data collected in the field can be found in Appendix E. Feature 3 is a percolation basin that is part of the Montclair Basin complex. Given that hydrologic connectivity between the basin and Feature 3 and San Antonio Creek Channel is suspected, Feature 3 is considered a USACE wetland feature. After further evaluation of the potential wetland areas via soil pits, Features 5, 14, 15, and 32 lacked one or more of the wetland indicators and are not considered jurisdictional wetlands to USACE (see Field Data Sheets in Appendix E).

In addition, as part of this delineation, RWQCB and CDFW jurisdiction was documented for purposes of inclusion in the I-10 CP Natural Environment Study. Based on the delineation results, all features shown in Appendix B and listed in Appendix D are considered RWQCB and CDFW jurisdictional. As presented in Section 4, potential RWQCB and CDFW jurisdiction was determined to include 170.02 acres of Waters of the State, totaling 124,832 linear feet (see Table 5). Prior to project implementation, a 1602 Streambed Alteration Agreement from CDFW and completion of an application/report for report of Waste Discharge from RWQCB would be required for any impacts to jurisdictional areas.

1.2 - Subject Features

The BSA encompasses 52 total features, of which 15 have a name associated with them. The following 15 named features are listed from west to east as they are depicted in Appendix B:

- San Antonio Creek Channel (Appendix B, Sheet 4)
- West Cucamonga Channel (Appendix B, Sheet 8)
- Cucamonga Creek Channel (Appendix B, Sheet 10)
- Lower Deer Creek Channel (Appendix B, Sheet 11)
- Day Creek Channel (Appendix B, Sheet 14)
- Lower Etiwanda Creek Channel (Appendix B, Sheets 14 and 15)
- San Sevaine Creek Channel (Appendix B, Sheet 15)
- I-10 Channel (Appendix B, Sheets 15 through 20)
- Rialto Tributary (Appendix B, Sheets 20 through 23)
- Rialto Creek Channel (Appendix B, Sheets 23 and 24)
- Warm Creek Channel (Appendix B, Sheet 27)
- Santa Ana River Channel (Appendix B, Sheets 27 and 28)
- San Timoteo Creek Channel (Appendix B, Sheets 29 and 30)
- Mission Creek Channel (Appendix B, Sheets 31 and 32)
- Zanja Creek Channel (Appendix B, Sheet 35)

Direction of flow for the USACE Jurisdictional features is towards the location of the Santa Ana River and/or Prado Flood Control Basin. Ten of the named drainage features in the BSA are located west of the point at which the Santa Ana River crosses the BSA and flow south: San Antonio Creek Channel, West Cucamonga Channel, Cucamonga Creek Channel, Lower Deer Creek Channel, Day Creek Channel, Lower Etiwanda Creek Channel, Lower Etiwanda Creek Channel Tributary, San Sevaine Creek Channel, Rialto Creek Channel, and Warm Creek Channel. In the eastern parts of the BSA, east of the point at which the Santa Ana River crosses the BSA, San Timoteo Creek Channel and Mission Creek Channel both flow north towards the Santa Ana River. In contrast to the flow path of most named features, the I-10 Channel (Exhibits 13 to 16) and Rialto Tributary (Exhibits 16 to 18) flow in a westerly or easterly direction, respectively. Both features are thought to convey flow between USACE jurisdictional waters. Flows within all of the named drainages, besides the I-10 Channel and Rialto Tributary, pass underneath I-10 within engineered channels, modified natural channels, or buried storm drains. The USACE Jurisdictional named features are approximately associated with historic streambed locations (e.g., Day Creek and Mission Creek), although their channelized location does not always correspond exactly with their historic location.

Within the BSA, there were five potential wetland areas identified: portions of Feature 3 near the San Antonio Creek Channel, portions of Feature 5 east of Mountain Avenue, portions of Features 14 and 15 north of I-10 on the east and west sides of Milliken Avenue, and portions of Feature 32 just west of Rancho Road. All of these potential wetland features were sampled according to federal wetland delineation methods. Sample point data collected in the field can be found in Appendix E. Feature 3 is a percolation basin that is part of the Montclair Basin complex. Given that hydrologic connectivity between the basin and Feature 3 and San Antonio Creek Channel is suspected, Feature 3 is considered a USACE wetland feature. After further evaluation of the potential wetland areas via soil pits, Features 5, 14, 15, and 32 are within concrete channels and lacked one or more of the wetland indicators (see Field Data Sheets in Appendix E); therefore, these features are not considered jurisdictional wetlands to USACE. A full description of the type of water bodies within the BSA is included in Subsection 3.5.1, and more comprehensive descriptions of each feature are provided in Section 4.

SECTION 2: JURISDICTIONAL METHODOLOGY

2.1 - Methodology Statement

This Delineation of Jurisdictional Waters and Wetlands within the BSA was conducted in accordance with regulations set forth in 33 *Code of Federal Regulations* (CFR) Part 328 and the USACE guidance documents referenced below:

- USACE Wetlands Research Program Technical Report Y-87-1 (online edition), "Wetlands Delineation Manual," Environmental Laboratory, 1987 (Wetland Manual).
- USACE "Guidelines for Jurisdictional Determinations for Waters of the United States in the Arid Southwest," 2001 (Arid Southwest Guidelines).
- USACE "Minimum Standards for Acceptance of Preliminary Wetlands Delineations," November 30, 2001 (Minimum Standards).
- USACE "Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0)," September 2008 (Arid West Supplement).
- USACE "Jurisdictional Determination Form Instructional Guidebook," May 30, 2007 (JD Form Guidebook).
- USACE and Environmental Protection Agency (EPA) guidance (2007) and draft guidance on jurisdictional delineations (2011).

2.2 - Pre-Survey Investigation

Prior to the field visit, a 200-scale (1 inch = 200 feet) aerial photograph and applicable United States Geological Survey (USGS) 7.5-minute topographic quadrangle maps (Ontario, Guasti, Fontana, San Bernardino South, and Redlands, California) were reviewed and compared to identify potential drainage features within the BSA. The National Wetland Inventory (NWI) was also reviewed to identify any documented wetlands within the BSA. It should be noted that there is no NWI data for the Fontana, San Bernardino South, and Redlands Quadrangles. In addition, the United States Department of Agriculture (USDA) Soil Survey Map was reviewed to determine soil series that occur within and adjacent to the BSA. Locations of soils within the vicinity of the project are shown in Exhibit 4, and a discussion of the soils is provided in Table 3 in Section 3.7.

2.3 - Field Investigation

The unified federal method, as defined by USACE using methodology outlined in the Corps of Engineers Wetlands Delineation Manual [Environmental Laboratory 1987] and the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Arid West Region Supplement Version 2.0) [USACE 2008], was used to delineate the jurisdictional areas. The boundaries of potential Waters of the U.S. were delineated through a field determination, made in conjunction with aerial photograph interpretation. Tools used during the jurisdictional delineation fieldwork included a Trimble GeoXT Handheld global positioning system (GPS) unit, shovel, Munsell color chart, and digital camera.

The field surveys were conducted by walking the project area limits to determine the location and extent of potential Waters of the U.S. and Waters of the State. For areas suspected of being a wetland, paired sample points were taken. The total area of the potential waters within the project area was recorded in the field using a post-processing capable GPS unit with sub-meter accuracy (Trimble GeoXT). All potentially jurisdictional features within the BSA and immediate vicinity were systematically inspected to record existing conditions and to determine the jurisdictional limits of waters and wetlands within the BSA. Although many of the drainages were fenced off, access was sufficient to gather pertinent data regarding existing conditions. The apparent flow regimes and corresponding hydrogeomorphic features were subsequently identified.

Measurements were entered into Geographical Information System (GIS) ArcView software to identify the location and dimensions of potential jurisdictional areas. The GIS ArcView application was then used to compute federal and state jurisdictional acreages located within the BSA. Acreage computations were verified using a 200-scale aerial photograph and field data.

Where potential wetlands were identified, paired sample points were collected. One sample point was collected within the potential wetland area, while the other was located within the nearby upland area. Results of the sampling are included on Wetland Determination Data Forms in Appendix E.

Jurisdictional delineators based their field interpretation of the boundaries of jurisdictional areas on guidelines contained within the references cited above. Waters of the U.S. that may be regulated by USACE under Section 404 of the Clean Water Act include traditionally navigable waters, other Waters of the U.S., and wetlands. Wetlands are a subset of Waters of the U.S. that meet specific vegetative, soil, and hydrologic criteria.

SECTION 3: ENVIRONMENTAL SETTING

3.1 - Location of the BSA

The BSA includes the I-10 ROW and additional areas (i.e., temporary construction easement and construction staging areas) required for construction of the I-10 HOV Lane Addition Project from North Garey Avenue in Pomona (western limit) to Ford Street in Redlands (eastern limit). The BSA extends for approximately 37 miles along the I-10 corridor and passes through the developed urban areas of Pomona, Montclair, Upland, Ontario, Fontana, Bloomington, Rialto, Colton, San Bernardino, Loma Linda, and Redlands (Exhibits 1 through 3).

The BSA is contained within the township, range, and sections of the USGS 7.5-minute topographic quadrangle maps listed in Table 1. USGS mapping of the BSA is depicted in Exhibit 2.

Table 1: USGS Topographic Maps Covering BSA

USGS 7.5 Minute Quadrangle Name	Township	Range	Sections
Ontario	1 South	8 West	13, 14, 15
		7 West	16, 17, 18
Guasti	1 South	7 West	16, 21, 22, 23, 24
		6 West	19, 20, 21, 22
Fontana	1 South	6 West	22, 23, 24
		5 West	19, 20, 21, 22, 23
San Bernardino South	1 South	5 West	23, 24
		4 West	19, 20, 21, 22, 23, 24
Redlands	1 South	4 West	24
		3 West	19, 20, 21, 26, 27, 28, 35, 36

The coordinates for the BSA's western limit are latitude 34.074727º north and longitude -117.7500000º west, and its eastern limits are latitude 34.041362º north and longitude -117.155150º.

Potential jurisdictional drainage areas located to the north of I-10 are accessible from westbound I-10 (from Ford Street in Redlands to North Garey Avenue in Pomona). Potential jurisdiction drainage areas located to the south of I-10 are accessible from eastbound I-10 (from North Garey Avenue in Pomona to Ford Street in Redlands).

3.1.1 - Description of Project Components within the BSA

The types of work in the BSA would include:

- Modifying the mainline, ramps, and median to construct an HOV lane or high-occupancy toll (HOT) lanes;
- Replacing existing fence and post type median barriers with concrete median barriers;
- Adding California Highway Patrol (CHP) enforcement areas;

- Building retaining walls;
- Adding auxiliary lanes at selected locations;
- Constructing drainage facilities; and
- Reconstructing bridges and culverts, as applicable, to accommodate the roadway widening.

Construction of either build alternative would require property acquisition and temporary construction easements to accommodate construction of the new facilities. All known temporary construction easements are included within the BSA. The BSA and the proposed construction staging areas are also shown in Appendix B.

3.2 - Location of Drainages in General Region of BSA

The locations of the 52 features within the BSA are shown in Appendix B. Coordinates and other information regarding the features can be found within the Preliminary Jurisdictional Determination Table provided in Appendix D.

3.3 - Land Uses

The land uses within the BSA are predominantly composed of urban and other developed uses, with specific uses being primarily residential, commercial, and industrial properties. As recently as 50 years ago, most of the BSA was a mixture of urban areas, vineyards, and orchards. The ensuing urbanization has resulted in conversion of nearly all agriculture to commercial, industrial, and residual land use. Along with the urbanization of the area came the need to provide flood control for various larger riverine systems traversing the area.

Other less dominant land uses in the vicinity of I-10 include agricultural land, which is between Fontana and Rancho Cucamonga north of I-10. A major railroad switchyard is also located south of I-10 near Colton. There is also a large gravel extraction facility near Colton.

3.4 - Topography

The project area is located within the Santa Ana River Watershed (Hydrologic Unit Code [HUC] 18070203). The watershed is approximately 3,000 square miles [SAWA 2013], and all drainage features within the BSA drain to the Santa Ana River. The floodplain associated with the drainages generally slopes from east to west, from approximately 1,440 feet above mean sea level (msl) in the east to 1,000 feet above msl in the west.

3.5 - Hydrology

3.5.1 - Pertinent Hydrogeomorphic Features

The jurisdictional assessment of the BSA documented 52 hydrogeomorphic features, including 15 named channels. Eight of the named channels contain vertical sides (i.e., San Antonio Creek Channel, West

Cucamonga Channel, Cucamonga Creek Channel, Lower Deer Creek Channel, Day Creek Channel, San Sevaine Creek Channel, Rialto Creek Channel, and San Timoteo Creek Channel), while five are concrete-lined trapezoidal channels (i.e., Lower Etiwanda Creek Channel, I-10 Channel, Rialto Tributary, Warm Creek Channel, and Santa Ana River Channel). There are also three grouted riprap trapezoidal channels (i.e., Lower Etiwanda Creek Channel Tributary, Mission Creek Channel, and Zanja Creek Channel).

Most of the drainage channel features mapped within the BSA contain little to no sediment or vegetation within their channel bottom. The Santa Ana River Channel is one exception that does contain extensive amounts of sand and gravel, plus associated vegetation within patches. In addition, the Zanja Creek Channel and Mission Creek Channel contain a sandy bottom. Some of the other channels contain patches of sediment buildup, with or without vegetation. Five of these areas were sampled as potential USACE wetlands, but four of these features were found to be lacking one of the three wetland criteria (hydric soils). Feature 3 is the only feature that was determined to be a wetland.

For the purpose of complying with terminology under the *Rapanos v. Carabell* court decision and its associated Supreme Court direction, drainage channel features within the BSA are described as Relatively Permanent Waters (RPWs) and non-Relatively Permanent Waters (non-RPWs). RPWs are typically considered as intermittent and perennial streams, while non-RPWs are considered to encompass all ephemeral streams. Table 2 summarizes the characteristics of all of the drainages within the BSA.

Table 2: Types of Water Bodies within BSA

Drainage Feature	Conveyance Type at I-10	Type of Water Body	
		RPW/Intermittent/ Perennial	Non-RPW/ Ephemeral
San Antonio Creek Channel	Engineered open concrete flood control channel	●	
West Cucamonga Channel	Engineered open concrete flood control channel and detention basin	●	
Cucamonga Creek Channel	Engineered open concrete flood control channel	●	
Lower Deer Creek Channel	Engineered open concrete flood control channel	●	
Day Creek Channel	Engineered open concrete flood control channel	●	
Lower Etiwanda Creek Channel	Engineered open flood control channel and concrete culvert		●
Lower Etiwanda Creek Channel Tributary	Engineered open concrete flood control channel		●
San Sevaine Creek Channel	Engineered open concrete flood control channel	●	
I-10 Channel (USACE non-jurisdictional)	Engineered open concrete flood control channel		●
Rialto Tributary (USACE non-jurisdictional)	Engineered open concrete flood control channel		●
Rialto Creek Channel	Engineered open concrete flood control channel		●
Warm Creek Channel	Engineered open concrete flood control channel	●	
Santa Ana River Channel	Engineered open concrete flood control channel	●	
San Timoteo Creek Channel	Engineered open concrete flood control channel	●	
Mission Creek Channel	Grouted riprap channel	●	
Zanja Creek Channel	Grouted riprap channel	●	
Unnamed non-jurisdictional drainage features	Various, mostly concrete-lined channels; two percolation basins		●

3.5.2 - Watershed Description

The project area is part of the Santa Ana River Watershed (HUC 18070203) and is within 12 subwatersheds (HUCs 18070203-0501, -0403, -0506, -0507, -0508, -0702, -0703, -0704, -0705, -0706, -0801, and -0804) (Exhibit 3).

The Santa Ana River Watershed encompasses approximately 3,000 square miles (1,696,000 acres), spanning parts of San Bernardino, Riverside, Los Angeles, and Orange counties, following the path of the Santa Ana River, whose headwaters are located in the San Bernardino Mountains near San Gorgonio Summit within National Forest lands to the east of the city of San Bernardino. The San Bernardino Mountains comprise part of the Transverse Ranges of California and trend northwest to southeast. The San Gabriel Mountains, to the west, are the source of many of the larger named and unnamed features within the BSA. The Santa Ana River flows approximately 100 miles, through a combination of natural areas and urban environments, to enter the Pacific Ocean near Huntington Beach. Other tributaries to the Santa Ana River also flow from the Cajon Pass and the San Timoteo Badlands, and from the western side of the San Jacinto Mountains and Santa Ana Mountains. Major tributaries include Day Creek, San Sevaine Wash, Etiwanda Creek, Lytle Creek, San Timoteo Creek, Temescal Wash, Santiago Creek, and many others [USGS, 2001].

The Santa Ana River Watershed is within an arid region, and although it is one of the largest regional watersheds, there is little natural perennial surface water in most of the watershed's various drainage courses. Surface waters within the Santa Ana River, however, start in the upper erosion zone of the watershed. This upper zone has the highest gradient and soils/geology that do not allow large quantities of percolation of surface water into the ground. Flows consist mainly of snowmelt and storm runoff from the lightly developed San Bernardino National Forest; the water is generally high quality at this point. In this zone, the Santa Ana River is usually confined in its lateral movement, contained by the slope in the mountainous regions. In the upper valley, flows from the Seven Oaks Dam to the city of San Bernardino are augmented by storm flows, urban runoff, flows from many tributaries, and groundwater that is rising due to local geological conditions.

Between the city of San Bernardino and the city of Riverside, due to urbanization, the Santa Ana River flows perennially and includes treated discharges from wastewater treatment plants between the city of Riverside and the recharge basins below Imperial Highway. River flow also consists of highly treated wastewater discharges, urban runoff, irrigation runoff, and groundwater forced to the surface by shallow/rising bedrock. Near Corona, the river cuts through the Santa Ana Mountains and the Puente-Chino Hills. The river then flows into the Orange County Coastal Plain, where the channel lessens and the gradient decreases.

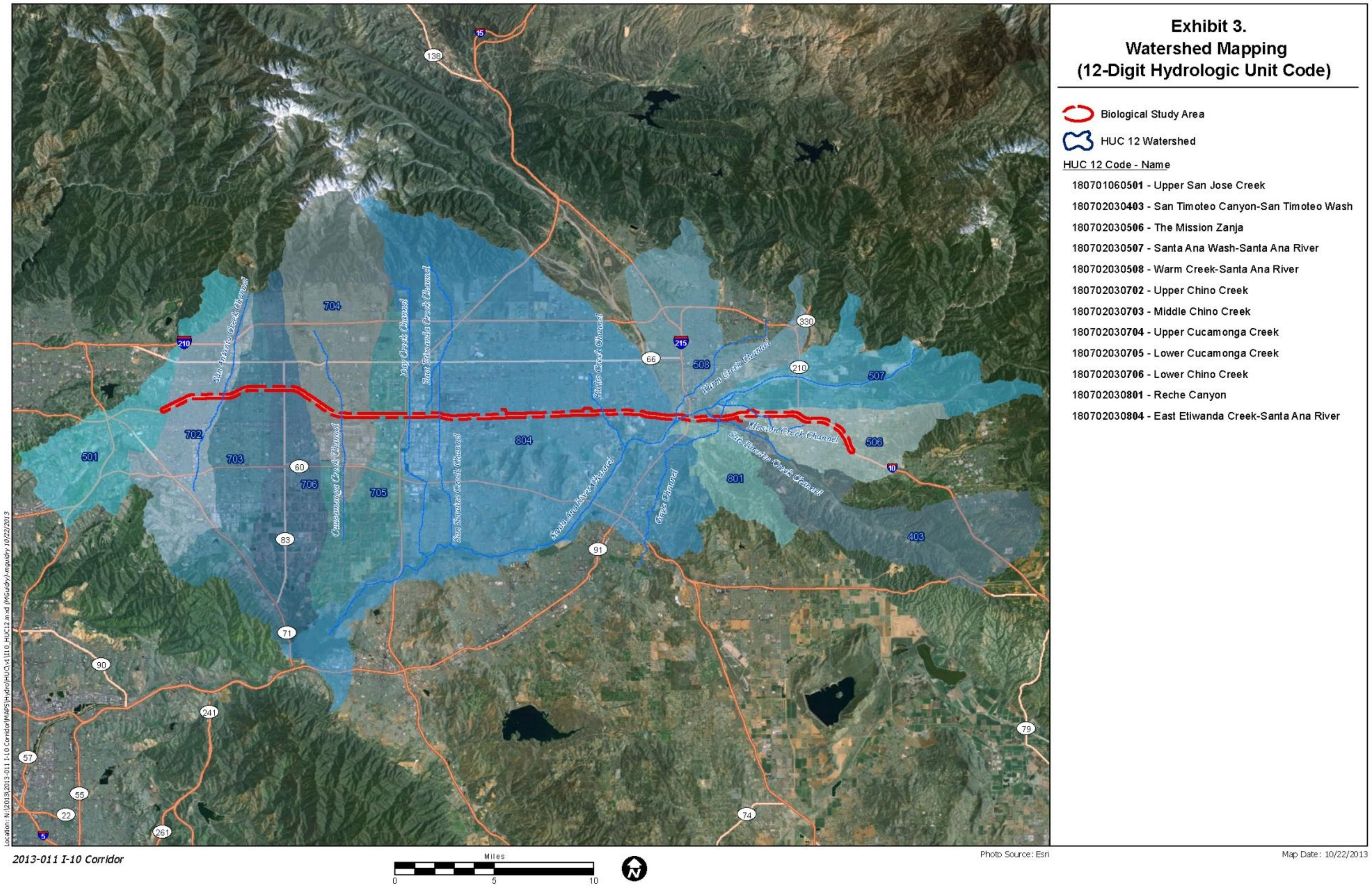

Exhibit 1: Watershed Mapping (12-Digit Hydrologic Unit Code)

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In a natural environment, the portion of the Santa Ana River, and many of the larger tributaries, would have much wider channels than the manufactured channels that are present currently. Along with the natural width would be an increase in meandering and a buildup of sediment; however, much of the Santa Ana River and other major tributaries in the BSA have been contained in concrete-lined channels that modify the flow regime and sediment deposition environment. The flow regimes are likewise modified by the local urban environment and the associated runoff from urban land uses.

Based on aerial photograph interpretation, the historic flow patterns for the BSA are southerly flows across wide alluvial fans. Most of the natural streams flowed for several miles across sparse habitat areas with alluvial sands where they entered the Santa Ana River. Due to the many ensuing flood control measures and channelization of various streams and rivers, these flows now are directed either into the Santa Ana River, where they enter the Prado Basin, or they enter into the Prado Basin directly.

3.6 - Field Conditions

3.6.1 - Seasonal Climate Variation

The BSA and surrounding area are subject to seasonal and annual variations in temperature and precipitation. Mean monthly temperatures are the lowest in December and January (39.7 and 39.5 degrees Fahrenheit [°F], respectively) and highest in July and August (94.6 and 94.4°F, respectively). Mean precipitation is typically greatest in the winter months of January, February, and March (2.51, 2.69, and 2.20 inches, respectively) and lowest in the summer months of June and July (0.10 and 0.07 inch, respectively).

3.6.2 - Field Conditions at time of Field Investigation

Field conditions at the time of the survey were mild to warm with winds blowing at approximately 1 to 10 miles per hour (mph), with gusts up to 20 mph on January 22. Within the month prior to the survey, December 2012, rainfall totals were close to normal. Fieldwork was conducted during the rainy season for the region. A moderate rainfall event occurred between the two sets of field dates.

3.7 - Soils

Eleven (11) different soil series occur on or in the immediate vicinity of the BSA [USDA Soil Survey, San Bernardino County, 2005] (see Exhibit 4). A soil series is a group of soils with similar profiles. These profiles include major horizons with similar thickness, arrangement, and other important characteristics. These soil series were checked against the USDA, Natural Resources Conservation Service (NRCS) National Hydric Soils List. The presence of hydric soils was field verified. Seven of the soil series present within the BSA are identified by the NRCS as hydric soils (see Table 3).

Table 3: Summary of USDA / NRCS Soil Descriptions

Code	Soil Series	Mapping Unit	NRCS Hydric/ Landform	Water Drainage	Material	Permeability
002	Altamont	Clay loam	No	Well drained	Weathered from sandstone and shale	Medium to very high runoff; after cracks swell shut, permeability is low
006	Hanford	Fine sandy loam	No	Well drained	Alluvium derived from granite	Moderately rapid. Water holding capacity is 5 to 7.5 inches
007	Hanford	Gravelly sandy loam	No	Well drained	Alluvium derived from granite	Moderately rapid. Water holding capacity is 5 to 7.5 inches
015	Tujunga	Fine sandy loam	Yes	Somewhat excessively drained	Alluvium derived from granite	Rapid. Available water holding capacity is 2 to 5 inches
089	Upper San Gabriel River	Fine sands	Yes	Well drained	Alluvium derived from granite	Rapid. Available water holding capacity is 2 to 5 inches
Db	Delhi	Fine Sand, 85%; 0 to 2% slopes	Yes	Excessively drained	Sandy alluvium derived from granite	Rapid. Available water holding capacity is 4.5 to 6.5 inches
GP	Quarries and Pits	Various	No	Various	Various	Various
Gr	Grangeville	Fine Sandy Loam, 0 to 2% slopes	Yes	Somewhat poorly drained	Alluvium derived from granite	Moderately rapid. Water holding capacity is 5 to 7.5 inches
Gs	Grangeville	Fine sandy loam, saline-alkali, 0 to 2% slopes	Yes	Somewhat poorly drained	Alluvium derived from granite	Moderately rapid. Runoff is slow, and the hazard of erosion is slight. Water holding capacity is 5 to 7.5 inches
GtC	Greenfield	Sandy loam	No	Well drained	Alluvium derived from granitic and mixed rock sources	Runoff is slow to medium
HaC	Hanford	Coarse sandy loam, 2 to 9% slopes	No	Well drained	Alluvium derived from granite	Moderately rapid. Runoff is slow to medium; erosion hazard is slight to moderate. Water holding capacity is 5 to 7.5 inches
HaD	Hanford	Coarse sandy loam, 9 to 15% slopes	No	Well drained	Alluvium derived from granite	Negligible to low runoff
HbA	Hanford	Sandy loam, 0 to 15% slopes	No	Well drained	Alluvium derived from granite	Moderately rapid. Water holding capacity is 5 to 7.5 inches
Ps	Psamments and Fluvents	Frequently flooded, 0 to 5% slopes	Yes	Excessively drained	Sandy alluvium	Rapid. Water holding capacity is 2 to 5 inches
RmC	Ramona	Sandy loam, 2 to 9% slopes	No	Well drained	Alluvium derived from granite	Slow to rapid runoff, slow permeability

Table 3: Summary of USDA / NRCS Soil Descriptions

Code	Soil Series	Mapping Unit	NRCS Hydric/ Landform	Water Drainage	Material	Permeability
RmD	Ramona	Sandy loam, 9 to 15% slopes	No	Well drained	Alluvium derived from granite	Slow to rapid runoff, slow permeability
RmE2	Ramona	Sandy loam, 15 to 30% slopes	No	Well drained	Alluvium derived from granite	Slow to rapid runoff, slow permeability
SbC	San Emigdio	Gravelly sandy loam, 2 to 9% slopes	No	Well drained	Alluvium derived from sedimentary rock	Moderately rapid. Water holding capacity is 7.5 to 9 inches. Runoff is medium, and hazard of erosion is moderate
ScA	San Emigdio	Fine sandy loam, 0 to 2% slopes	No	Well drained	Alluvium derived from sedimentary rock	Moderately rapid. Water holding capacity is 7.5 to 9 inches. Runoff is medium, and hazard of erosion is moderate
ScC	San Emigdio	Fine sandy loam, 2 to 9% slopes	No	Well drained	Alluvium derived from sedimentary rock	Negligible to low runoff, rapid permeability
SoC	Soboba	Gravelly loamy sand, 0 to 9% slopes	Yes	Excessively drained	Alluvium derived from granite	Very slow runoff and rapid permeability
SpC	Soboba	Stony loamy sand, 2 to 9% slopes	No	Excessively drained	Alluvium derived from granite	Very slow runoff and rapid permeability
TuB	Tujunga	Loamy sand, 0 to 5% slopes	Yes	Somewhat excessively drained	Alluvium derived from granite	Rapid. Available water holding capacity is 2 to 5 inches
TvC	Tujunga	Gravelly loamy sand, 0 to 9% slopes	Yes	Somewhat excessively drained	Alluvium derived from granite	Rapid. Available water holding capacity is 2 to 5 inches
W	Water	N/A	N/A	N/A	N/A	N/A

3.8 - Vegetation

Most of the drainages within the BSA are concrete-lined, manufactured channels that lack vegetation except for sparse clumps of grass, weeds, and ruderal species associated with sediment accumulations. One channel (Zanja Creek Channel) has banks with grouted riprap and features vegetation along the sandy channel bottom. This vegetation includes tree tobacco *(Nicotiana glauca)*, castor bean *(Ricinus communis)*, common sunflower *(Helianthus annuus)*, blue elderberry *(Sambucus Mexicana)*, and fan palm *(Washingtonia* spp.).

Lower Etiwanda Creek to the north of I-10 consists of a sandy engineered open channel with riprap along its sides. The channel is sparsely vegetated with scattered amounts of slender sunflower *(Helianthus gracilentus)*, mule fat *(Baccharis salicifolia)*, and common sunflower. South of I-10, the channel supports a small clump of willows (*Salix* sp.). The side channel that enters the main channel from the west also supports a clump of willows, which have likely grown there as a result of recent development and associated watering.

Santa Ana River Channel to the north of I-10 supports a concrete apron and varying amounts of sediment based on recent storm flows and scouring. The channel has concrete, engineered sides. Warm Creek Channel has a similar construction and runs parallel to the Santa Ana River Channel to the west. North of the BSA, the Santa Ana River Channel supports disturbed plant species and associations of willows, mule fat, and sparse riparian habitat on various sand bars.

Of the unnamed drainage features within the BSA, most are unvegetated concrete channels with only sparse weeds, shrubs, and grasses. Feature 10, which crosses under I-10 via a reinforced concrete pipe, supported a coastal sage scrub plant community.

Within the BSA, there were five potential wetland areas identified: portions of Feature 3 near San Antonio Creek Channel, portions of Feature 5 east of Mountain Avenue, portions of Features 14 and 15 north of I-10 on the east and west sides of Milliken Avenue, and portions of Feature 32 just west of Rancho Road. All of these potential wetland features were sampled according to federal wetland delineation methods. Sample point data collected in the field can be found in Appendix E. Feature 3 is a percolation basin that is part of the Montclair Basin complex. Given that hydrologic connectivity between the basin and Feature 3 and San Antonio Creek Channel is suspected, Feature 3 is considered a USACE wetland feature. After further evaluation of the potential wetland areas via soil pits, Features 5, 14, 15, and 32 lacked one or more of the wetland indicators and are not considered jurisdictional wetlands to USACE (see Field Data Sheets in Appendix E). Varying amounts of wetland vegetation have developed in these areas due to sedimentation deposition over the concrete channel. Vegetation within the sampled features described above consisted of a mixture of willows, cattails *(Typha latifolia)*, and grasses, along with disturbed wetland species. Sample data (Appendix E) contain more details about these areas.

3.9 - Coastal Zone Evaluation

The project site is not within the coastal zone as defined by the California Coastal Act; therefore, a Coastal Zone Management Act consistency determination is not required.

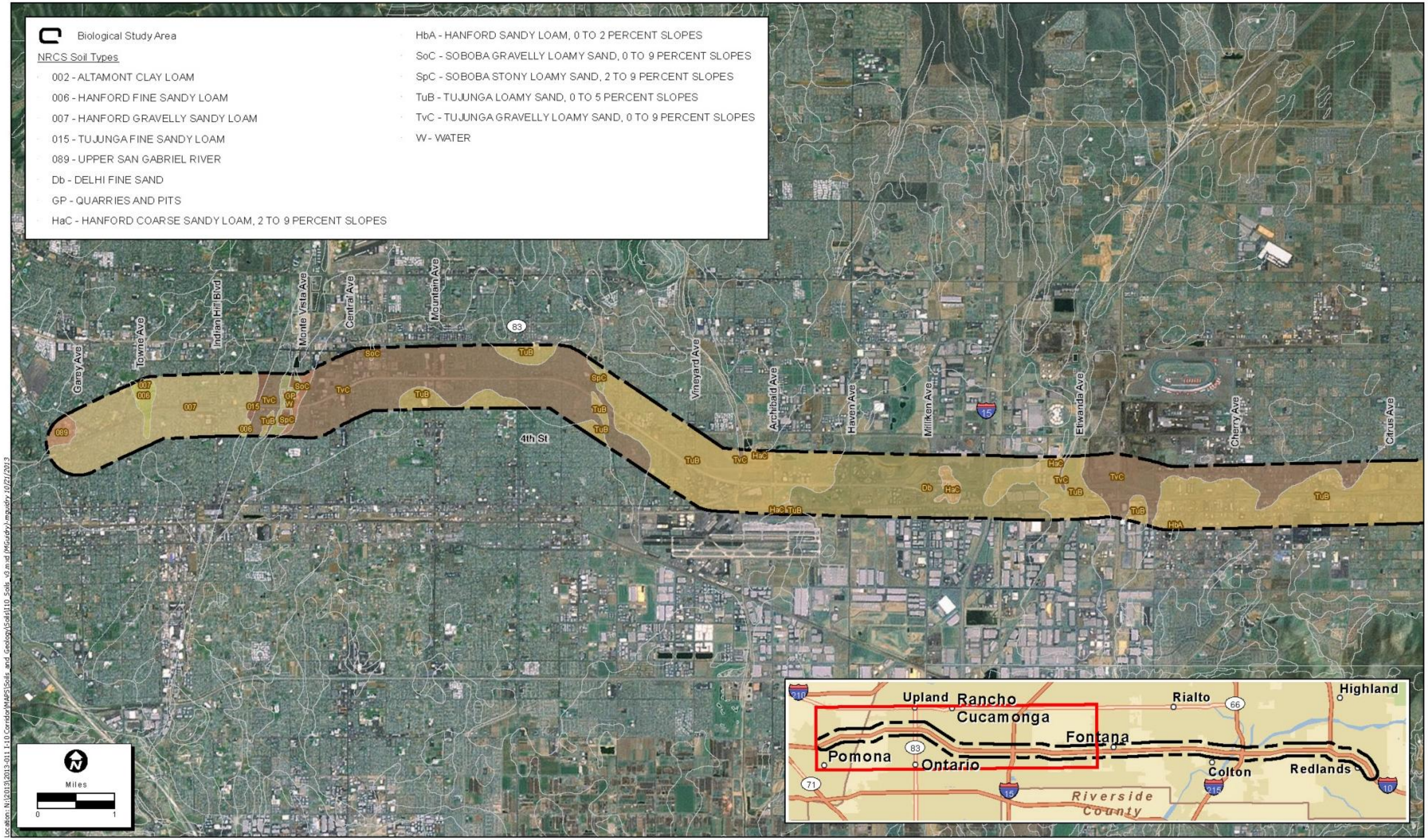

Exhibit 4: Natural Resource Conservation Service Soil Types Map

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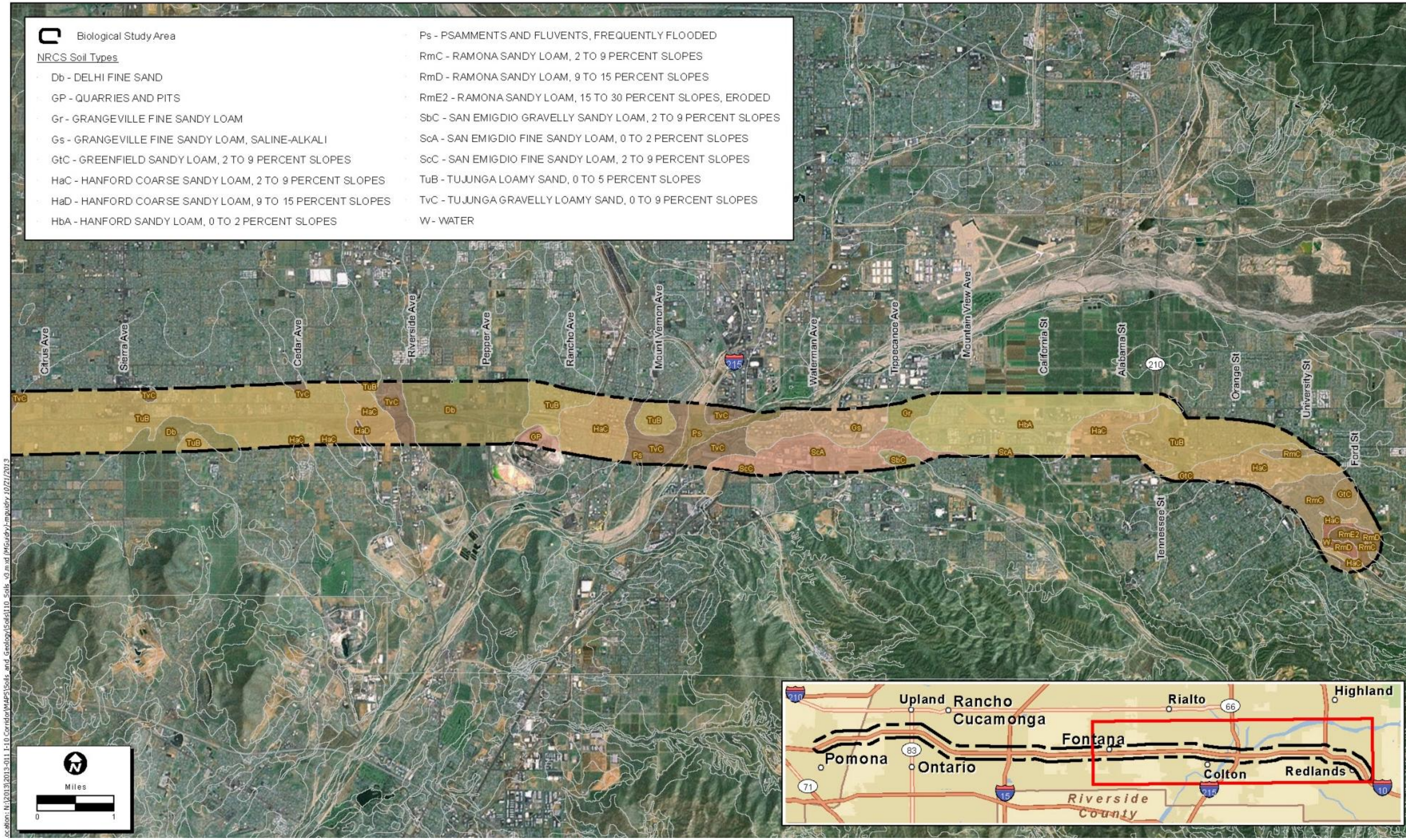

Exhibit 4: Natural Resource Conservation Service Soil Types Map

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3.10 - Critical Habitat

Critical habitat (CH) for southwestern willow flycatcher *(Empidonax traillii extimus)* occurs within the project area along I-10 within the vicinity of the Santa Ana River Channel and Warm Creek Channel. Potential habitat (Delhi Soils) for the endangered Delhi Sands flower-loving fly *(Rhaphiomidas terminatus abdominalis)* occurs within the project area in Caltrans ROW at various locations between approximately the Interstate 15 (I-15) interchange and Pepper Avenue interchange; however, CH has not been designated for the fly, and Delhi Soils do not occur in any of the drainage features. CH for the San Bernardino kangaroo rat *(Dipodomys merriami parvus)* and essential habitat for the Santa Ana sucker *(Catostomus santaanae)*, which was excluded from the CH designation, also exists within and adjacent to the BSA near the Santa Ana River Channel and Warm Creek Channel. No adverse modification of CH associated with construction or operation of the I-10 CP is anticipated at this time. Potential effects on CH and endangered species will be documented in a Natural Environment Study. A Biological Assessment will be prepared for formal consultation with the United States Fish and Wildlife Service (USFWS) in accordance with Section 7 of the Endangered Species Act to document potential project effects on threatened and endangered species and CH.

3.11 - Historical Properties

An assessment of historic properties is required by USACE in administering the Section 404 permitting program. Pursuant to the National Historic Preservation Act (NHPA), the presence of significant cultural resources must be determined prior to submittal of the Section 404 permit application.

A Historic Properties Survey Report (HPSR) is being completed to document the presence of historic properties and any potential effects on the properties due to implementation of the proposed project. Based on the results of the HPSR, any cultural resources eligible for listing on the National Register of Historic Places present in the project area will be disclosed in the Section 404 permit application. Project compliance with the NHPA, as applicable, will be completed prior to applying for a Section 404 permit from USACE.

3.12 - Environmental Documentation

California Environmental Quality Act (CEQA) and National Environmental Policy Act (NEPA) documents are being prepared for the project. Specifically, a CEQA Environmental Impact Report and NEPA Environmental Impact Statement are being prepared for the project.

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SECTION 4: JURISDICTIONAL DELINEATION RESULTS

The following section provides a discussion of jurisdictional and non-jurisdictional areas within the BSA, including findings related to vegetative communities, topography, soils, hydrology, and wetlands for each of the geomorphic features.

4.1 - Summary of Jurisdictional Findings

There are 52 separate features recorded within the BSA. A total of 15 of the features correspond with historic rivers or streams and pass beneath I-10, conveying flows to either the Santa Ana River or to the Prado Flood Control Basin. The BSA's 52 recorded features also include 2 percolation basins and a detention basin.

All jurisdictional areas shown in exhibits in this report are for the purposes of USACE jurisdictional determination only and are labeled as "USACE Jurisdictional" or "USACE Non-Jurisdictional." All features, including USACE Jurisdictional and USACE Non-Jurisdictional features, are considered CDFW and RWQCB jurisdictional pursuant to Section 1600 *et al.* of the Fish and Game Code and the Porter-Cologne Water Quality Control Act, respectively. Areas shown as USACE Jurisdictional are generally major flood control channels, such as Day Creek Channel or San Antonio Creek Channel, that correspond with named historic rivers or streams that convey most of the natural flows and connect directly to the Santa Ana River and/or Prado Flood Control Basin. Two significant named channel features, referred to as the I-10 Channel and Rialto Tributary, run along the north side of I-10 and are considered jurisdictional to USACE because they convey significant flows to/from USACE jurisdictional waters. There are 25 additional features that consist of storm drains, channels, or other flood control features created entirely in uplands that are considered to be non-jurisdictional to USACE.

The basis for the USACE Jurisdictional status of the various USACE Non-Jurisdictional features is the Preamble to 33 CFR Part 328.3 (Definitions), which states: "it should be noted that we generally do not consider the following waters to be "Waters of the United States" ... Non-tidal drainages and irrigation ditches excavated on dry land." These USACE Non-Jurisdictional ditches were built in the uplands and were not constructed within historic Waters of the U.S. nor do they convey flows between Waters of the U.S. They also do not contain relatively permanent flow or special aquatic sites. A summary of the jurisdictional status and other data for each feature can be found in the Preliminary Jurisdictional Determination Table, which is provided as Appendix D.

Two percolation basin features within the BSA were mapped (Features 2 and 3) that are part of the Montclair Basin complex. These basins are maintained by the Chino Basin Water Conservation District to retain flood flows and recharge local groundwater. The basins were manufactured in upland areas adjacent to the San Antonio Creek Channel (Feature 1); however, it could not be determined conclusively that these basins are entirely isolated from San Antonio Creek Channel (Feature 1). Therefore, Features 2 and 3 are considered to be USACE jurisdictional features. A detention basin is also found within the BSA as an inline part of the West Cucamonga Channel. This detention basin is considered to be USACE Jurisdictional due to its presence within the flow path of the West Cucamonga Channel. The detention basin acreage is calculated with the West Cucamonga Channel.

Within the BSA, there were five potential wetland areas identified: portions of Feature 3 near San Antonio Creek Channel, portions of Feature 5 east of Mountain Avenue, portions of Features 14 and 15 north of I-10 on the east and west sides of Milliken Avenue, and portions of Feature 32 just west of Rancho Road. All of these potential wetland features were sampled according to federal wetland delineation methods. Sample point data collected in the field can be found in Appendix E. Feature 3 is a percolation basin that is part of the Montclair Basin complex. Given that hydrologic connectivity between the basin and Feature 3 and San Antonio Creek Channel is suspected, Feature 3 is considered a USACE wetland feature. After further evaluation of the potential wetland areas via soil pits, Features 5, 14, 15, and 32 lacked one or more of the wetland indicators and are not considered jurisdictional wetlands to USACE (see Field Data Sheets in Appendix E).

All of the features recorded within the BSA are considered potentially jurisdictional to RWQCB and CDFW. The acreage calculations for these features are the same where the feature in question is small in size or where the channel sides are vertical.

Descriptions of the jurisdictional and non-jurisdictional drainages are provided in Section 4.2. Locations and areas of these features are provided in Appendix D. Representative photographs of all drainages features, except where inaccessible, are provided in Appendix C.

4.2 - USACE Preliminary Jurisdictional Finding

Within the BSA, 27 features were determined to be jurisdictional Waters of the U.S. as set forth in 33 CFR 328.33(a) (Table 4, below). These features within the I-10 CP area fall under the jurisdiction of USACE because they are associated with historic, named drainage features and convey substantial flows under I-10, leading ultimately to the Santa Ana River and to Traditional Navigable Waterways or convey flows between Waters of the U.S.

Caltrans will submit a PJD request to USACE to obtain concurrence on these findings. Preliminary USACE jurisdictional areas represent approximately 156.81 acres and 74,363 linear feet of non-wetland Waters of the United States and 0.28 acre and 256 linear feet of wetland Waters of the United States. Prior to issuing a 404 permit for the project, a 401 water quality certification would be required for impacts to the jurisdictional areas.

Table 4: USACE Jurisdictional Areas

Geomorphic Feature	USACE Jurisdiction			Type of Feature
	Non-wetland Waters Acres	Non-wetland Waters LF	Wetland Waters Acres (LF)	
(1) San Antonio Creek Channel	1.00	1,104	0.00 (0)	RPW/Intermittent/Perennial
(2)	6.18	370	0.00 (0)	Non-RPW/Ephemeral
(3)	1.08	386	0.28 (256)	Non-RPW/Ephemeral
(7) West Cucamonga Channel	3.53	2,031	0.00 (0)	Non-RPW/Ephemeral
(9) Cucamonga Creek Channel	10.22	1,162	0.00 (0)	RPW/Intermittent/Perennial
(10)	0.18	1,126	0.00 (0)	Non-RPW/Ephemeral
(12) Lower Deer Creek Channel	0.15	449	0.00 (0)	Non-RPW/Ephemeral
(14)	0.70	1,907	0.00 (0)	Non-RPW/Ephemeral
(16) Day Creek Channel	0.85	1,065	0.00 (0)	RPW/Intermittent/Perennial
(18)	0.16	492	0.00 (0)	RPW/Intermittent/Perennial
(19) Lower Etiwanda Creek Channel	1.39	1,289	0.00 (0)	Non-RPW/Ephemeral
(20) San Sevaine Creek Channel	7.00	1,105	0.00 (0)	Non-RPW/Ephemeral
(21) I-10 Channel	13.52	25,936	0.00 (0)	Non-RPW/Ephemeral
(22)	0.04	416	0.00 (0)	Non-RPW/Ephemeral
(23)	0.23	558	0.00 (0)	Non-RPW/Ephemeral
(24) Rialto Tributary	5.68	15,975	0.00 (0)	Non-RPW/Ephemeral
(25) Rialto Creek Channel	5.58	1,056	0.00 (0)	Non-RPW/Ephemeral
(34)	0.05	592	0.00 (0)	Non-RPW/Ephemeral
(35) Warm Creek Channel	17.08	1,077	0.00 (0)	RPW/Intermittent/Perennial
(36) Santa Ana River Channel	56.22	1,378	0.00 (0)	RPW/Intermittent/Perennial
(38) San Timoteo Creek Channel	14.35	2,505	0.00 (0)	RPW/Intermittent/Perennial
(40) Mission Creek Channel	7.80	4,626	0.00 (0)	RPW/Intermittent/Perennial
(46) Zanja Creek Channel	1.21	1,479	0.00 (0)	RPW/Intermittent/Perennial
(47)	0.38	3,990	0.00 (0)	Non-RPW/Ephemeral
(50)	0.04	256	0.00 (0)	Non-RPW/Ephemeral
(51)	2.18	1,842	0.00 (0)	Non-RPW/Ephemeral
(52)	0.01	191	0.00 (0)	Non-RPW/Ephemeral
Total	**156.81**	**74,363**	**0.28 (256)**	
LF = linear feet; RPW = Relatively Permanent Waters				

San Antonio Creek Channel (Appendix B, Sheet 3)

Within the BSA, San Antonio Creek Channel is an approximately 16-foot-wide engineered channel with a concrete base and 15- to 20-foot vertical sidewalls. It flows from north to south and is entirely fenced off from public access (see Appendix C: Photopages 1 through 2). The channel is an RPW that collects flows within the San Antonio Reservoir from the north of the BSA in Upland. Within the BSA, the drainage is approximately 0.41 acre and 1,104 linear feet, and the channel is devoid of vegetation. The engineered channel flows from the BSA through several cities and communities for approximately 10 miles before entering the Prado Basin where it discharges into the Santa Ana River. It is approximately 30 miles along the Santa Ana River to the Pacific Ocean (Traditional Navigable Water [TNW]) from the Prado Basin.

West Cucamonga Channel and Detention Basin (Appendix B, Sheets 8 and 9)

Within the BSA, West Cucamonga Channel is comprised of an approximately 25-foot-wide engineered channel and an approximate 200-foot-wide inline detention basin near Grove Avenue and Princeton Street that travels from the north, under I-10 into the detention basin, and continues south out of the detention basin back into the channel (see Appendix C: Photopages 5 and 6). The jurisdictional BSA encompasses approximately 2.75 acres and 2,031 linear feet. The feature is concrete engineered with vertical sidewalls and is mostly devoid of vegetation; however, some riparian habitat grasses can be found in the jurisdictional detention basin portion.

Cucamonga Creek Channel (Appendix B, Sheet 10)

Within the BSA, Cucamonga Creek Channel is comprised of an engineered channel with vertical sidewalls. In the northern part of the BSA, it is joined by Deer Creek Channel. North of the confluence, both channels are approximately 12 feet wide and 15 to 20 feet in height with vertical sidewalls. Within the BSA, Cucamonga Creek Channel is an approximate 30-foot-wide engineered channel with a concrete base and 15- to 20-foot vertical sidewalls. It flows from north to south and is fenced off from public access (see Appendix C: Photopages 7 and 8). The channel is an RPW, which collects flows from north of the BSA within Cucamonga Creek. Cucamonga Creek flows into Cucamonga Canyon Dam, which regulates the flows into the downstream channel. The Cucamonga Creek Channel collects flows from two streams coming off of the southern face of the San Gabriel Mountains. Both streams are regulated by catch basins, which incorporate spillways that activate during high stormwater flows. The two upper channels join into a single channel, which then flows south towards the BSA. Within the BSA, the drainage is approximately 2.09 acres and 1,162 linear feet. Within the BSA, the channel is devoid of vegetation. The engineered Cucamonga Creek Channel flows from the BSA south through the Ontario Airport and then through agricultural areas of Chino for approximately 8 miles until it enters the Prado Basin, which discharges into the Santa Ana River. From that location, it is approximately 30 miles along the Santa Ana River to the Pacific Ocean (TNW).

Lower Deer Creek Channel (Appendix B, Sheet 11)

Within the BSA, Lower Deer Creek Channel is an approximately 30-foot-wide engineered channel with a concrete base and 15- to 20-foot vertical sidewalls (see Appendix C: Photopage 12). It flows from north to south and is fenced off from public access. The channel is only above ground for a short distance directly north of I-10, and it is underground farther north and to the south of I-10. The channel emerges south of the Ontario Airport, where it flows south to enter Cucamonga Creek Channel. Lower Deer Creek Channel is an RPW, which collects flows from north of the BSA. Within the BSA, the drainage is approximately 0.15 acre and 449 linear feet, and the channel is devoid of vegetation. Cucamonga Creek Channel flows from the BSA south through the Ontario Airport and then through agricultural areas of Chino for approximately 8 miles until it enters the Prado Basin, which discharges into the Santa Ana River. From that location, it is approximately 30 miles along the Santa Ana River to the Pacific Ocean (TNW).

Day Creek Channel (Appendix B, Sheet 14)

Within the BSA, Day Creek Channel is an approximately 38-foot-wide engineered channel with a concrete base and 15- to 20-foot vertical sidewalls. It flows from north to south and is fenced off from public access (see Appendix C: Photopages 15 and 16). The channel is an RPW, which collects flows from north of the BSA at the Day Creek Spreading Grounds (north of Highland Avenue) in Rancho Cucamonga. Within the BSA, the drainage is approximately 0.44 acre and 1,065 linear feet, and the channel is devoid of vegetation. The engineered Day Creek Channel flows from the BSA for approximately 1.6 miles to the Wineville Basin and from there another 0.7 mile to the Riverside Basin. From the Riverside Basin, the channel continues through a combination of channeled earthen ditches and concrete open channel drains for approximately 5 miles before discharging into the Santa Ana River. It is approximately 39 miles along the Santa Ana River to the Pacific Ocean (TNW) from its confluence with the drainage.

Lower Etiwanda Creek Channel and Lower Etiwanda Creek Tributary Channel (Appendix B, Sheets 14 and 15)

Within the BSA, the Lower Etiwanda Creek Channel consists of an engineered open channel, with trapezoidal sides, which passes beneath three I-10 bridges (see Appendix C: Photopages 18 and 19). Areas within the BSA are sparsely vegetated with scattered amounts of slender sunflower, mule fat, and common sunflower. This channel is joined by a side channel that parallels I-10 (Feature 17) and is also considered jurisdictional due to its association with historic flows of Etiwanda Creek.

The Lower Etiwanda Creek Tributary Channel consists of a short side channel that formerly was a fork of the main channel. Due to ongoing development in the area, most of this branch of Etiwanda Creek has been undergrounded, emerging adjacent to I-10 and flowing east into the main part of the Lower Etiwanda Creek Channel.

Both of these channels are non-RPW channels with ephemeral flows originating from precipitation and nuisance flow. Within the BSA, the area within Lower Etiwanda Creek Channel is approximately 0.79 acre and 1,289 linear feet. The area within the Lower Etiwanda Creek Tributary Channel is approximately 0.16 acre and 492 linear feet. The main channel originates approximately 7.5 miles north of I-10 at the base of the East Etiwanda and Henderson canyons and continues for approximately 2 miles south of the BSA to its confluence with the Day Creek Channel at the Wineville Basin. The Lower Etiwanda Creek Channel outside the BSA is comprised of stretches that are engineered open-flow concrete flood control channel, as well as reaches of natural channel.

San Sevaine Creek Channel (Appendix B, Sheet 15)

Within the BSA, San Sevaine Creek Channel is an approximately 41-foot-wide engineered flood control channel with a concrete base and vertical concrete sidewalls flowing from north to south (see Appendix C: Photopages 20 and 21). The channel collects flows from the San Sevaine and Lower Etiwanda Channels to the north, both of which are fed by their own respective spreading grounds. Before its confluence with the Lower Etiwanda Channel north of I-10, the San Sevaine Creek Channel passes through a series of five basins linked sequentially. The channel is a non-RPW with ephemeral flows originating from precipitation and nuisance flow. Within the BSA, the drainage is approximately 1.56 acres and 1,105 linear feet, and the channel is devoid of vegetation. From the BSA, flows within San Sevaine Creek Channel are routed during storms to the Jurupa Basin, located approximately 1.1 miles south of I-10. From this basin, flows continue south for approximately 4.4 miles before joining the Santa Ana River.

Rialto Creek Channel (Appendix B, Sheets 23 and 24)

Within the BSA, the Rialto Creek Channel is an approximately 27-foot-wide engineered, concrete-lined channel with vertical concrete walls and flows from just slightly west of north to slightly east of south (see Appendix C: Photopage 27). Approximately 2,100 feet upstream (northwest), the drainage is a riprap channel with sloping walls. Farther to the northwest, the Rialto Creek Channel is joined by the East Fontana Storm Drain. The drainage is a non-RPW with ephemeral flows originating from precipitation and nuisance flow. Within the BSA, the channel is approximately 0.71 acre and 1,056 linear feet. Within the BSA, the channel is devoid of vegetation, except for some grass and weeds that have sprouted from thin, transitional mud deposits. From the BSA, the Rialto Creek Channel flows south through a culvert, passing beneath the rail switchyard before again entering an engineered channel on the east side of South Riverside Avenue. Flows continue south for approximately 2 miles to join the Santa Ana River.

Warm Creek Channel (Appendix B, Sheet 27)

Within the BSA, Warm Creek Channel is an approximate 300-foot-wide engineered channel with a concrete base and sloping concrete sidewalls. It flows from north to south (see Appendix C: Photopages 29 and 30). North of I-10, Warm Creek Channel collects flows from the East Branch of Lytle Creek. These flows pass by, or through, the four Warm Creek Basins before continuing south. The Lytle-Cajon Channel also joins Warm Creek Channel at the southernmost point of the four Warm Creek Basins. Warm Creek Channel is an RPW, with flows originating from agricultural irrigation runoff, precipitation, and nuisance flows. Within the BSA, the drainage is approximately 6.20 acres and 1,077 linear feet. The channel includes minimal grasses growing on patches of accumulated sediment in small portions below I-10. The Warm Creek Channel discharges into the Santa Ana River approximately 0.25 mile south of the center of I-10. It is approximately 55 miles along the Santa Ana River to the Pacific Ocean (TNW) from its confluence with this drainage.

Santa Ana River Channel (Appendix B, Sheets 27 and 28)

The Santa Ana River is the principal drainage of the Santa Ana watershed. All other drainages within the BSA eventually join the Santa Ana River and flow toward the Pacific Ocean. Within the BSA, the Santa Ana River Channel is an approximately 550-foot-wide engineered channel with a concrete base and sloping concrete sidewalls. The river flows from northeast to southwest and beneath I-10 through 14 concrete columns (see Appendix C: Photopages 31 and 32). The Santa Ana River Channel is an RPW, with flows originating from precipitation, agricultural runoff, and nuisance flow. Within the BSA, the Santa Ana River Channel's USACE Jurisdictional limits are approximately 12.54 acres and 1,378 linear feet. The Santa Ana River flows from the BSA for approximately 56 miles before entering the Pacific Ocean (TNW).

San Timoteo Creek Channel (Appendix B, Sheets 29 and 30)

Within the BSA, San Timoteo Creek Channel flows through an approximately 75-foot-wide engineered channel with a concrete base and 15- to 20-foot vertical sidewalls (see Appendix C: Photopages 33 and 34). The channel is fenced off from public access. San Timoteo Creek Channel flows from southeast to northwest within the BSA, passing beneath I-10 and flowing for approximately 0.7 mile before discharging into the Santa Ana River Channel. The drainage is an RPW, and flows originate from agricultural runoff, precipitation, and nuisance flows. Within the BSA, the drainage is approximately 3.4 acres and 2,505 linear feet. The channel lacks vegetation except for sparse amounts of grass and weeds that have grown where sediment has accumulated. From the confluence with San Timoteo Creek Channel and the Santa Ana River Channel, it is approximately 57 river miles to the Pacific Ocean (TNW).

Mission Creek Channel (Appendix B, Sheets 31 and 32)

Within the BSA, Mission Creek Channel flows through an approximately 141-foot-wide grouted riprap channel with sloping sidewalls (see Appendix C: Photopages 35 and 36). This channel flows from southeast to northwest, passing below I-10 and flowing for approximately 2.1 miles before discharging into the Santa Ana River Channel. Mission Creek Channel originates approximately 1.2 miles south of I-10 at the confluence of Zanja Creek and the Morey Arroyo. Within the BSA, the drainage is approximately 4.08 acres and 4,626 linear feet. Upland vegetation grows on the sandy channel bottom and includes scattered amounts of slender sunflower, mule fat, and common sunflower. It is approximately 57 miles along the Santa Ana River to the Pacific Ocean (TNW) from its confluence with this drainage.

Zanja Creek Channel (Appendix B, Sheet 35)

Within the BSA, Zanja Creek Channel flows through an approximately 30-foot-wide channel with a sandy and rocky base and sloping riprap sidewalls (both grouted and ungrouted) (see Appendix C: Photopages 45 and 46). Zanja Creek Channel is a tributary of Mission Creek Channel that flows from northeast to southwest for approximately 0.32 mile toward the Reservoir Canyon Storm Drain, 1.0 mile away from Mission Creek Channel. The channel and side slopes are moderately vegetated, with tree tobacco, castor bean, common sunflower, blue elderberry, and fan palm. The channel is an RPW with intermittent flows originating from precipitation and nuisance flow and from irrigation of a park and maintained grass fields to the northeast of I-10. Within the BSA, the drainage is approximately 0.51 acre and 1,479 linear feet.

4.3 - Potential CDFW and RWQCB Jurisdiction

CDFW 1602 jurisdiction and RQWCB jurisdiction Pursuant to Section 401 of the CWA includes the entirety of the jurisdictional USACE jurisdictional features cited above. An additional 25 ephemeral channel features were found to be USACE Non-Jurisdictional, but they are thought to be jurisdictional to CDFW and RWQCB (Table 5, below) pursuant to Section 1602 of the Fish and Game Code and the Porter-Cologne Water Quality Control Act. CDFW and RWQCB jurisdiction for the larger trapezoidal channels includes the entire bank-to-bank width, whereas the USACE jurisdictional boundary includes the main channel only and not the entire width at the top of the bank. The total acreage and linear feet of CDFW/RWQCB jurisdiction for the BSA include 120.45 acres and 124,806 linear feet of channel and features. This includes the I-10 Channel and Rialto Tributary, which are not considered jurisdictional for USACE because the area historically did not support easterly or westerly flows. It also includes percolation basins associated with the Montclair Basin complex near San Antonio Creek Channel that have natural bottoms and serve as groundwater recharge basins. See Appendix C: Photopages 46 through 69 for photos of these features. Prior to project implementation, a 1602 Streambed Alteration Agreement from CDFW would be required for impacts to jurisdictional areas.

Table 5: Potential CDFW and RWQCB Jurisdictional Areas

Geomorphic Feature Number	Total Potential Area		Type of Feature
	Acres	Linear Feet (LF)	
(1) San Antonio Creek Channel	1.00	1,104	RPW/Intermittent/Perennial
(2)	6.18	370	Non-RPW/Ephemeral
(3)	1.36	386	Non-RPW/Ephemeral
(4)	0.21	898	Non-RPW/Ephemeral
(5)	1.12	5,052	Non-RPW/Ephemeral
(6)	0.48	4,095	Non-RPW/Ephemeral
(7) West Cucamonga Channel	3.53	2,031	Non-RPW/Ephemeral
(8)	0.07	709	Non-RPW/Ephemeral
(9) Cucamonga Creek Channel	10.22	1,162	RPW/Intermittent/Perennial
(10)	0.18	1,126	Non-RPW/Ephemeral
(11)	0.07	962	Non-RPW/Ephemeral
(12)	0.15	449	Non-RPW/Ephemeral
(13)	0.27	1,128	Non-RPW/Ephemeral
(14)	0.70	1,907	Non-RPW/Ephemeral
(15)	0.12	795	Non-RPW/Ephemeral

Table 5: Potential CDFW and RWQCB Jurisdictional Areas

Geomorphic Feature Number	Total Potential Area		Type of Feature
	Acres	Linear Feet (LF)	
(16) Day Creek Channel	0.85	1,065	RPW/Intermittent/Perennial
(17)	0.15	3,194	Non-RPW/Ephemeral
(18)	0.16	492	RPW/Intermittent/Perennial
(19) Lower Etiwanda Creek Channel	1.39	1,289	Non-RPW/Ephemeral
(20) San Sevaine Creek Channel	7.00	1,105	Non-RPW/Ephemeral
(21) I-10 Channel	13.51	25,936	Non-RPW/Ephemeral
(22)	0.04	416	Non-RPW/Ephemeral
(23)	0.23	558	Non-RPW/Ephemeral
(24) Rialto Tributary	5.68	15,975	Non-RPW/Ephemeral
(25) Rialto Creek Channel	5.58	1,056	Non-RPW/Ephemeral
(26)	0.02	973	Non-RPW/Ephemeral
(27)	0.02	908	Non-RPW/Ephemeral
(28)	0.03	478	Non-RPW/Ephemeral
(29)	0.01	582	Non-RPW/Ephemeral
(30)	0.05	164	Non-RPW/Ephemeral
(31)	0.01	89	Non-RPW/Ephemeral
(32)	0.03	408	Non-RPW/Ephemeral
(33)	0.09	495	Non-RPW/Ephemeral
(34)	0.05	592	Non-RPW/Ephemeral
(35) Warm Creek Channel	17.08	1,077	RPW/Intermittent/Perennial
(36) Santa Ana River Channel	56.22	1,378	RPW/Intermittent/Perennial
(37)	0.06	505	Non-RPW/Ephemeral
(38) San Timoteo Creek Channel	14.35	2,505	RPW/Intermittent/Perennial
(39)	4.33	10,935	Non-RPW/Ephemeral
(40) Mission Creek Channel	7.80	4,626	RPW/Intermittent/Perennial
(41)	1.69	8,497	Non-RPW/Ephemeral
(42)	0.57	5,040	Non-RPW/Ephemeral
(43)	0.01	25	Non-RPW/Ephemeral
(44)	3.43	3,166	Non-RPW/Ephemeral
(45)	0.04	573	Non-RPW/Ephemeral
(46) Zanja Creek Channel	1.21	1,479	RPW/Intermittent/Perennial
(47)	0.37	3,990	Non-RPW/Ephemeral
(48)	0.04	448	Non-RPW/Ephemeral
(49)	0.03	350	Non-RPW/Ephemeral
(50)	0.04	256	Non-RPW/Ephemeral
(51)	2.18	1,842	Non-RPW/Ephemeral
(52)	0.01	191	Non-RPW/Ephemeral
Total	**170.02**	**124,832**	

4.4 - Rationale for USACE Non-Jurisdictional Determinations

4.4.1 - USACE Non-Jurisdictional Features

In addition to the pre-survey and field investigations discussed in Section 2, biologists also reviewed historical aerial photographs and historic topographic maps of the BSA. Historic aerial photographs of the BSA (Years: 1928, 1938, 1949, 1953, 1060, 1966, 1968, 1976, 1977, 1980, 1989, 1994, and 2002) and historic topographic maps (Years: 1901, 1903, 1928, 1941, 1942, 1944, 1953, 1954, 1966, 1967, 1973, 1976, 1980, and 1981) were examined to investigate historic flow patterns, stream locations, and land uses within the BSA compared to existing conditions and features mapped within the I-10 CP BSA shown in Appendix B. Selected historic aerial imagery and historic topographic mapping from just after construction of the freeway in the late 60s, as well as the late 80s when substantial development was occurring within the corridor, is provided in Appendices F and G, respectively. These data were used primarily to investigate historic flow patterns, stream locations, and land uses within the BSA.

There are a total of 25 non-jurisdictional channel features that occur within the BSA. The channel features are provided in Table 6. These USACE Non-Jurisdictional ditches/channels do not correspond with historic rivers or streams and are not identifiable on historic aerial photos and topographic maps provided in Appendices F and G, respectively. USACE Non-Jurisdictional features are excavated within uplands and were not constructed within historic Waters of the U.S. nor do they convey flows between Waters of the U.S. The non-jurisdictional features include 25 features excavated on otherwise dry land outside of historic drainage courses. Non-jurisdictional features consist primarily of cement-lined, manufactured channels to convey stormwater from the freeway, freeway landscaping, and adjacent urban areas.

This determination by Caltrans for the 25 non-jurisdictional features is consistent with the preamble to 33 CFR Part 328.3 (Definitions), which states: "it should be noted that we generally do not consider the following waters to be "Waters of the United States" ... Non-tidal drainages and irrigation ditches excavated on dry land." These USACE Non-Jurisdictional ditches were built in the uplands and were not constructed within historic Waters of the U.S. nor do they convey flows between Waters of the U.S. They also do not contain relatively permanent flow or special aquatic sites.

Caltrans will submit a PJD request to USACE to obtain concurrence on the proposed “USACE Non-Jurisdictional” features. The locations of these features are shown in Appendix B and are described in detail within the Preliminary Jurisdictional Determination Table provided in Appendix C. Based on field review and review of historic topographic maps and aerial photos, these non-jurisdictional drainages appear to be outside of the jurisdiction of USACE within the I-10 CP area BSA. These non-jurisdictional features represent 12.93 acres and 50,213 linear feet.

Table 6: USACE Non-Jurisdictional Features

Geomorphic Feature Number	Total Potential Area		Type of Feature
	Acres	Linear Feet (LF)	
(4)	0.21	898	Non-RPW/Ephemeral
(5)	1.12	5,052	Non-RPW/Ephemeral
(6)	0.48	4,095	Non-RPW/Ephemeral
(8)	0.07	709	Non-RPW/Ephemeral
(11)	0.07	962	Non-RPW/Ephemeral
(13)	0.27	1,128	Non-RPW/Ephemeral
(15)	0.12	795	Non-RPW/Ephemeral
(17)	0.15	3,194	Non-RPW/Ephemeral
(26)	0.02	973	Non-RPW/Ephemeral
(27)	0.02	908	Non-RPW/Ephemeral
(28)	0.03	478	Non-RPW/Ephemeral
(29)	0.01	582	Non-RPW/Ephemeral
(30)	0.05	164	Non-RPW/Ephemeral
(31)	0.01	89	Non-RPW/Ephemeral
(32)	0.03	408	Non-RPW/Ephemeral
(33)	0.09	495	Non-RPW/Ephemeral
(37)	0.06	505	Non-RPW/Ephemeral
(39)	4.33	10,935	Non-RPW/Ephemeral
(41)	1.69	8,497	Non-RPW/Ephemeral
(42)	0.57	5,040	Non-RPW/Ephemeral
(43)	0.01	25	Non-RPW/Ephemeral
(44)	3.43	3,166	Non-RPW/Ephemeral
(45)	0.04	573	Non-RPW/Ephemeral
(48)	0.04	448	Non-RPW/Ephemeral
(49)	0.03	350	Non-RPW/Ephemeral
Total	**12.93**	**50,213**	

Feature 33 (Appendix B, Sheet 27)

Feature 33 – Discussion

Within the BSA, a concrete-lined feature was identified within a small channel that runs parallel to I-10 and goes underneath the freeway just west of Mount Vernon Avenue.

Feature 33 – Rapanos/Significant Nexus Evaluation

This feature is part of a short channel that is concrete and appears to go underneath I-10 into a man-made storm drain system. Flows do not appear to enter into an RPW. This means flows within this feature in the BSA are not expected to have a speculative or substantial effect on the chemical, physical, and/or biological integrity of the Pacific Ocean (TNW).

Feature 33 – USACE Jurisdictional Conclusions

According to field inspection and an evaluation of the drainage based on the significant nexus analysis described above, this feature is not jurisdictional according to USACE criteria.

Feature 37 (Appendix B, Sheet 28)

Feature 37 – Discussion

Within the BSA, a concrete-lined feature was identified within a small channel that runs parallel to I-10 and goes underneath the freeway just east of Hunts Lane.

Feature 37 – Rapanos/Significant Nexus Evaluation

This feature is part of a short channel that is concrete and appears to go underneath I-10 into a man-made storm drain system. Flows do not appear to enter into an RPW. This means flows within this feature in the BSA are not expected to have a speculative or substantial effect on the chemical, physical, and/or biological integrity of the Pacific Ocean (TNW).

Feature 37 – USACE Jurisdictional Conclusions

According to field inspection and an evaluation of the drainage based on the significant nexus analysis described above, this feature is not jurisdictional according to USACE criteria.

4.4.2 - Potential USACE Wetlands

The following sections describe the areas within the I-10 CP that were evaluated for wetlands and were sampled as part of this jurisdictional delineation study (see Appendix E for wetland delineation forms). Photos of potential wetlands sampled within the BSA are provided in Appendix C, photopages 83 through 86.

Feature 3 (Appendix B, Sheet 4)

Feature 3 – Discussion

Within the BSA, a wetland feature occurs within the Montclair Basin complex adjacent to the San Antonio Creek Channel. It is suspected that this feature connects with the adjacent San Antonio Creek Channel (Feature 1). It is part of a percolation basin complex and collects stormwater overflows from the other basins and from the adjacent I-10 for the purpose of groundwater recharge. A paired sample point (SP1) was taken in this feature (Appendix E). The wetland area appears to be manufactured and maintained. Vegetation within the wetland was dominated by hydrophytic plant species such as curly dock *(Rumex crispus)* and cocklebur *(Xanthium strumarium).* Soil features were inconclusive overall, but there were sandy redox features noted in the second soil layer (8 to 18 inches). Hydrologic indicators were positive, exhibiting water-stained leaves and the presence of reduced iron.

Feature 3 – Rapanos/Significant Nexus Evaluation

This feature is directly adjacent to the San Antonio Creek Channel and appears to have two hydrologic connections with the channel. Given this presumed connection to an RPW, flows within this wetland feature are expected to be linked to the chemical, physical, and/or biological integrity of the Pacific Ocean (TNW).

Feature 3 – USACE Jurisdictional Conclusions

According to field inspection and an evaluation of the drainage based on the significant nexus analysis described above, the wetland area is jurisdictional according to USACE criteria.

Feature 5 (Appendix B, Sheet 6)

Feature 5 – Discussion

Within the BSA, a potential wetland feature occurs within a small channel adjacent to I-10 that goes underneath the freeway. A paired sample point (SP2) was taken in this feature (Appendix E). This wetland was formed by collection of sediment within an otherwise concrete channel and is supported by urban runoff and stormwater. The wetland area has very shallow soil deposits over a concrete base. Vegetation within the wetland was dominated by hydrophytic plant species such as arroyo willow *(Salix lasiolepis)* and herbaceous wetland species such as cattail *(Typha* sp.). Soil features were inconclusive overall, due to the low depth, and no soil indicators were observed. It is suspected that periods of heavy rain cause the entire sediment deposit to scour, and periods of low rain allow it to build back up again. Hydrologic indicators were positive, exhibiting saturation and water-stained leaves, along with the presence of sediment deposits and drift deposits.

Feature 5 – Rapanos/Significant Nexus Evaluation

This feature is part of a short, non-jurisdictional channel that is concrete and enters underneath I-10. The channel was not possible to follow completely underneath I-10, but it appears to cross underneath and end at a small detention structure on the south side of I-10, thus not entering an RPW. This means flows within the wetland at the BSA are not expected to have a speculative or substantial effect on the chemical, physical, and/or biological integrity of the Pacific Ocean (TNW).

Feature 5 – USACE Jurisdictional Conclusions

According to field inspection and an evaluation of the drainage based on the significant nexus analysis described above, the wetland area is not jurisdictional according to USACE criteria.

Feature 14 (Appendix B, Sheet 12)

Feature 14 – Discussion

Within the BSA, a potential wetland feature occurs within a small channel adjacent to I-10 that goes underneath the freeway. A paired sample point (SP3) was taken in this feature (Appendix E). This wetland was formed by collection of sediment within an otherwise concrete channel and is supported by urban runoff and stormwater. The wetland area has very shallow soil deposits over a concrete base. Vegetation within the wetland was dominated by hydrophytic plant species such as cattail and herbaceous wetland species. Soil features were inconclusive overall, due to the low depth, and no soil indicators were observed. It is suspected that periods of heavy rain cause the entire sediment deposit to scour, and periods of low rain allow it to build back up again. Hydrologic indicators were positive, exhibiting saturation and water-stained leaves, along with the presence of sediment deposits and drift deposits.

Feature 14 – Rapanos/Significant Nexus Evaluation

This feature is part of a short, non-jurisdictional channel that is concrete and appears to end on the north side of I-10 adjacent to a shopping center. The channel's purpose seems to be to collect stormwater runoff and retain it, and the channel does not appear to enter an RPW. This means flows within the wetland at the BSA are not expected to have a speculative or substantial effect on the chemical, physical, and/or biological integrity of the Pacific Ocean (TNW).

Feature 14 – USACE Jurisdictional Conclusions

According to field inspection and an evaluation of the drainage based on the significant nexus analysis described above, the wetland area is not jurisdictional according to USACE criteria.

Feature 15 (<u>Appendix B, Sheet 13</u>)

Feature 15 – Discussion

Within the BSA, a potential wetland feature occurs within a small channel adjacent to I-10 that goes underneath the freeway. A paired sample point (SP4) was taken in this feature (Appendix E). This wetland was formed by collection of sediment within an otherwise concrete channel and is supported by urban runoff and stormwater. The wetland area has very shallow soil deposits over a concrete base. Vegetation within the wetland was dominated by hydrophytic plant species such as arroyo willow and cattail. Soil features were inconclusive overall, due to the low depth, and no soil indicators were observed. It is suspected that periods of heavy rains cause the entire sediment deposit to scour, and periods of low rain allow it to build back up again. Hydrologic indicators were positive, exhibiting saturation and water-stained leaves, along with the presence of sediment deposits and drift deposits.

Feature 15 – Rapanos/Significant Nexus Evaluation

This feature is part of a short, non-jurisdictional channel that is concrete and runs parallel to I-10. The channel appears to retain stormwater flows and does not enter into an RPW. This means flows within the wetland at the BSA are not expected to have a speculative or substantial effect on the chemical, physical, and/or biological integrity of the Pacific Ocean (TNW).

Feature 15 – USACE Jurisdictional Conclusions

According to field inspection and an evaluation of the drainage based on the significant nexus analysis described above, the wetland area is not jurisdictional according to USACE criteria.

Feature 32 (<u>Appendix B, Sheet 25</u>)

Feature 32 – Discussion

Within the BSA, a potential wetland feature occurs within a small channel that runs parallel to I-10 and goes underneath the freeway. A paired sample point (SP5) was taken in this feature (Appendix E). This wetland was formed by collection of sediment within an otherwise concrete channel and is supported by urban runoff and stormwater. The wetland area has very shallow soil deposits. Vegetation within the wetland was dominated by hydrophytic plant species such as cattails and willow, with some non-hydrophytic species such as eucalyptus *(Eucalyptus* sp.) and herbaceous wetland species. Soil features were inconclusive overall, due to the low depth, and no soil indicators were observed. The sediment deposit appeared to be temporary in nature, caused by low storm flows in the past year. Its shallow depth and lack of wetland indicators is a sign that the area may get scoured regularly and does not always support hydrophytic vegetation. Hydrologic indicators were positive, exhibiting surface water and saturation, along with the presence of sediment deposits and drift deposits.

Feature 32 – Rapanos/Significant Nexus Evaluation

This feature is part of a short channel that is concrete and appears to go underneath I-10 into a man-made storm drain system. Flows do not appear to enter into an RPW. This means flows within the wetland at the BSA are not expected to have a speculative or substantial effect on the chemical, physical, and/or biological integrity of the Pacific Ocean (TNW).

Feature 32 – USACE Jurisdictional Conclusions

According to field inspection and an evaluation of the drainage based on the significant nexus analysis described above, the wetland area is not jurisdictional according to USACE criteria.

4.5 - Conclusions

Based on the data and analysis provided in this report, it has been determined that there are 14 features within the BSA that fall under the jurisdiction of USACE and RWQCB pursuant to Sections 404 and 401 of the Clean Water Act, respectively. These channels are associated with named streams or rivers that traverse the BSA north to south. The total acreage and linear feet of these features is 35.79 acres and 20,817 linear feet. A Preliminary Jurisdictional Determination is being requested from USACE for these jurisdictional features.

Five sample points were taken at potential wetland areas within various locations along the BSA (Features 3, 5, 14, 15, and 32). After analysis of the sample point data, only one of these areas (Figure 3) was considered a USACE jurisdictional wetland. The other four of these features were found to be lacking one of the three wetland criteria (hydric soils). Within the BSA, there are also 25 manufactured storm drain ditches/channels and percolation basins, all of which are not considered to be USACE Jurisdictional. The total acreage and linear feet for these features is 12.93 acres and 50,213 linear feet.

Because CDFW has broader criteria for what constitutes a jurisdictional feature, and CDFW jurisdiction overlaps USACE jurisdiction, the 14 features mentioned above are considered potentially CDFW jurisdictional. All remaining features are considered non-jurisdictional to USACE, but they are considered potentially jurisdictional to CDFW. The potential RWQCB jurisdictional areas are considered to also encompass all features within the BSA. Total acreage and linear feet for CDFW and RWQCB features within the BSA is 120.45 acres and 124,806 linear feet.

Prior to construction of the project, the Applicant will be required to quantify and document the potential effects on the jurisdictional drainages and obtain a Clean Water Act Section 404(b) (1) permit for the project. USACE approval of the Section 404 permit would be contingent on receipt of a Clean Water Act Section 401 Water Quality Certification from the Santa Ana RWQCB. Coordination with USACE and RWQCB will continue throughout the project development process. In addition, portions of the project impact area that affect areas jurisdictional to CDFW would require application for and approval of a Streambed Alteration Agreement under the California Fish and Game Code (Section 1600).

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Appendix A: Glossary of Terms

Glossary of Terms

Term	Source	Page	Definition
Abutting	6	69	With respect to jurisdictional determinations, a wetland that is not separated from the tributary by an upland feature, such as a berm or dike, is "abutting."
Adjacent	7	N/A	The term "adjacent" means bordering, contiguous, or neighboring. Wetlands separated from other Waters of the U.S. by man-made dikes or barriers, natural river berms, beach dunes, and the like are "adjacent wetlands."
Clean Water Act (CWA) of 1972	NA	NA	Also known as the Federal Water Pollution Control Act (FWPCA) 33USCA Sections 1251 to 1387 (alternatively cited as Sections 101 - 607). The primary goal as defined in Section 1251(a) is "to restore and maintain the chemical, physical, and biological integrity of the Nation's waters." Jurisdiction to regulate "Waters of the U.S.," vested under this Act include: Section 303 (Water Quality Standards and implementation Plans), Section 311 (Spill Program and Oil Pollution Act), Section 401 (State Water Quality Certification), Section 402 (National Pollutant Discharge Elimination System [NPDES]), Section 404 (permits for dredge or fill material).
Clean Water Act (CWA) Section 401	NA	NA	**Section 401 State Water-Quality Certification:** Provides that no Federal permit or license for activities that might result in a discharge to navigable waters may be issued unless a CWA Section 401 Water Quality Certification is obtained from or waived by States or authorized Tribes.
Clean Water Act (CWA) Section 404	NA	NA	**Section 404 Dredged and Fill Material Permit Program:** This program established a permitting system to regulate discharges of dredged or fill material into Waters of the U.S.
Discharge	4	11196	The term "discharge'' means any discharge of dredged or fill material and any activity that causes or results in such a discharge.
Ephemeral Stream	4	11196	An ephemeral stream has flowing water only during and, for a short duration, after precipitation events in a typical year. Ephemeral stream beds are located above the water table year-round. Groundwater is not a source of water for the stream. Runoff from rainfall is the primary source of water for stream flow.
Facultative Plants (FAC)	1	14	Plants with a similar likelihood (estimated probability of 33 to 67 percent) of occurring in both wetlands and non-wetlands.
Facultative Wetland Plants (FACW)	1	14	Plants that occur usually (estimated probability >67 to 99 percent) in wetlands, but also occur (estimated probability 1 to 33 percent) in non-wetlands.
Facultative Upland Plants (FACU)	1	14	Plants that occur sometimes (estimated probability 1 to <33 percent) in wetlands, but occur more often (estimated probability >67 to 99 percent) in non-wetlands.

Glossary of Terms

Term	Source	Page	Definition
Historic Property	4	11196	Any prehistoric or historic district, site (including archaeological site), building, structure, or other object included in, or eligible for inclusion in, the National Register of Historic Places maintained by the Secretary of the Interior. This term includes artifacts, records, and remains that are related to and located within such properties. The term includes properties of traditional religious and cultural importance to an Indian tribe or Native Hawaiian organization that meet the National Register criteria (36 CFR Part 60).
Hydrological Units	8	1-3	As prescribed by USGS, refers to the four levels of subdivisions, used for the collection and organization of hydrological data. The hierarchy of hydrological units include: (1) Regions, (2) Subregions, (3) Accounting Units, and (4) Cataloging Units. The identifying codes associated with these units are "hydrological unit codes."
Hydrological Units - Regions	8	3	The first level of USGS hydrological classification, which divides the Nation into 21 Major geographic areas. These geographic areas (hydrologic areas based on surface topography) contain either the drainage area of a major river, or the combined drainage areas of a series of rivers. Most of California is located within region "18." Notable exceptions include the Tahoe basin (Great Basin Region 16) and the Colorado River (Lower Colorado Region 15). All smaller hydrological units with the region begin with the region number (18).
Hydrological Units - Subregions	8	3	The second level of USGS hydrological classification, divides the 21 regions into 222 subregions (nationally). A subregion includes the area drained by a river system, a reach of a river and its tributaries in that reach, a closed basin(s), or a group of streams forming a coastal drainage area. Within Region 18, the state of California includes 10 subregions.
Intermittent Stream	4	11196	An intermittent stream has flowing water during certain times of the year, when groundwater provides water for stream flow. During dry periods, intermittent streams may not have flowing water. Runoff from rainfall is a supplemental source of water for stream flow.
Non-tidal Wetland	4	11196	A non-tidal wetland is a wetland that is not subject to the ebb and flow of tidal waters. The definition of a wetland can be found at 33 CFR 328.3(b). Non-tidal wetlands contiguous to tidal waters are located landward of the high tide line (i.e., spring high tide line).
Obligate Wetland Plants (OBL)	1	14	Plants that occur almost always (estimated probability >99 percent) in wetlands under natural conditions, but which may also occur rarely (estimated probability <1 percent) in non-wetlands.
Obligate Upland Plants (UPL)	1	14	Plants that occur rarely (estimated probability <1 percent) in wetlands, but occur almost always (estimated probability >99 percent) in non-wetlands under natural conditions.
Ordinary High Water Mark	7	N/A	The term "ordinary high water mark" means that line on the shore established by the fluctuations of water and indicated by physical characteristics such as clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas.

Glossary of Terms

Term	Source	Page	Definition
Perennial Stream	4	11197	A perennial stream has flowing water year-round during a typical year. The water table is located above the stream bed for most of the year. Groundwater is the primary source of water for stream flow. Runoff from rainfall is a supplemental source of water for stream flow.
Relatively Permanent Water (RPW)	5	5,69	In the context of CWA jurisdiction post-*Rapanos*, a water body is “relatively permanent” if it flows year-round or its flow is continuous at least “seasonally,” (e.g., typically 3 months). Wetlands adjacent to a “relatively permanent” tributary are also jurisdictional if those wetlands directly abut such a tributary.
Relevant Reach	6	40	With respect to “significant nexus determinations,” the “relevant reach” will include all tributary waters of the same order. Typically this will include the tributary and all adjacent wetlands reaching downstream from the project site to the confluence with the next tributary or upstream to a similar confluence.
Riparian Area	4	11197	Riparian areas are lands adjacent to streams, lakes, and estuarine-marine shorelines. Riparian areas are transitional between terrestrial and aquatic ecosystems through which surface and subsurface hydrology connects water bodies with their adjacent uplands. Riparian areas provide a variety of ecological functions and services and help improve or maintain local water quality. (See General Condition No. 20, in the NWP.)
River Miles	6	53	The flowing distance between the water bodies in question. Typically not a straight line; rather, the measurement is based on how far the water will travel from water body A to water body B. For example, the water in a meandering tributary will flow farther than water flowing in a channelized tributary provided the two water bodies are the same distance apart in the landscape.
Significant Nexus	5	40	In the context of CWA jurisdiction post-*Rapanos*, a water body is considered to have a “significant nexus” with a traditional navigable water if its flow characteristics and functions in combination with the ecological and hydrological functions performed by all wetlands adjacent to such a tributary, affect the chemical, physical, and biological integrity of a downstream traditional navigable water.
Streambed	4	11197	The substrate of the stream channel between the ordinary high water marks. The substrate may be bedrock or inorganic particles that range in size from clay to boulders. Wetlands contiguous to the streambed, but outside of the ordinary high water marks, are not considered part of the streambed.
Stream Channelization	4	11197	The manipulation of a stream’s course, condition, capacity, or location that causes more than minimal interruption of normal stream processes. A channelized stream remains a water of the U.S.
Tidal Drainage	7	N/A	The term “tidal waters” means those waters that rise and fall in a predictable and measurable rhythm or cycle due to the gravitational pulls of the moon and sun. Tidal waters end where the rise and fall of the water surface can no longer be practically measured in a predictable rhythm due to masking by hydrologic, wind, or other effects.

Glossary of Terms

Term	Source	Page	Definition
Traditional Navigable Water (TNW)	6	68	A "traditional navigable water" includes all "navigable Waters of the U.S.," defined in 33 CFR Section 329, and by numerous decisions of the Federal courts, plus all other waters that are navigable-in-fact. Per 33 CFR Section 329: Navigable Waters of the U.S. are 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. A determination of navigability, once made, applies laterally over the entire surface of the water body and is not extinguished by later actions or events that impede or destroy navigable capacity. USACE is currently drafting new regulations defining TNWs.
Tributary	6	69	A "tributary," as defined in the *Rapanos* guidance document, means a natural, man-altered, or man-made water body that carries directly or indirectly into traditional navigable water. For the purposes of determining significant nexus with a traditional navigable water, a "tributary" is the entire reach of the stream that is of the same order (i.e., from the point of confluence, where two lower order streams meet to form the tributary, downstream to the point such tributary enters a higher order stream).
Upland Plants (UPL)	1	14	Plants that occur rarely (estimated probability <1 percent) in wetlands, but occur almost always (estimated probability >99 percent) in non-wetlands under natural conditions.
Water body	4	11197	For purposes of the NWPs, a water body is a jurisdictional water of the U.S. that, during a year with normal patterns of precipitation, has water flowing or standing above ground to the extent that an ordinary high water mark (OHWM) or other indicators of jurisdiction can be determined, as well as any wetland area (see 33 CFR 328.3(b)). If a jurisdictional wetland is adjacent—meaning bordering, contiguous, or neighboring—to a jurisdictional water body displaying an OHWM or other indicators of jurisdiction, that water body and its adjacent wetlands are considered together as a single aquatic unit (see 33 CFR 328.4(c)(2)). Examples of "water bodies" include streams, rivers, lakes, ponds, and wetlands.
Waters of the United States	7	N/A	The term "Waters of the U.S." means: (1) All waters that are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters that are subject to the ebb and flow of the tide; (2) All interstate waters including interstate wetlands; (3) All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use, degradation, or destruction of which could affect interstate or foreign commerce including any such waters: (i) Which are or could be used by interstate or foreign travelers for recreational or other purposes; or (ii) From which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or (iii) Which are used or could be used for industrial purpose by industries in interstate commerce;

Glossary of Terms

Term	Source	Page	Definition
			(4) All impoundments of waters otherwise defined as Waters of the U.S. under the definition; (5) Tributaries of waters identified in paragraphs (a)(1)-(4) of this section; (6) The territorial seas; (7) Wetlands adjacent to waters (other than waters that are themselves wetlands) identified in paragraphs (a)(1)-(6) of this section (waste treatment systems, including treatment ponds or lagoons designed to meet the requirements of CWA [other than cooling ponds as defined in 40 CFR 123.11(m) which also meet the criteria of this definition] are not Waters of the U.S.) and (8) Waters of the U.S. do not include prior converted cropland. Notwithstanding the determination of an area's status as prior converted cropland by any other federal agency, for the purposes of the CWA, the final authority regarding CWA jurisdiction remains with EPA.
Wetlands	1,2,7	N/A	The term "wetlands" means 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 for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas. The criteria for determining wetlands is set forth in the USACE Wetlands Delineation Manual (1987) and relevant Regional Supplements (Arid West, December 2006)

Sources:

1. USACE Wetlands Delineation Manual, January 1987.
2. USACE Guidelines for Jurisdictional Determinations for Waters of the United States in the Arid Southwest, June 2001.
3. USACE Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region, December 2006.
4. FEDERAL REGISTER: Department of Defense; Department of the Army, Corps of Engineers, Re-issuance of Nationwide Permits; Notice, March 12, 2007.
5. EPA/USACE Joint Memorandum: Clean Water Act Jurisdiction Following the US Supreme Court's Decision in *Rapanos v. United States* and *Carabell v. United States,* (June 5, 2007).
6. USACE Jurisdictional Delineation Form Instructional Guidebook; May 30, 2007.
7. Code of Federal Regulations (CFR): 33 CFR 328.3 Definitions of Waters of the United States and/or 33 CPR 329 Definitions of Navigable Waters of the United States.
8. USGS Hydrologic Unit Maps, US Geological Survey Water-Supply Paper 2294 (1994), by Paul R. Seaber, F. Paul Kapinos, and George L Knapp.

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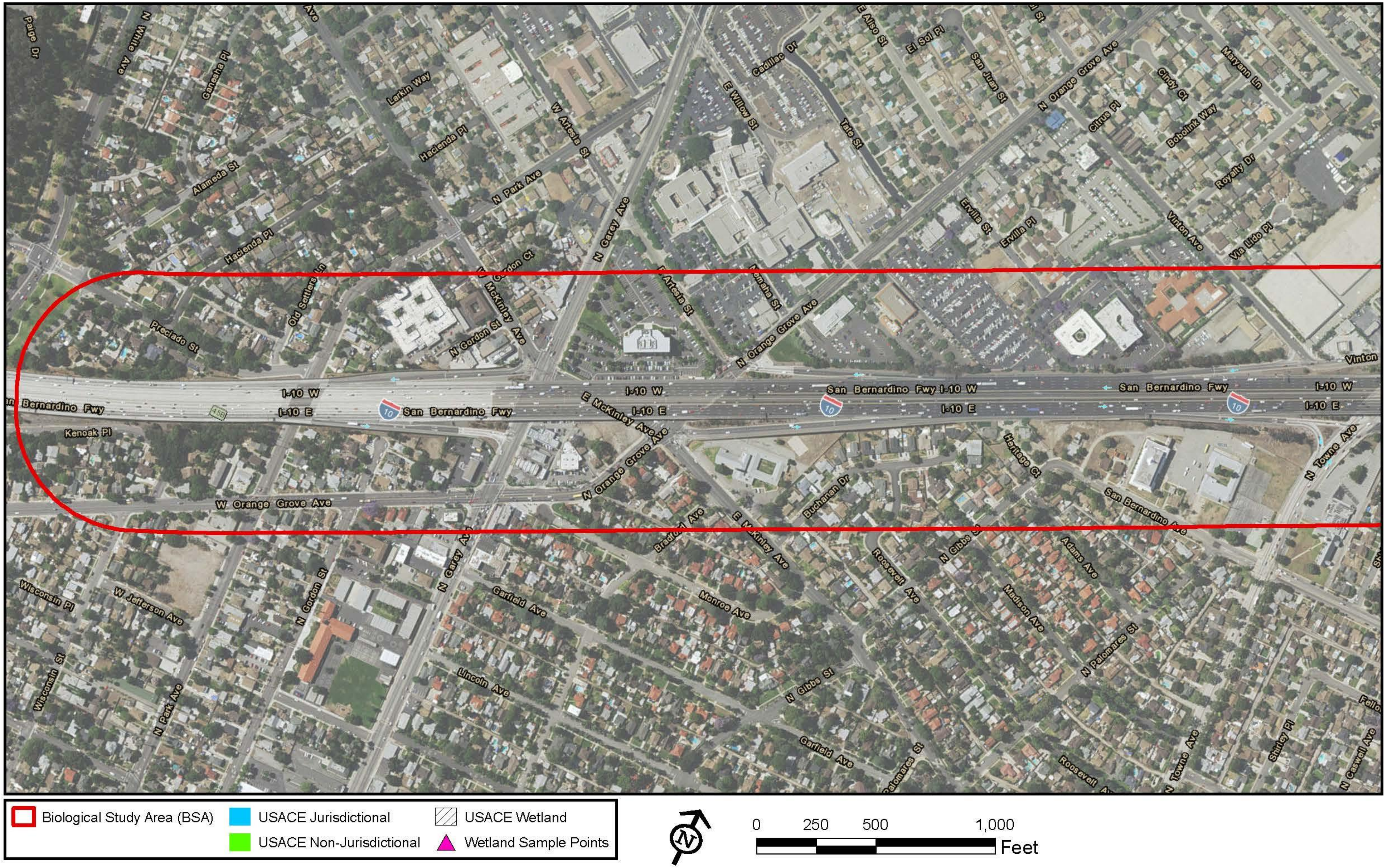
Appendix B: Jurisdictional Waters Mapping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USACE Non-Jurisdictional
USACE Wetland
Wetland Sample Points
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Feet
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I-10 E
W Orange Grove Ave
N Orange Grove Ave
E McKinley Ave
N Garey Ave
Vinton Ave
N Towne Ave

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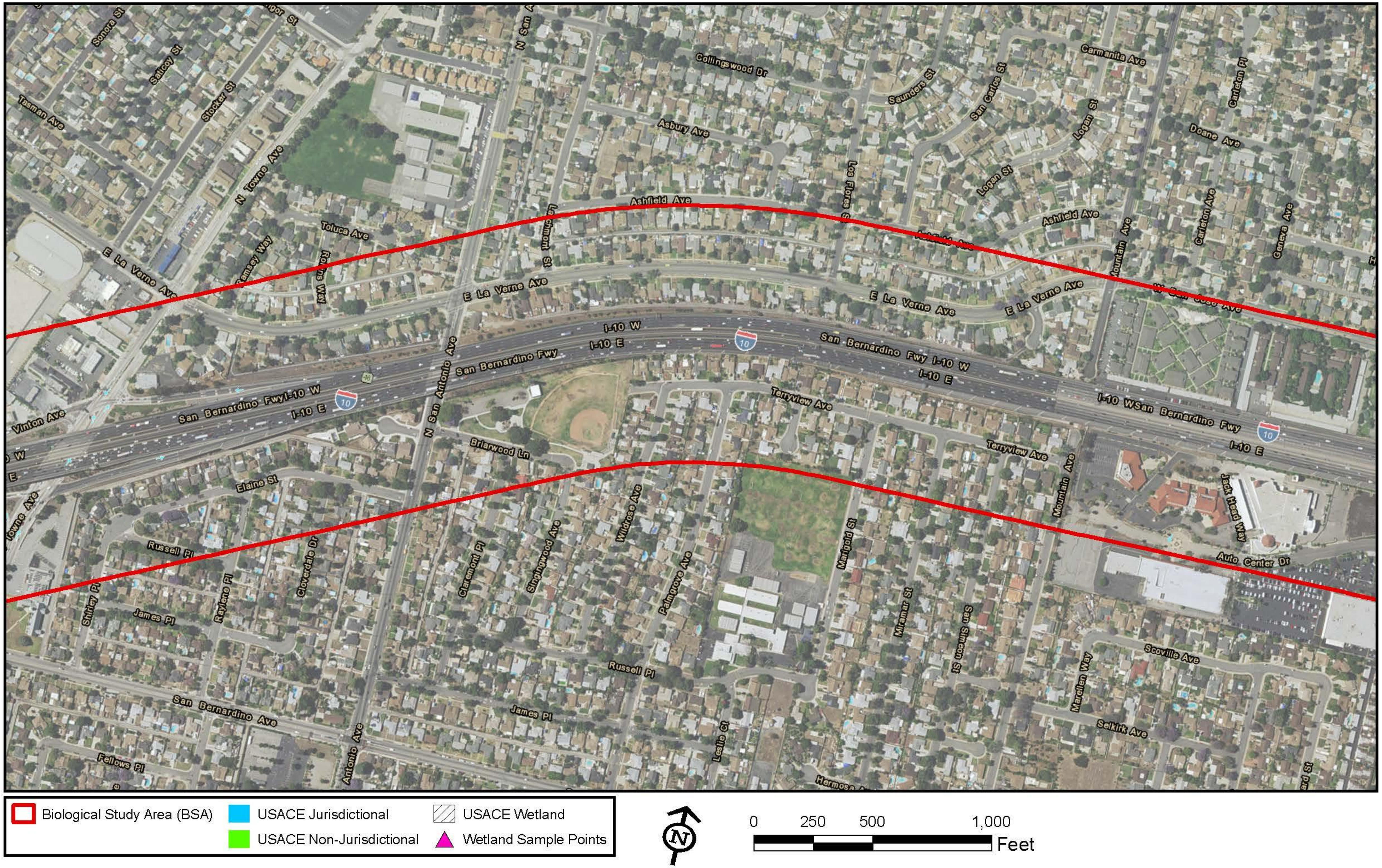
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San Carlos St
Logan St
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Carleton Pl
Sonora St
Saticoy St
Stocker St
Tasman Ave
N Towne Ave
Ashfield Ave
Toluca Ave
Ramsey Way
E La Verne Ave
Lucmont St
Los Flores St
Mountain Ave
Carleton Ave
Geneva Ave
W San Jose Ave
I-10 W
I-10 E
San Bernardino Fwy
N San Antonio Ave
Vinton Ave
Terryview Ave
Briarwood Ln
Elaine St
Russell Pl
Cloverdale Dr
Claremont Pl
Singingwood Ave
Wildrose Ave
Palmgrove Ave
Marigold St
Jack Head Way
Auto Center Dr
Shirley Pl
James Pl
Raylene Pl
Miramar St
San Simeon St
Marellen Way
Scoville Ave
San Bernardino Ave
Fellows Pl
Antonio Ave
Leslie Ct
Selkirk Ave
Hermosa
Biological Study Area (BSA)
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USACE Non-Jurisdictional
USACE Wetland
Wetland Sample Points
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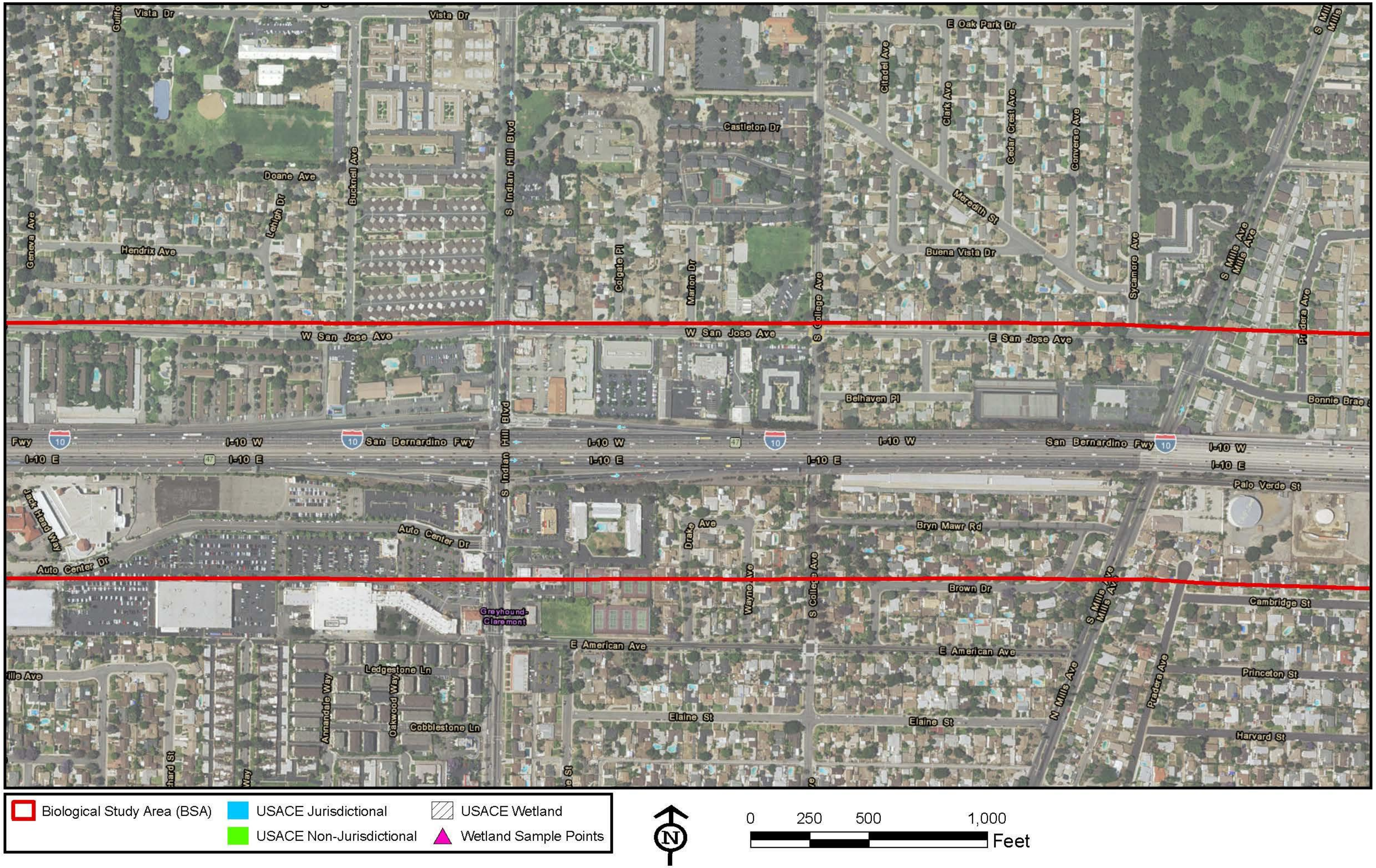
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Meredith St
Buena Vista Dr
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E San Jose Ave
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I-10 E
San Bernardino Fwy
Palo Verde St
Auto Center Dr
Bryn Mawr Rd
Brown Dr
Cambridge St
E American Ave
Ledgestone Ln
Cobblestone Ln
Elaine St
Princeton St
Harvard St
S Indian Hill Blvd
S College Ave
S Mills Ave
N Mills Ave
Greyhound-Claremont
Biological Study Area (BSA)
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USACE Wetland
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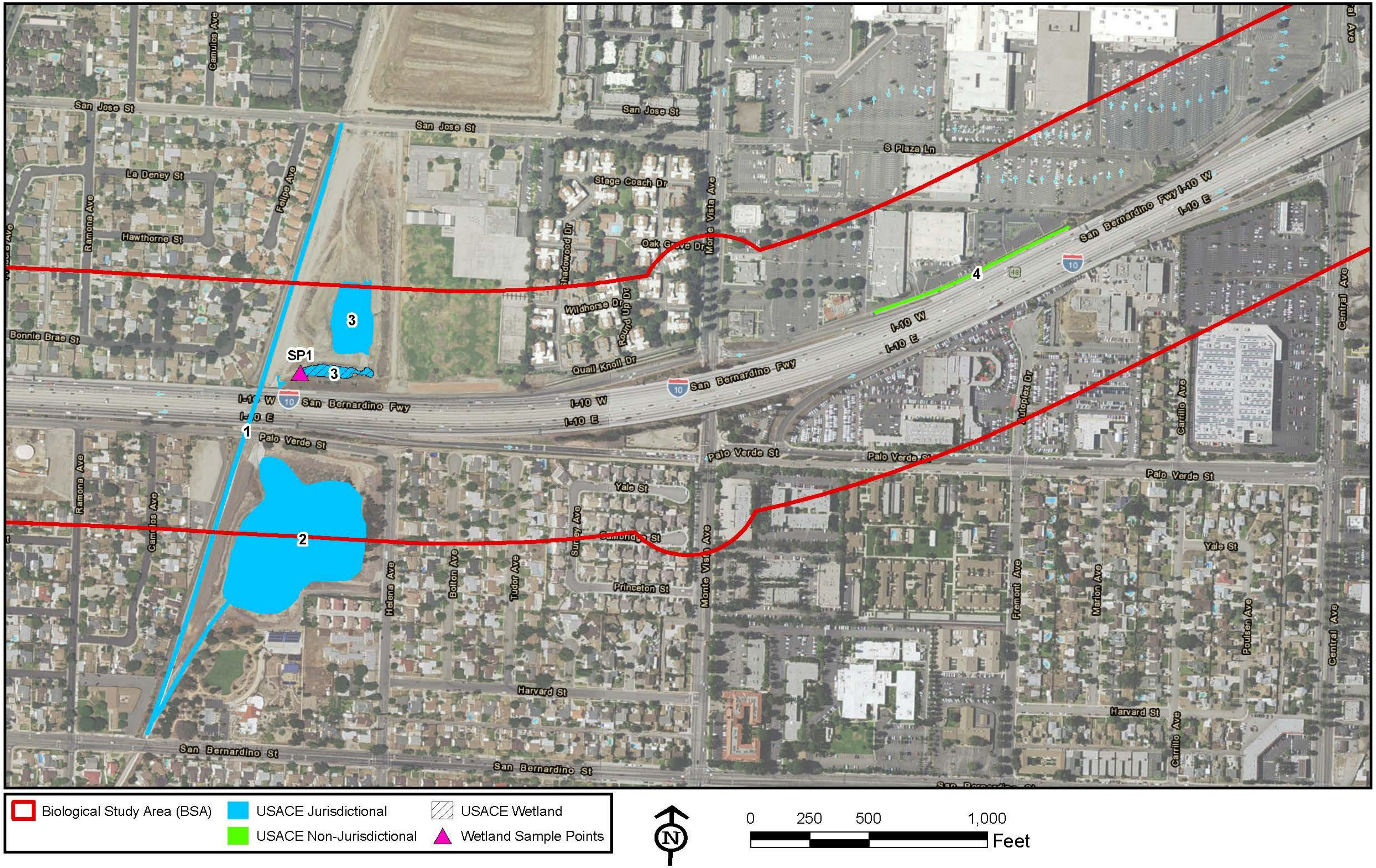
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Felipe Ave
Ramona Ave
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Stage Coach Dr
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Wildhorse Dr
Round Up Dr
Quail Knoll Dr
Monte Vista Ave
San Bernardino Fwy
I-10 W
I-10 E
Palo Verde St
Yale St
Cambridge St
Princeton St
Harvard St
Helena Ave
Bolton Ave
Tudor Ave
Surrey Ave
Fremont Ave
Marion Ave
Carrillo Ave
Poulsen Ave
Central Ave
San Bernardino St
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Biological Study Area (BSA)
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USACE Non-Jurisdictional
USACE Wetland
Wetland Sample Points
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Olive St
Moreno St
W 7th St
I-10 W San Bernardino Fwy
I-10 E
San Bernardino Fwy
San Bernardino Fwy I-10 W
Caroline St
Deodar St
W Deodar St
San Jose St
W 6th St
La Deney St
Armsley St
Armsley Sq
W La Deney Dr
Hawthorne St
W Hawthorne St
Bonnie Brae St
Central Ave
Vernon Ave
Del Mar Ave
Benson Ave
S Benson Ave
Maxwell Ln
Fredericks Ln
Spencer Ave
Stillman Ave
Sinclair Ave
N Jasmine Ct
N Iris Ct
N Helen Ct
N Oaks Ct
N Elderberry Ct
N Elderberry Ave
N Cardenia Ave
Rose Ave
Exeter Ave
Columbine Ave
Biological Study Area (BSA)
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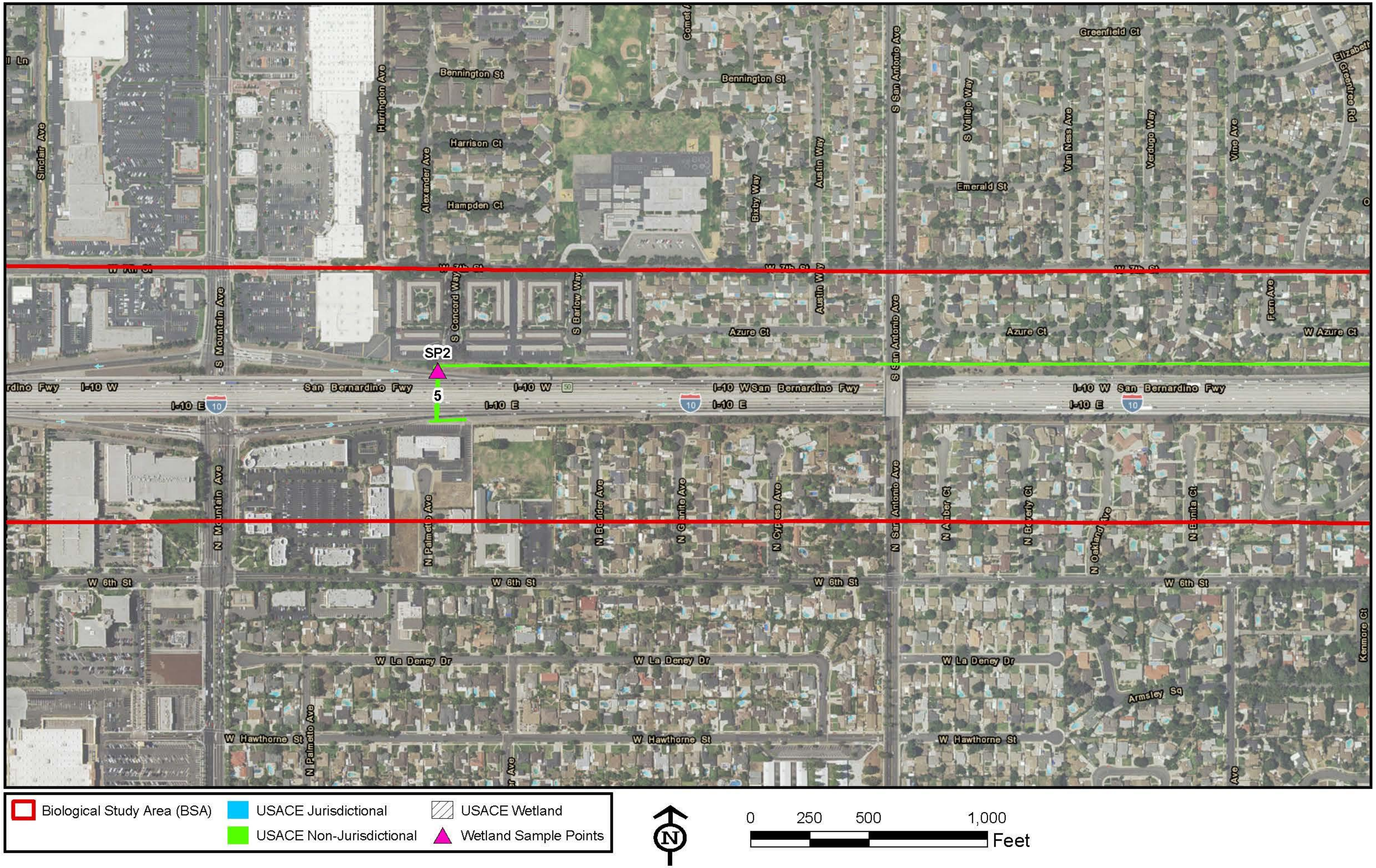
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I-10 E
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W 7th St
W 6th St
W La Deney Dr
W Hawthorne St
Bennington St
Harrison Ct
Hampden Ct
Greenfield Ct
Emerald St
Azure Ct
W Azure Ct
S Mountain Ave
N Mountain Ave
S San Antonio Ave
N San Antonio Ave
Harrington Ave
Alexander Ave
S Concord Way
S Barlow Way
Bixby Way
Austin Way
S Vallejo Way
Van Ness Ave
Verdugo Way
Vine Ave
Fern Ave
Sinclair Ave
N Palmetto Ave
N Cypress Ave
N Amber Ct
N Oakland Ave
Armsley Sq
Kenmore Ct
Biological Study Area (BSA)
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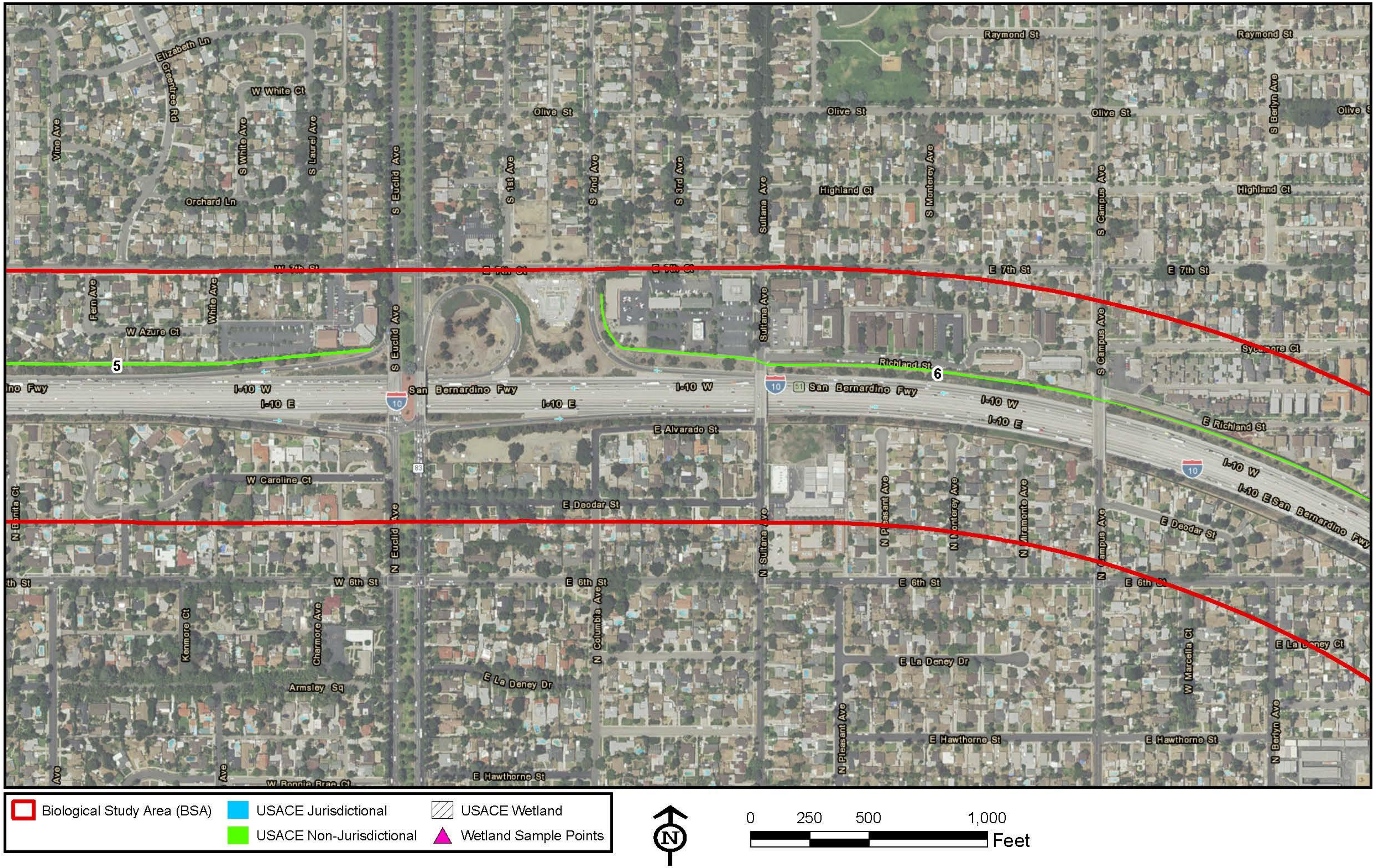
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Sycamore Ct
Richland St
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E Alvarado St
W Caroline Ct
E Deodar St
W 6th St
E 6th St
E La Deney Dr
E La Deney Ct
Armsley Sq
E Hawthorne St
W Bonnie Brae Ct
Elizabeth Ln
Greentree Rd
W White Ct
Orchard Ln
W Azure Ct
Vine Ave
S White Ave
S Laurel Ave
S Euclid Ave
N Euclid Ave
S 1st Ave
S 2nd Ave
S 3rd Ave
Sultana Ave
S Monterey Ave
S Campus Ave
N Campus Ave
S Berlyn Ave
N Berlyn Ave
Fern Ave
White Ave
N Bonita Ct
Kenmore Ct
Charmore Ave
N Columbia Ave
N Pleasant Ave
N Monterey Ave
N Miramonte Ave
W Marcella Ct
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Biological Study Area (BSA)
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USACE Wetland
Wetland Sample Points
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Feet

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I-10 E San Bernardino Fwy
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E 4th St
N Grove Ave
Virginia Ave
Biological Study Area (BSA)
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USACE Non-Jurisdictional
USACE Wetland
Wetland Sample Points
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Biological Study Area (BSA)
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USACE Non-Jurisdictional
USACE Wetland
Wetland Sample Points
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Feet
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I-10 E
San Bernardino Fwy
E 4th St
E 5th St
E 6th St
Plaza Serena
E Granada Ct
E Fresno St
E I St
E H St
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N Orange Privado

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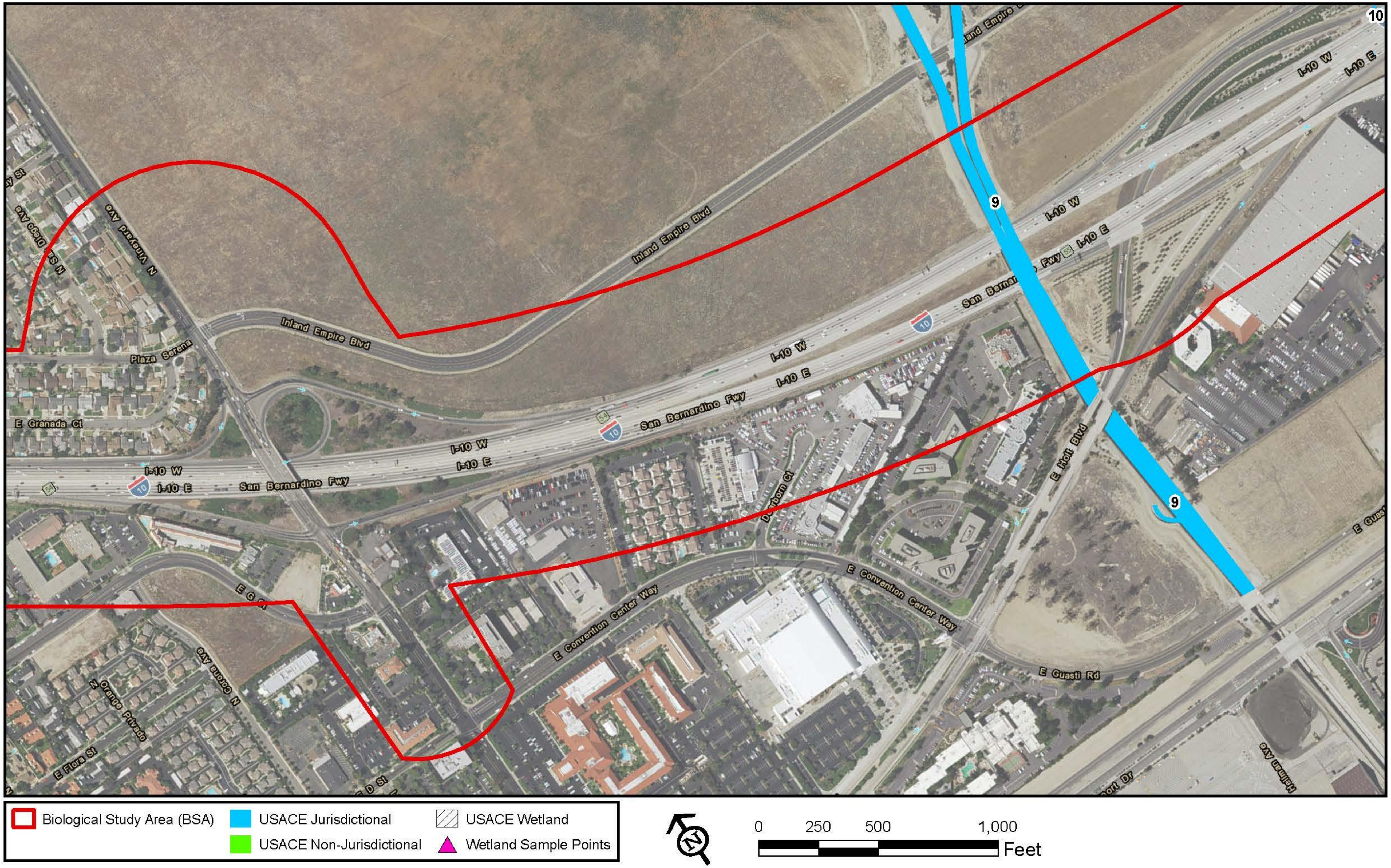
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E Holt Blvd
E Guasti Rd
Dearborn Ct
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N Orange Privado
E Flora St
Haven Ave
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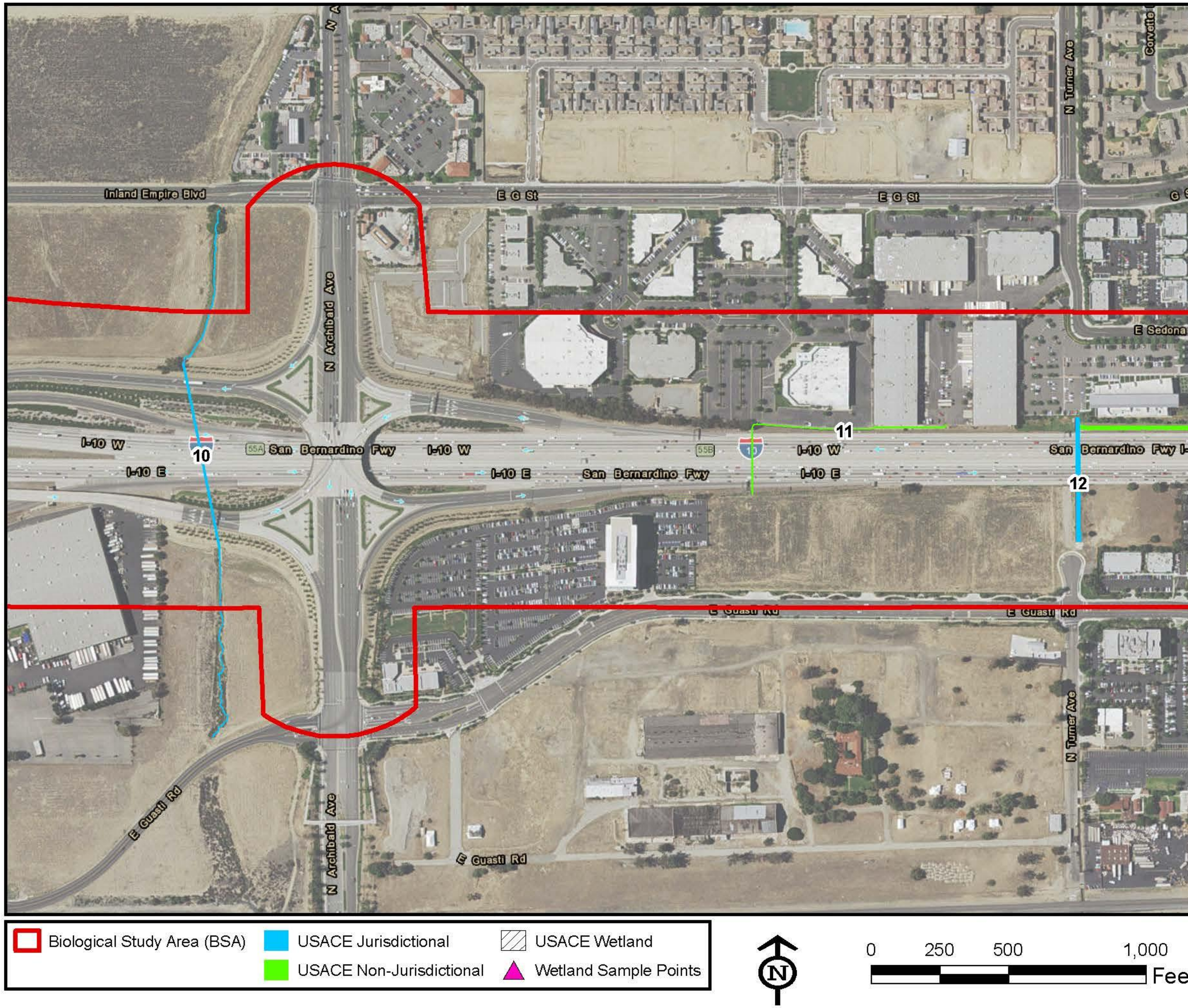
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I-10 E
E Guasti Rd
Centrelake Dr
10
11
12
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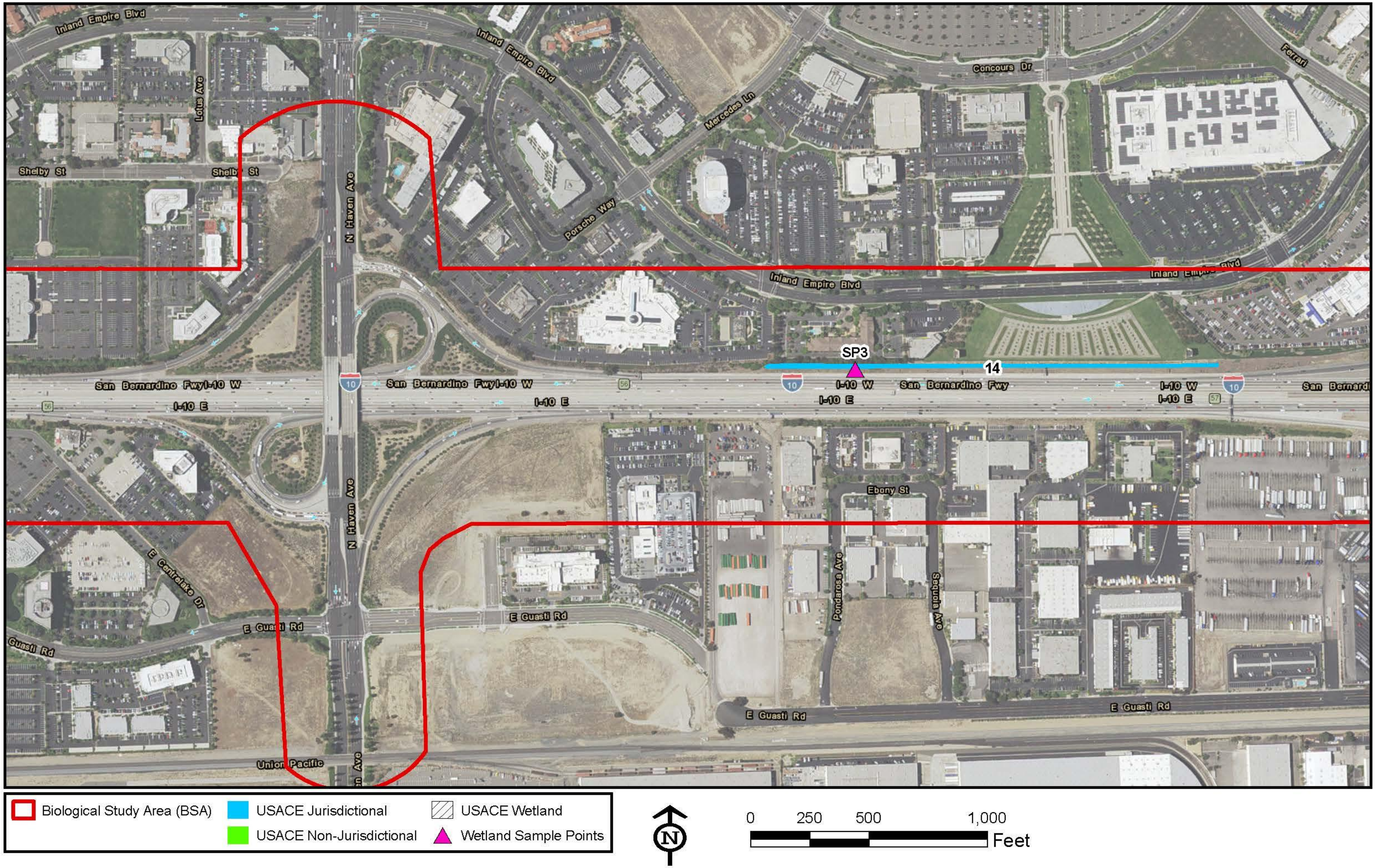
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I-10 E
Ebony St
Pondarosa Ave
Sequoia Ave
E Centrelake Dr
E Guasti Rd
Guasti Rd
Union Pacific
Biological Study Area (BSA)
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USACE Wetland
Wetland Sample Points
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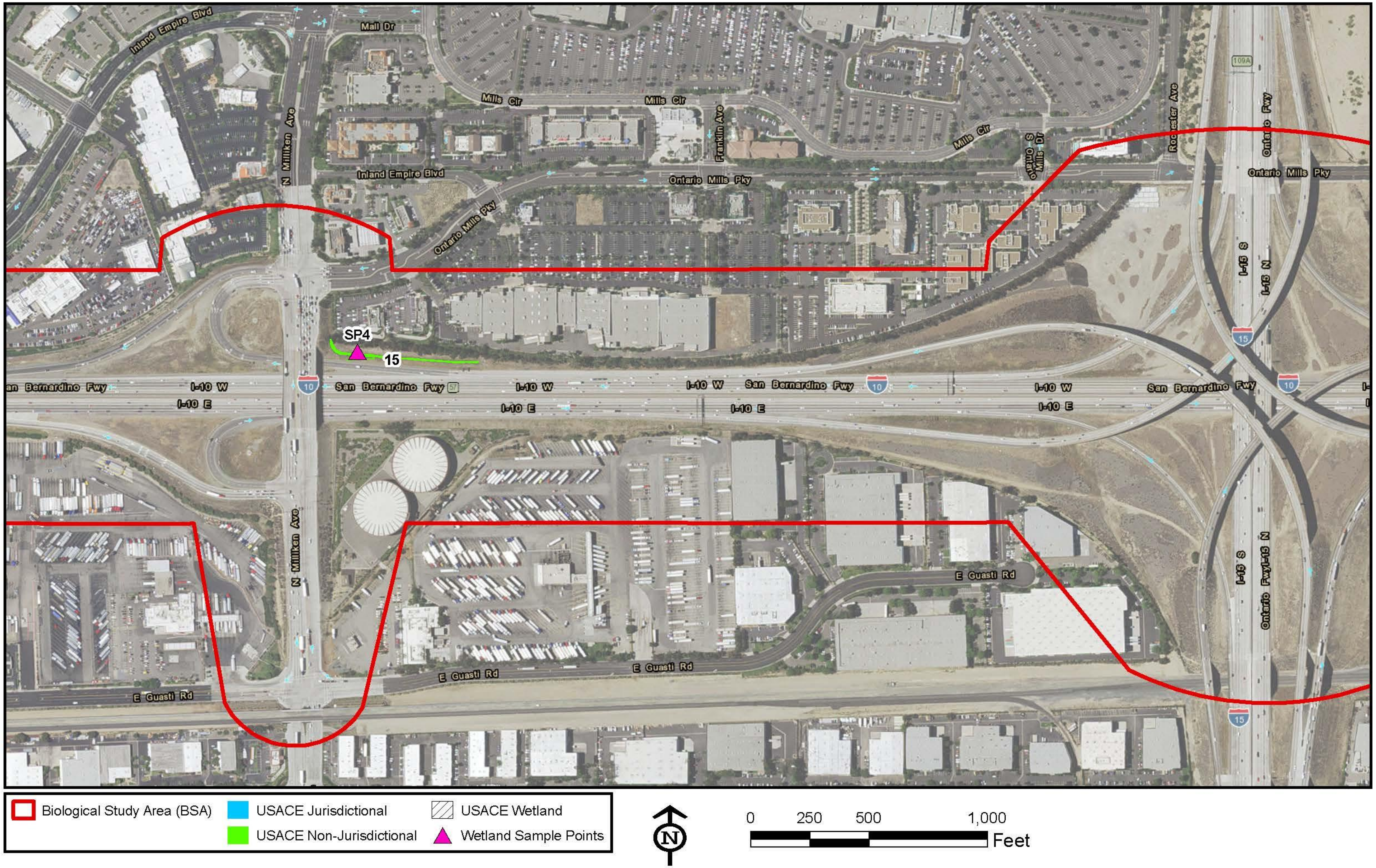
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Rochester Ave
S Ontario Mills Dr
Ontario Mills Pky
Ontario Fwy
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I-15 N
SP4
15
San Bernardino Fwy
I-10 W
I-10 E
E Guasti Rd
Ontario Fwy/I-15 N
Biological Study Area (BSA)
USACE Jurisdictional
USACE Non-Jurisdictional
USACE Wetland
Wetland Sample Points
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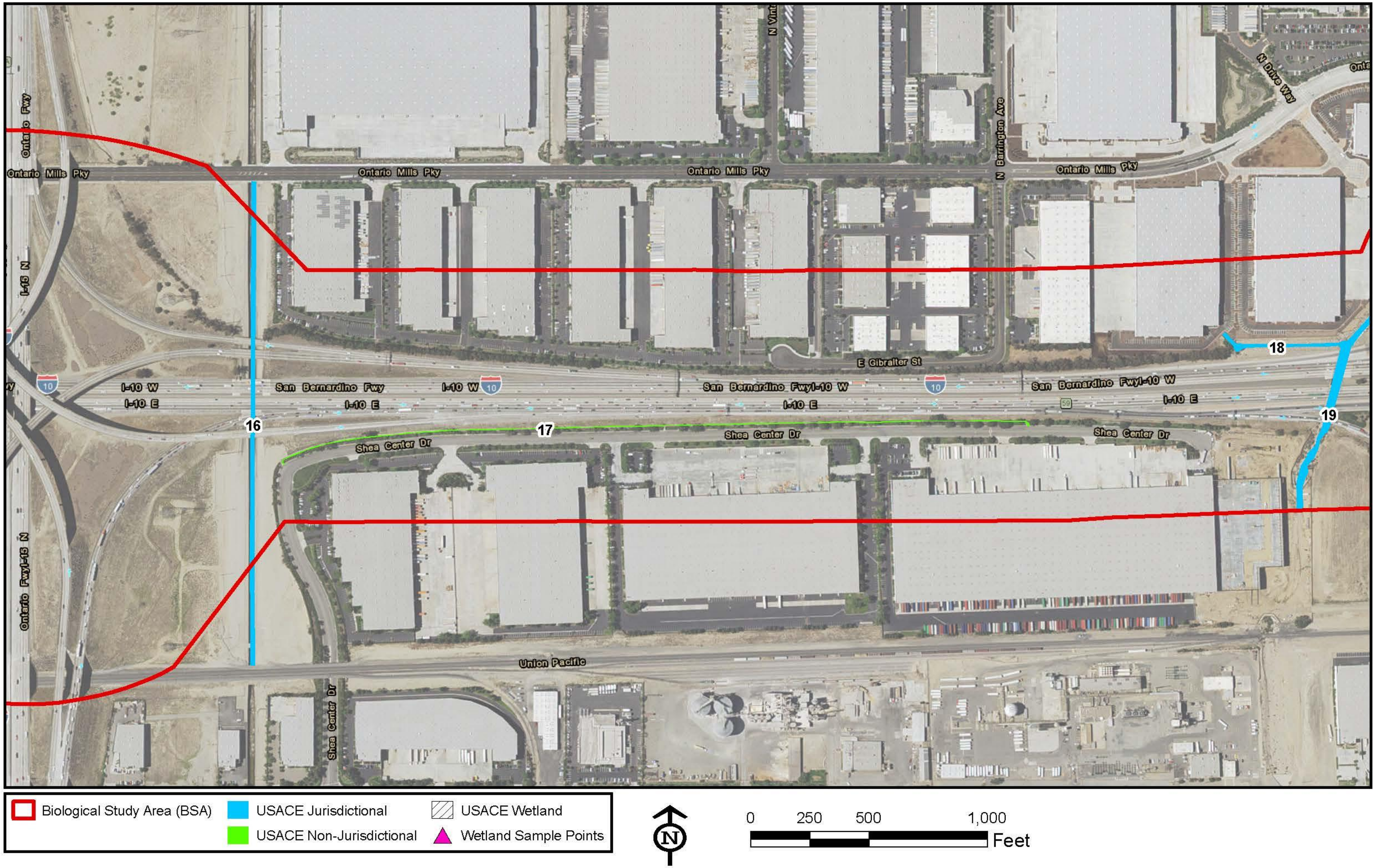
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Ontario Fwy/I-15 N
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N Drive Way
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San Bernardino Fwy/I-10 W
I-10 W
I-10 E
Shea Center Dr
Union Pacific
16
17
18
19
Biological Study Area (BSA)
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USACE Non-Jurisdictional
USACE Wetland
Wetland Sample Points
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Feet
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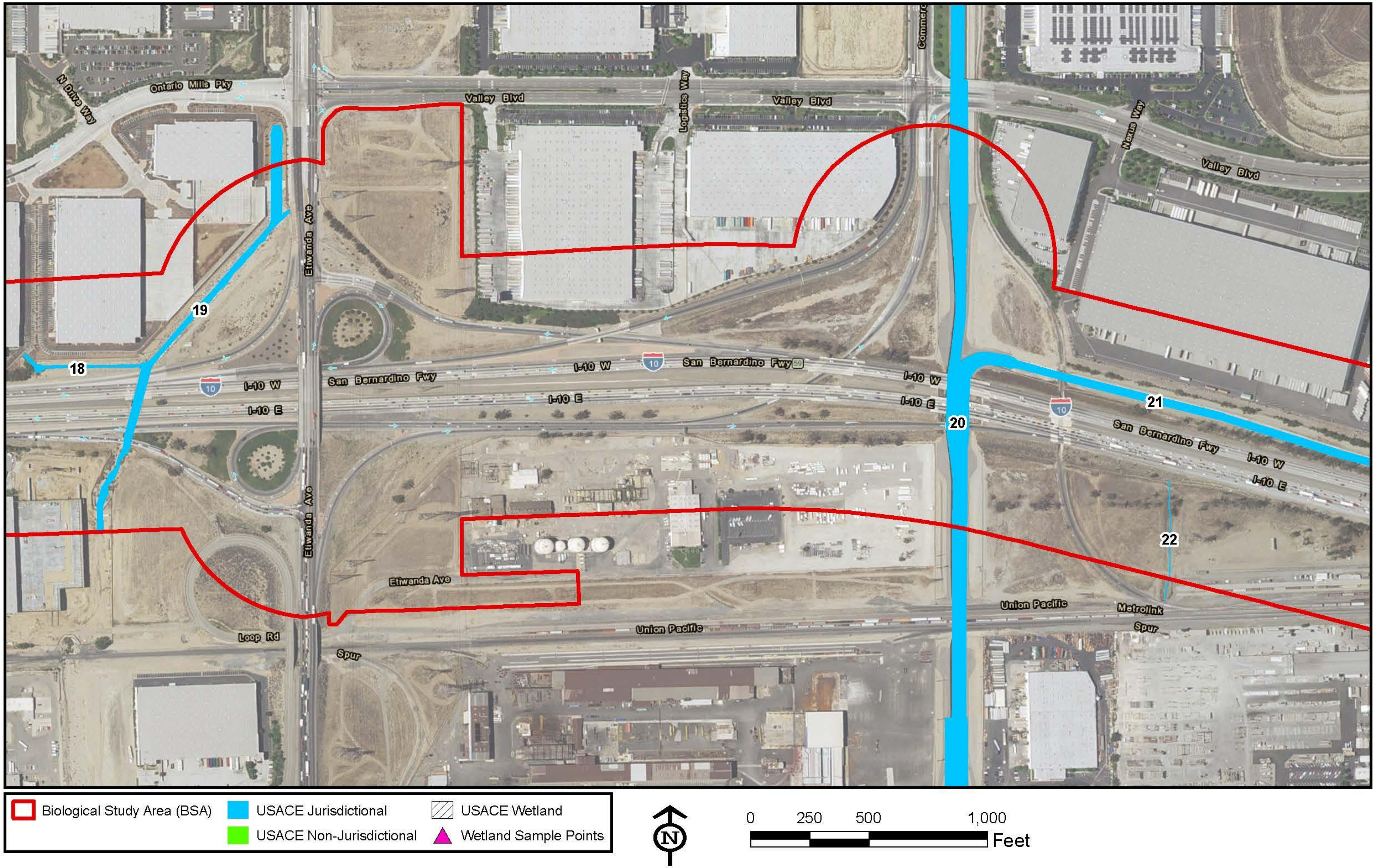
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I-10 E
San Bernardino Fwy
San Bernardino Fwy
I-10 W
I-10 E
20
21
San Bernardino Fwy
I-10 W
I-10 E
22
Etiwanda Ave
Etiwanda Ave
Loop Rd
Spur
Union Pacific
Union Pacific
Metrolink
Spur
Biological Study Area (BSA)
USACE Jurisdictional
USACE Non-Jurisdictional
USACE Wetland
Wetland Sample Points
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Feet

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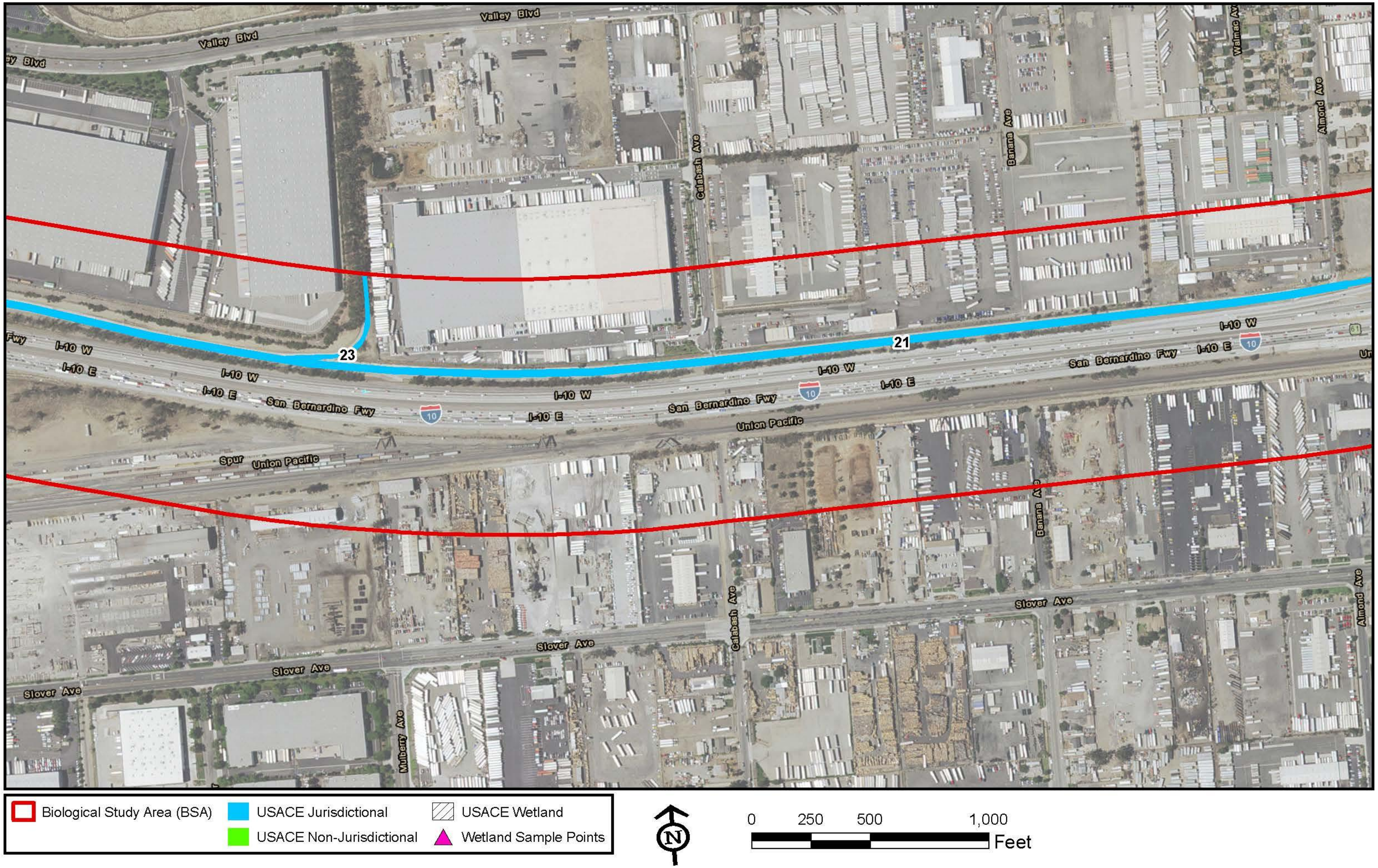
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Banana Ave
Almond Ave
I-10 W
I-10 E
San Bernardino Fwy
Union Pacific
Spur
Slover Ave
Mulberry Ave
23
21
Biological Study Area (BSA)
USACE Jurisdictional
USACE Non-Jurisdictional
USACE Wetland
Wetland Sample Points
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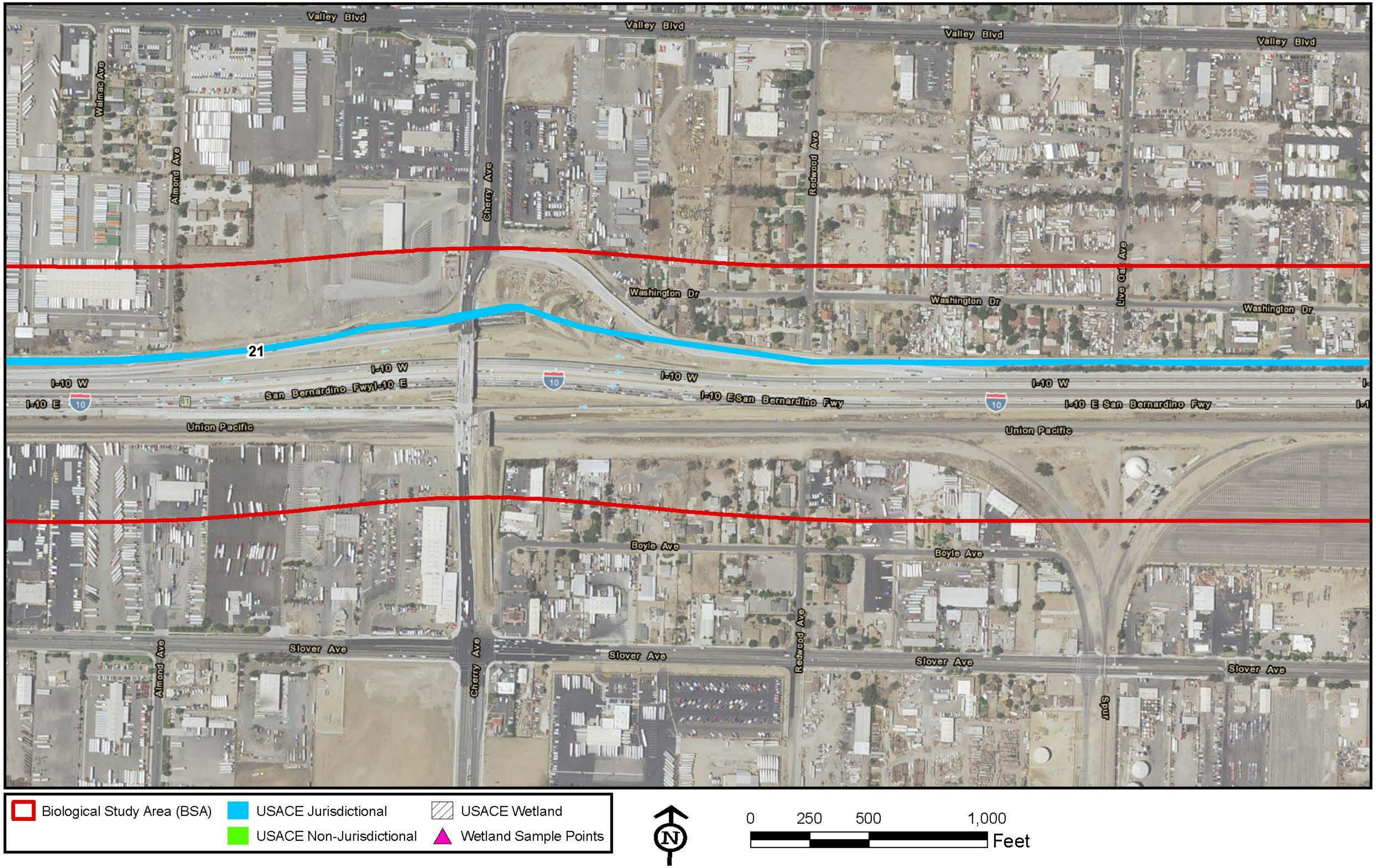
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Cherry Ave
Redwood Ave
Live Oak Ave
Washington Dr
21
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I-10 E
San Bernardino Fwy
I-10 E San Bernardino Fwy
Union Pacific
Boyle Ave
Slover Ave
Spur
Biological Study Area (BSA)
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USACE Non-Jurisdictional
USACE Wetland
Wetland Sample Points
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Feet

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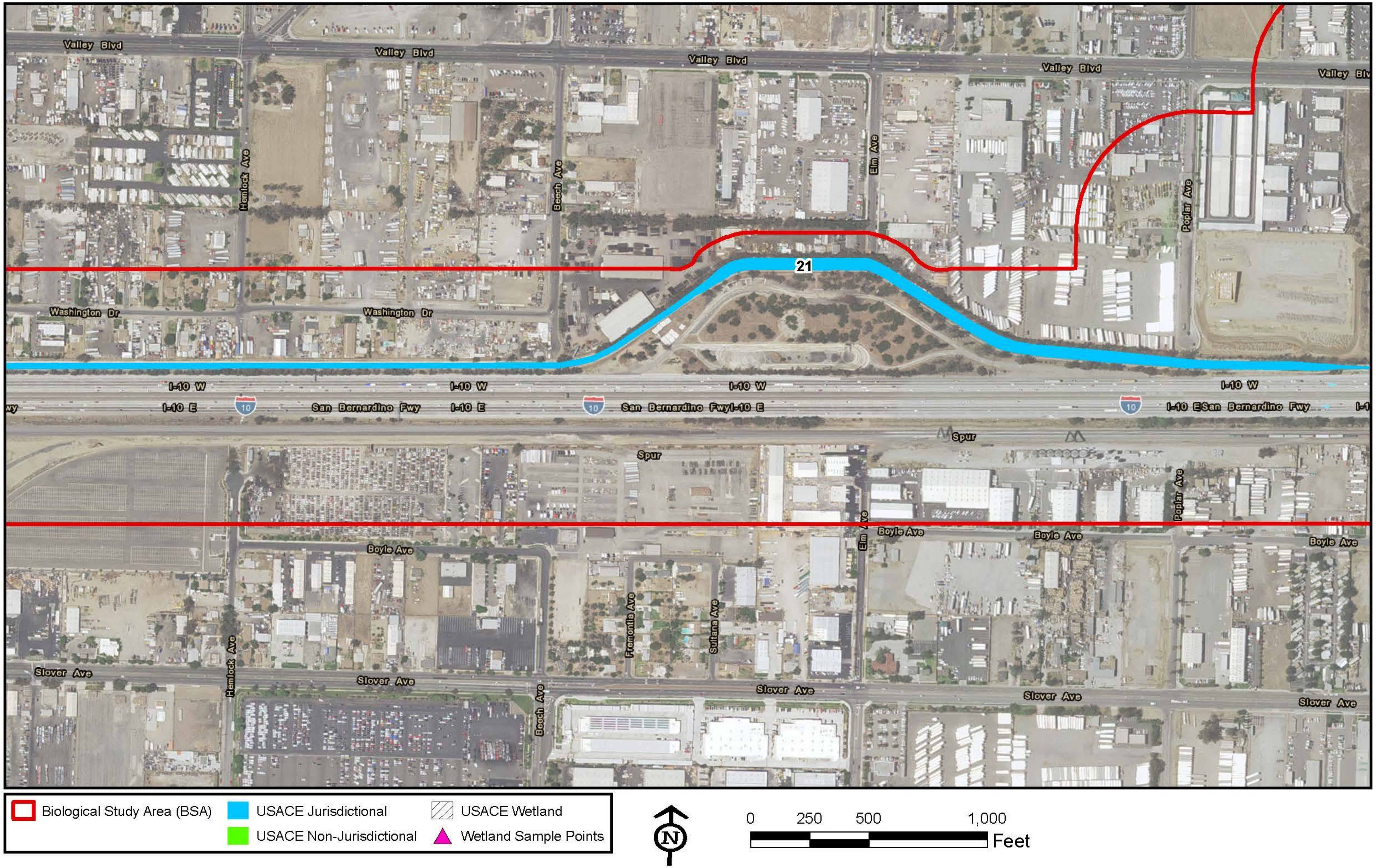
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Boyle Ave
Fremontia Ave
Sultana Ave
Slover Ave
Biological Study Area (BSA)
USACE Jurisdictional
USACE Non-Jurisdictional
USACE Wetland
Wetland Sample Points
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Feet

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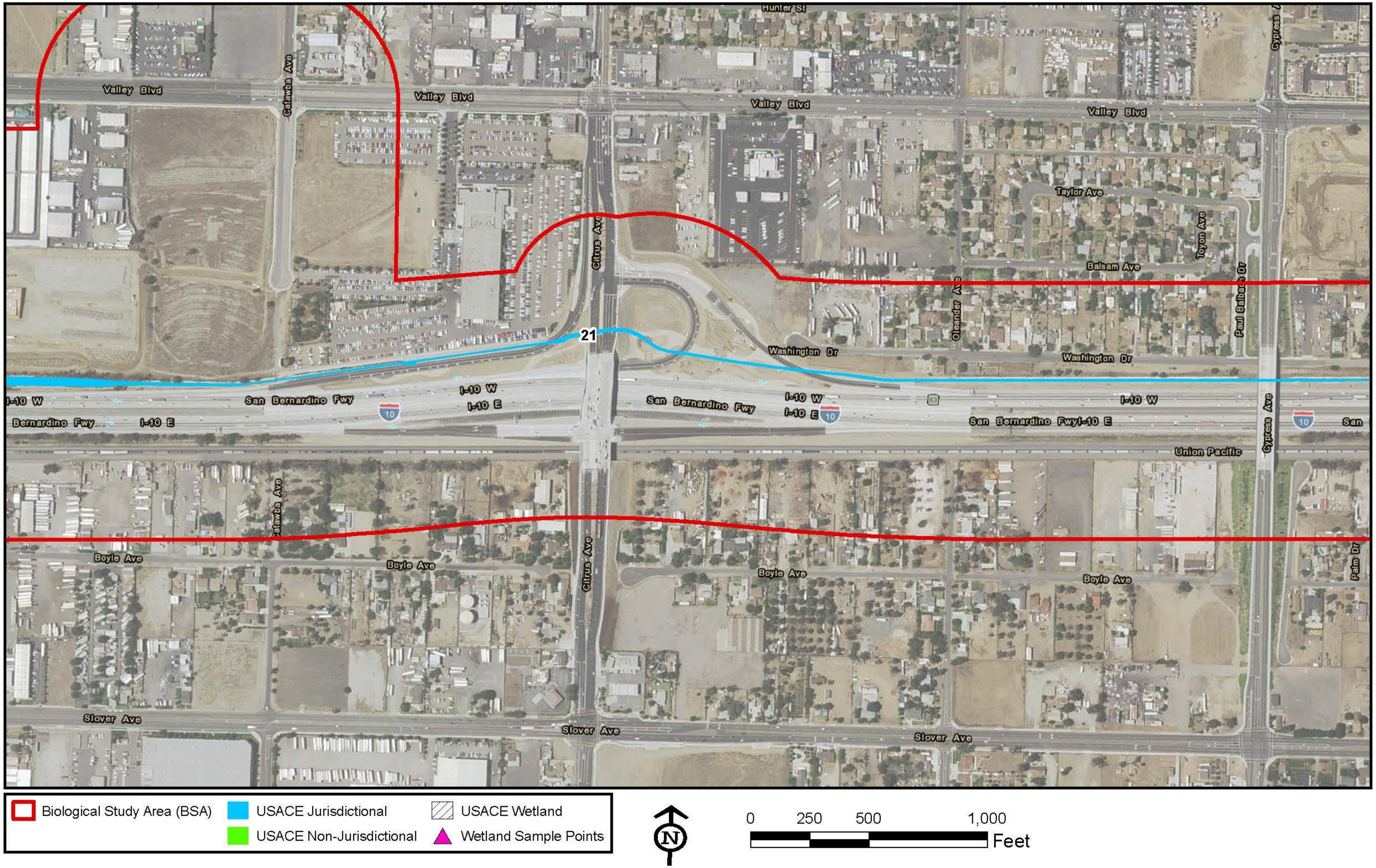
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Valley Blvd
Catawba Ave
Taylor Ave
Citrus Ave
Toyon Ave
Balsam Ave
Paul Balboa Dr
Oleander Ave
Cypress Ave
21
Washington Dr
I-10 W
I-10 E
San Bernardino Fwy
Bernardino Fwy
10
Union Pacific
Boyle Ave
Palm Dr
Slover Ave
Biological Study Area (BSA)
USACE Jurisdictional
USACE Non-Jurisdictional
USACE Wetland
Wetland Sample Points
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Feet

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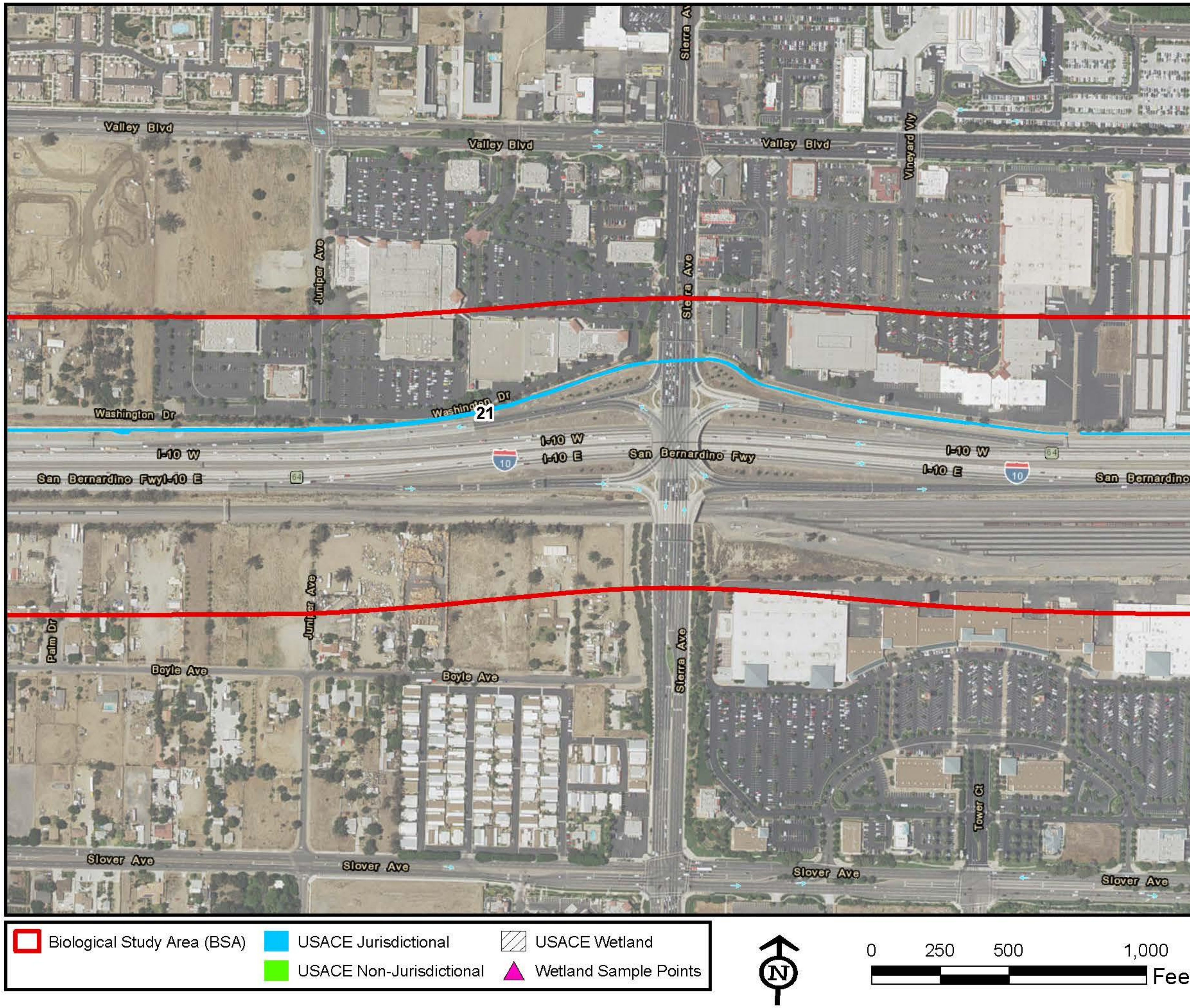
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Sierra Ave
Juniper Ave
Washington Dr
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I-10 E
San Bernardino Fwy
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24
Union Pacific
Boyle Ave
Slover Ave
Tower Ct
Empire Center Blvd
Palm Dr
Healthcare Pky
Vineyard Vly
Spur
Biological Study Area (BSA)
USACE Jurisdictional
USACE Non-Jurisdictional
USACE Wetland
Wetland Sample Points
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Feet

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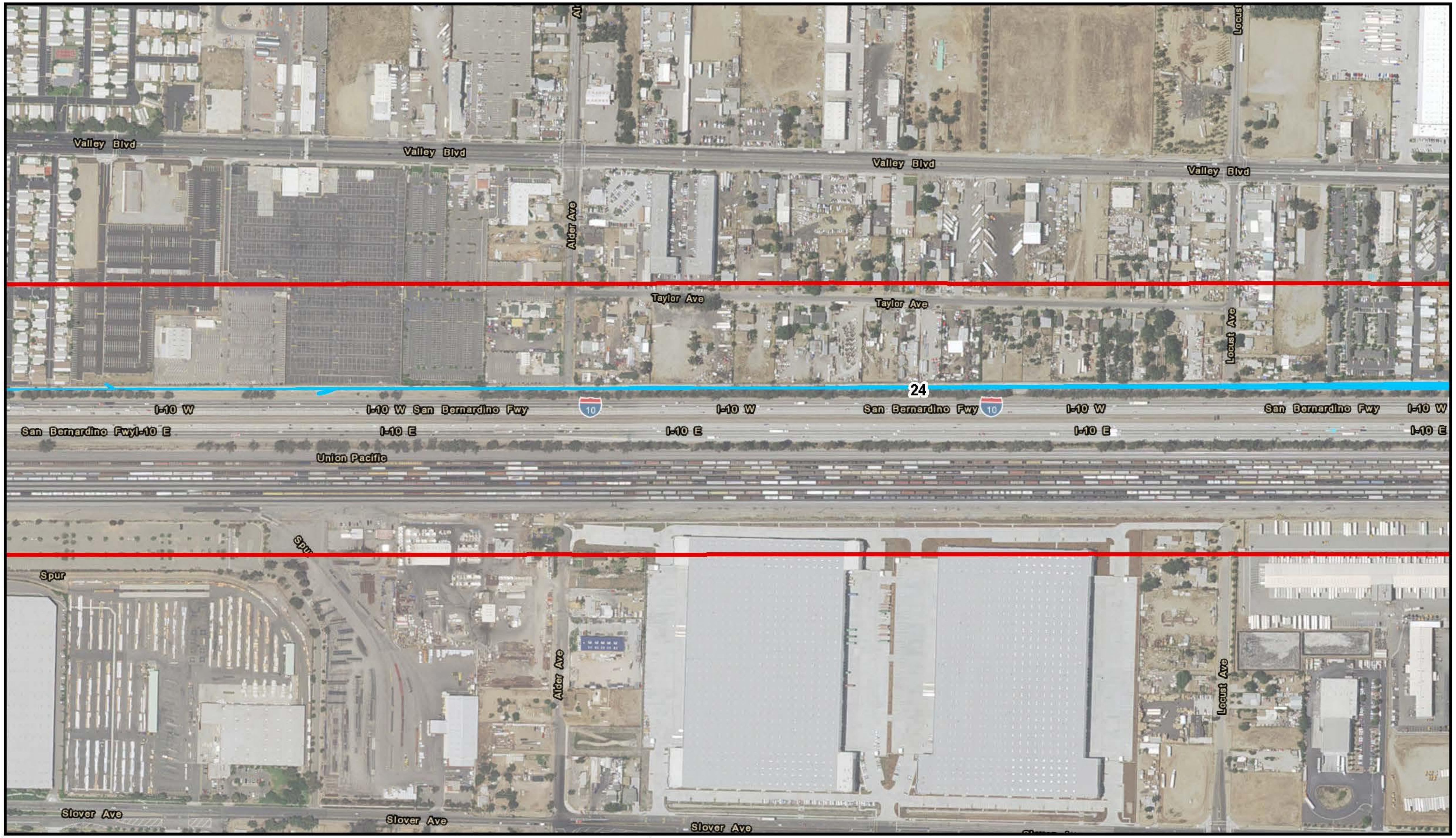
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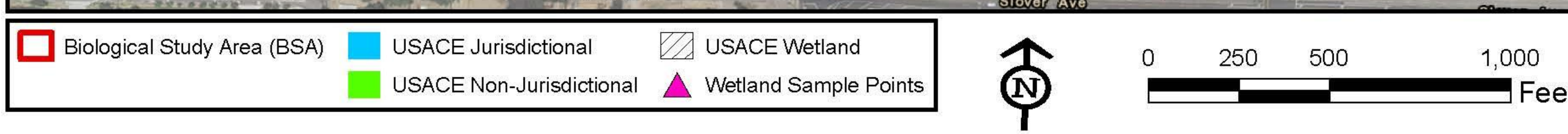
Alder Ave
Taylor Ave
Locust Ave
24
I-10 W
San Bernardino Fwy
I-10 E
10
Union Pacific
Spur
Slover Ave


Biological Study Area (BSA)
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USACE Wetland
USACE Non-Jurisdictional
Wetland Sample Points
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Feet

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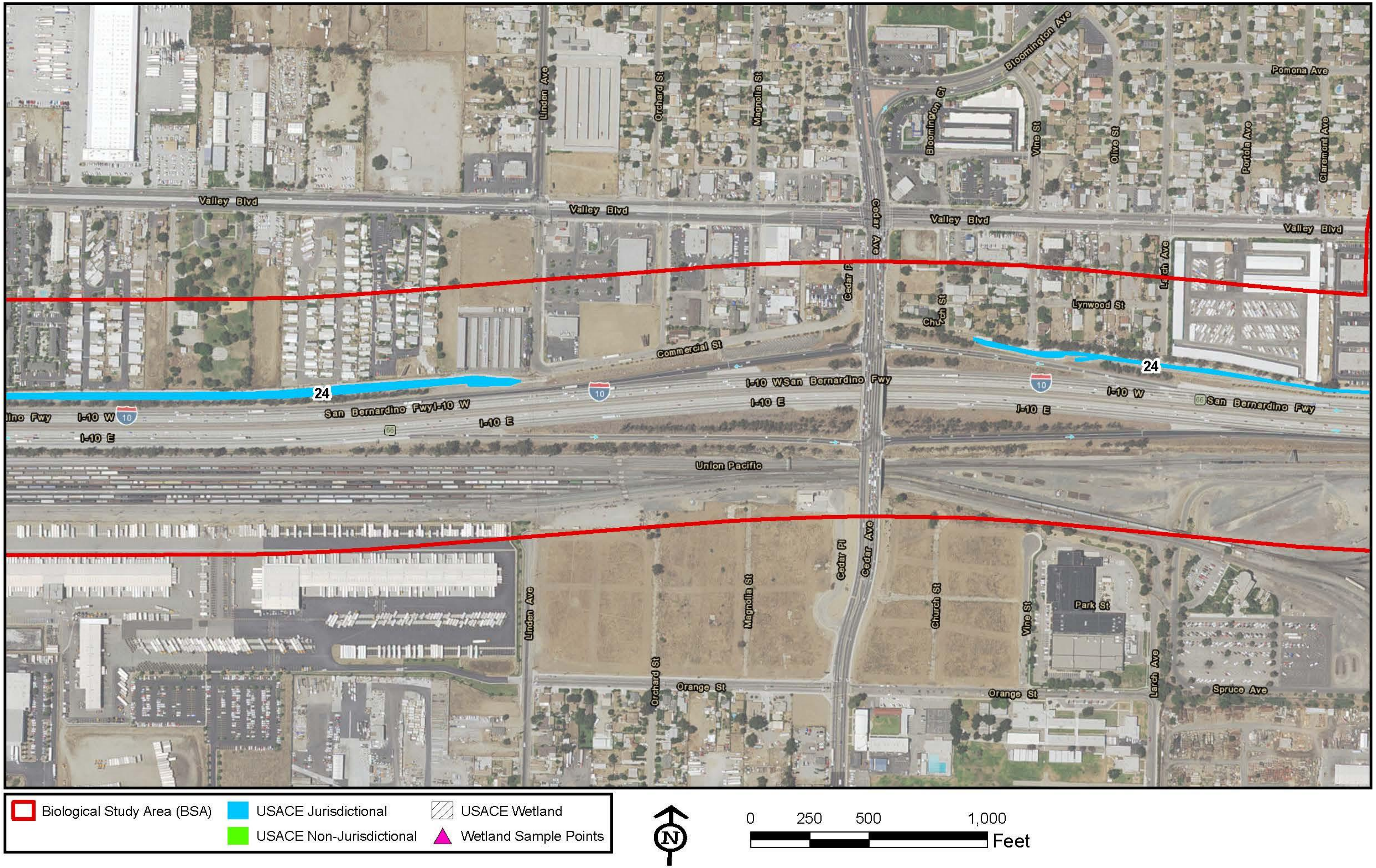
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Linden Ave
Orchard St
Magnolia St
Cedar Ave
Bloomington Ave
Bloomington Ct
Vine St
Olive St
Portola Ave
Claremont Ave
Pomona Ave
Larch Ave
Lynwood St
Commercial St
I-10 W San Bernardino Fwy
I-10 E
I-10 W
San Bernardino Fwy
Union Pacific
Cedar Pl
Church St
Park St
Orange St
Spruce Ave
24
10
Biological Study Area (BSA)
USACE Jurisdictional
USACE Non-Jurisdictional
USACE Wetland
Wetland Sample Points
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Feet

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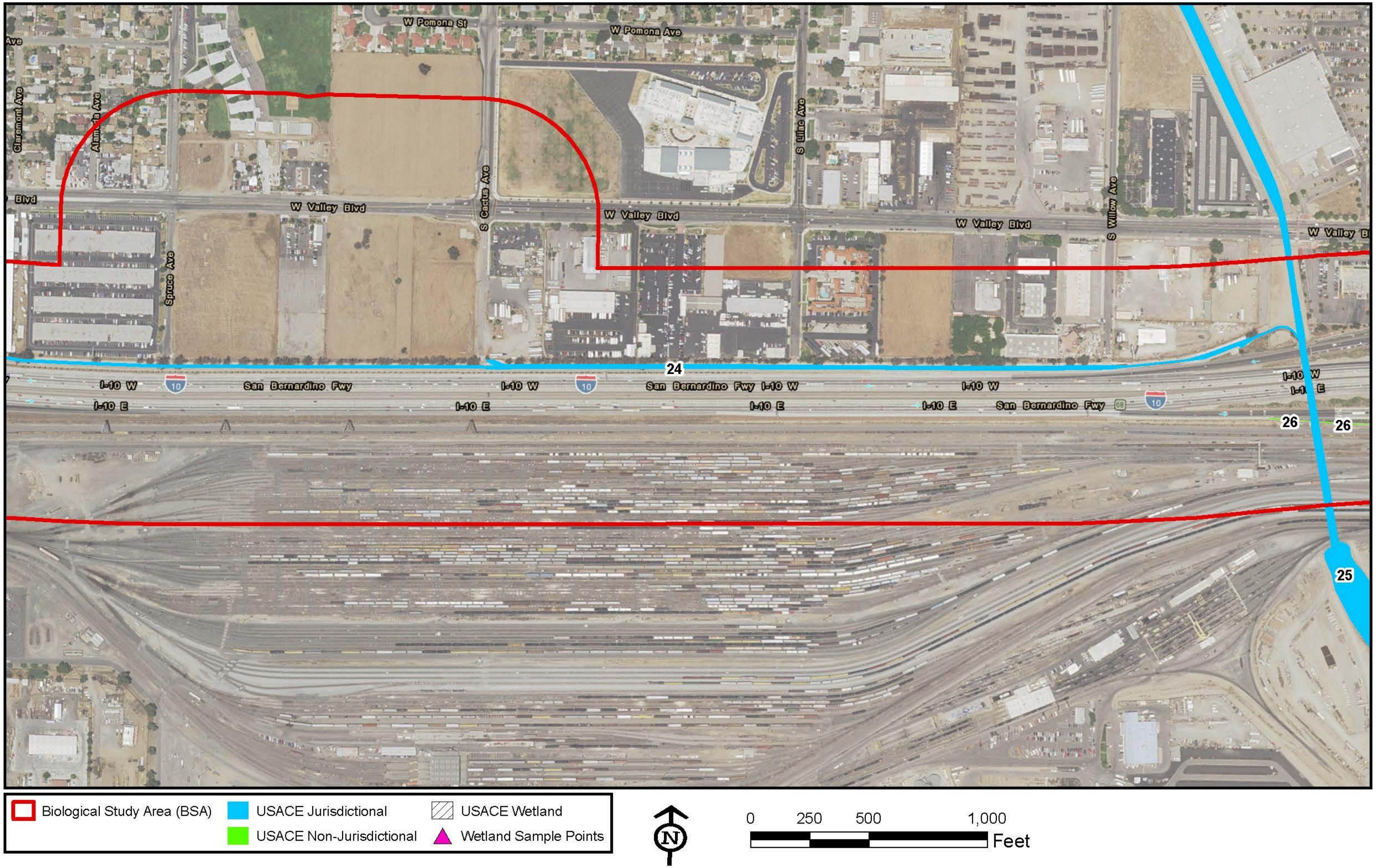
W Pomona St
W Pomona Ave
Claremont Ave
Alameda Ave
S Lilac Ave
S Cactus Ave
S Willow Ave
W Valley Blvd
Spruce Ave
24
I-10 W
San Bernardino Fwy
I-10 E
26
25
Biological Study Area (BSA)
USACE Jurisdictional
USACE Non-Jurisdictional
USACE Wetland
Wetland Sample Points
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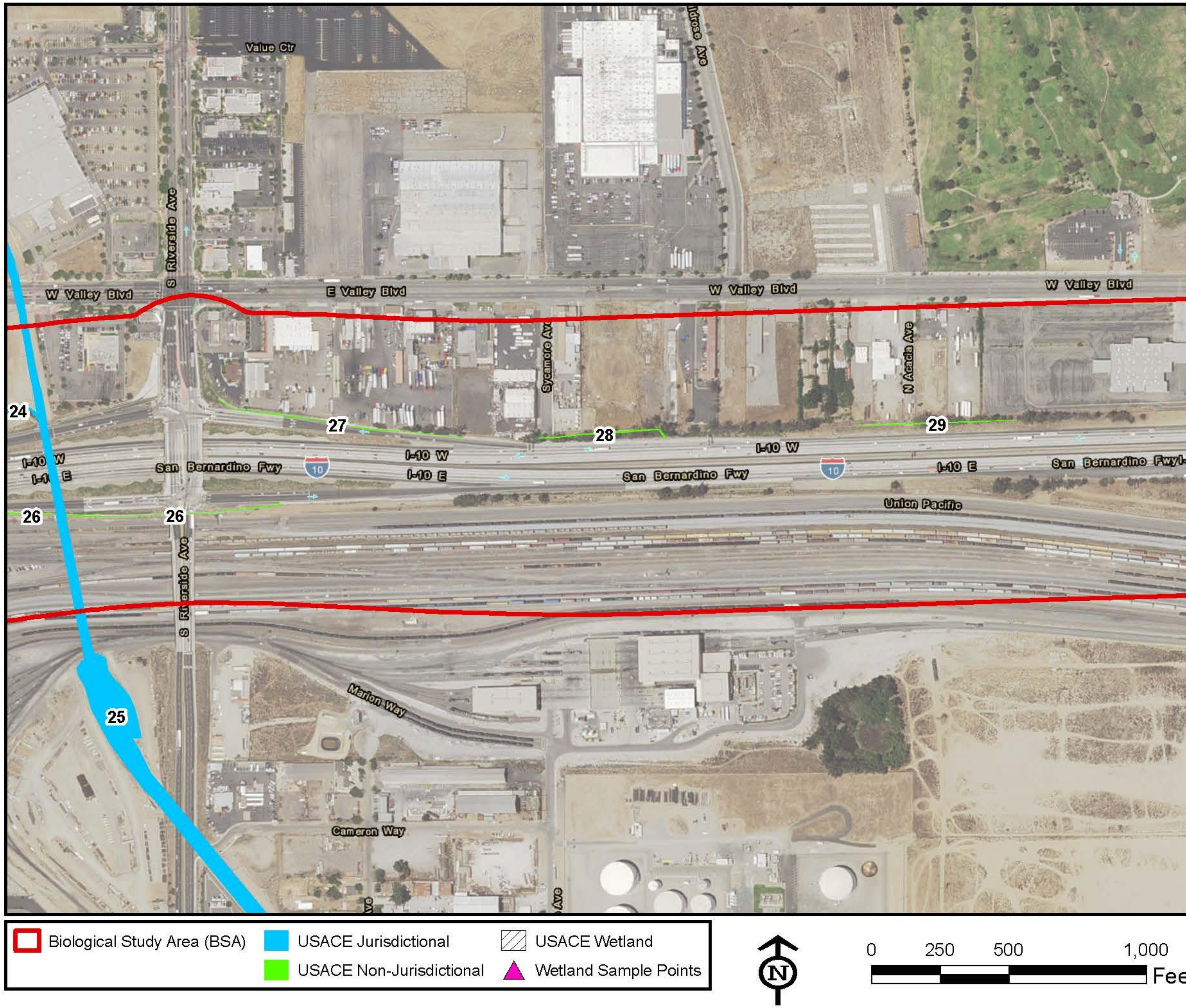
Value Ctr
S Riverside Ave
N Eucalyptus Ave
Rexford St
W Valley Blvd
E Valley Blvd
Sycamore Ave
N Acacia Ave
24
25
26
27
28
29
30
I-10 W
I-10 E
San Bernardino Fwy
10
Union Pacific
Marlon Way
Cameron Way
Biological Study Area (BSA)
USACE Jurisdictional
USACE Non-Jurisdictional
USACE Wetland
Wetland Sample Points
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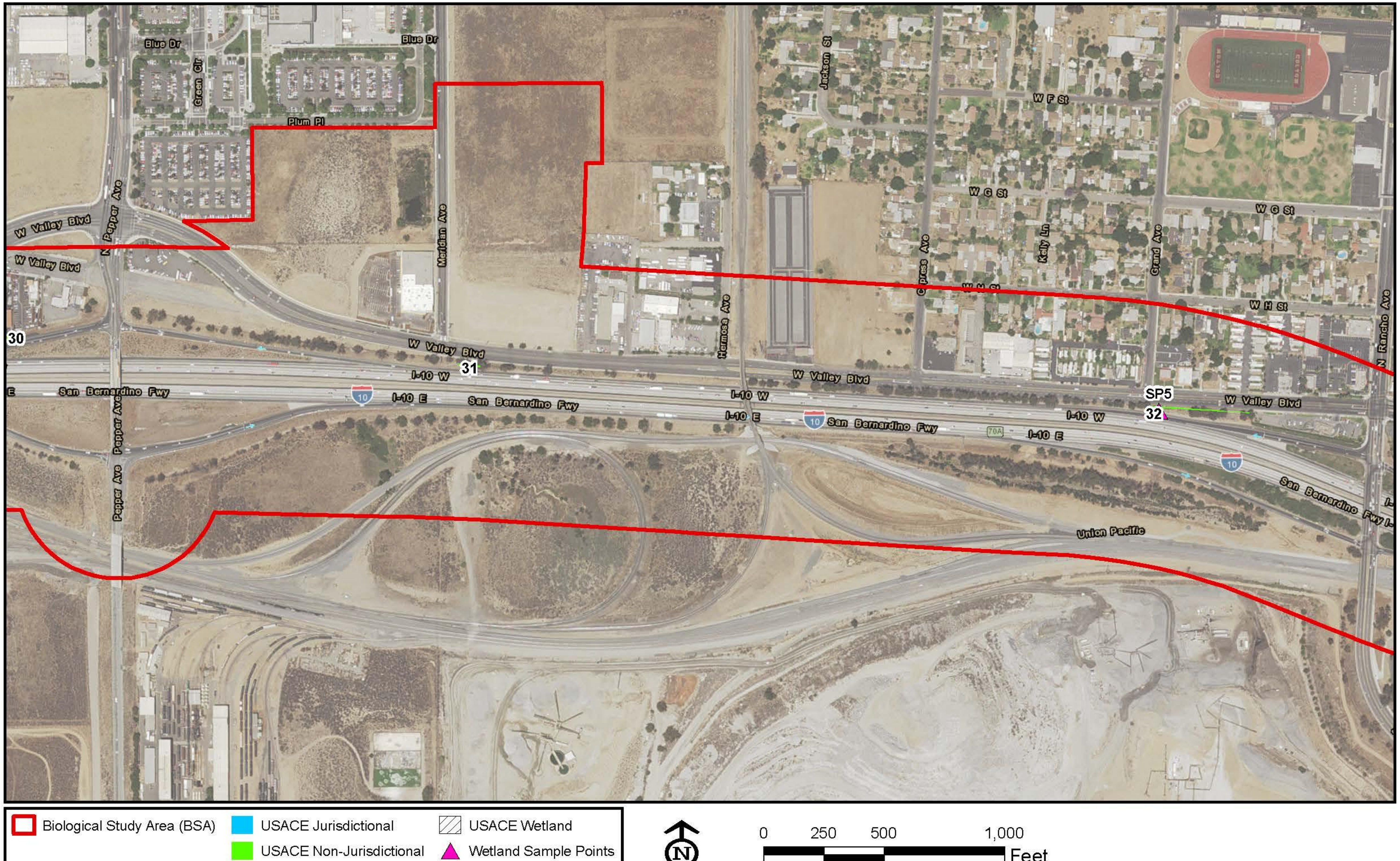
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Green Cir
Plum Pl
W Valley Blvd
N Pepper Ave
Meridian Ave
Jackson St
W F St
W G St
W H St
Cypress Ave
Kelly Ln
Grand Ave
N Rancho Ave
Hermosa Ave
30
31
32
SP5
I-10 W
I-10 E
San Bernardino Fwy
Pepper Ave
Union Pacific
70A
10

Biological Study Area (BSA)
USACE Jurisdictional
USACE Non-Jurisdictional
USACE Wetland
Wetland Sample Points
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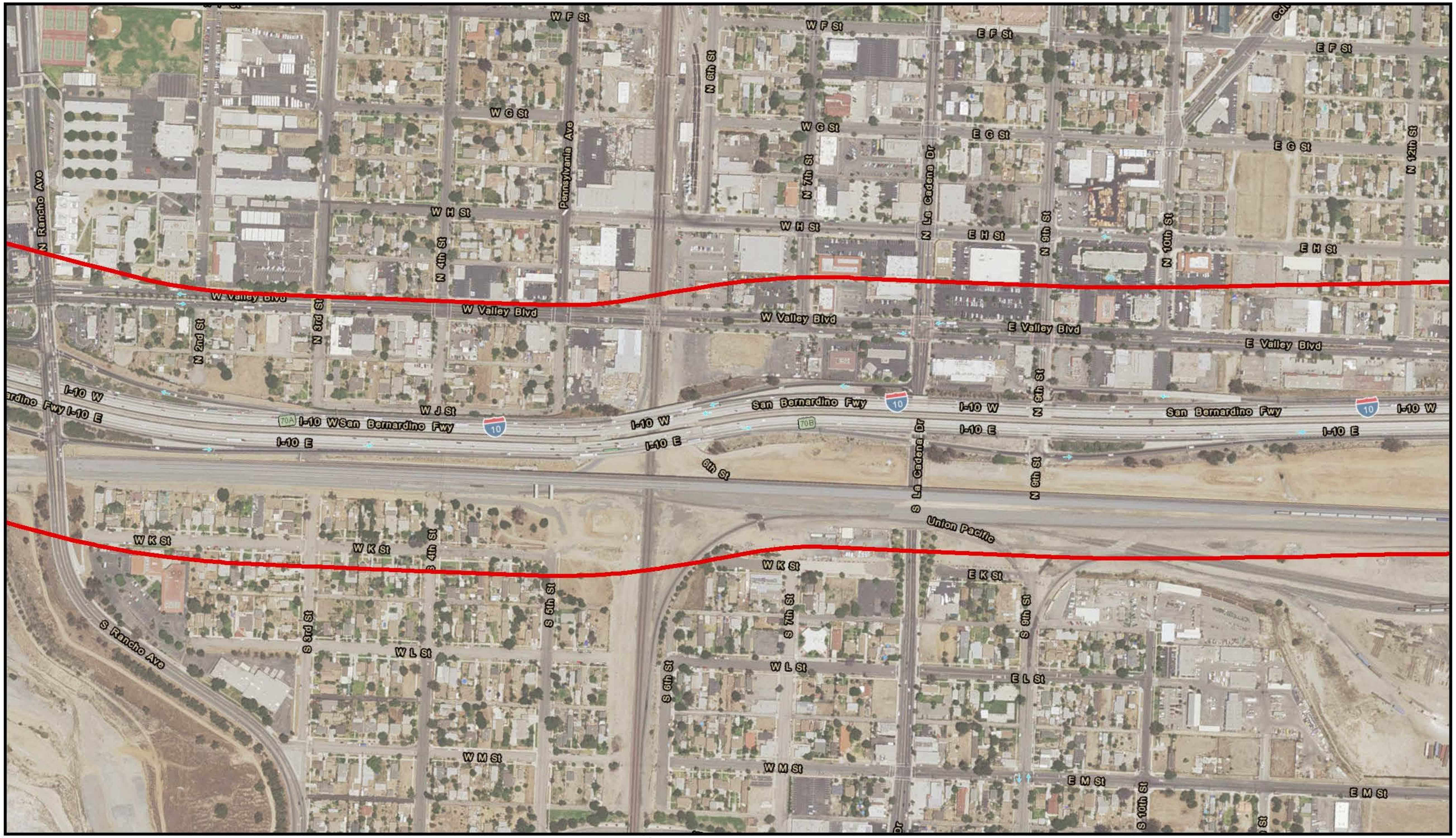

Biological Study Area (BSA)
USACE Jurisdictional
USACE Non-Jurisdictional
USACE Wetland
Wetland Sample Points

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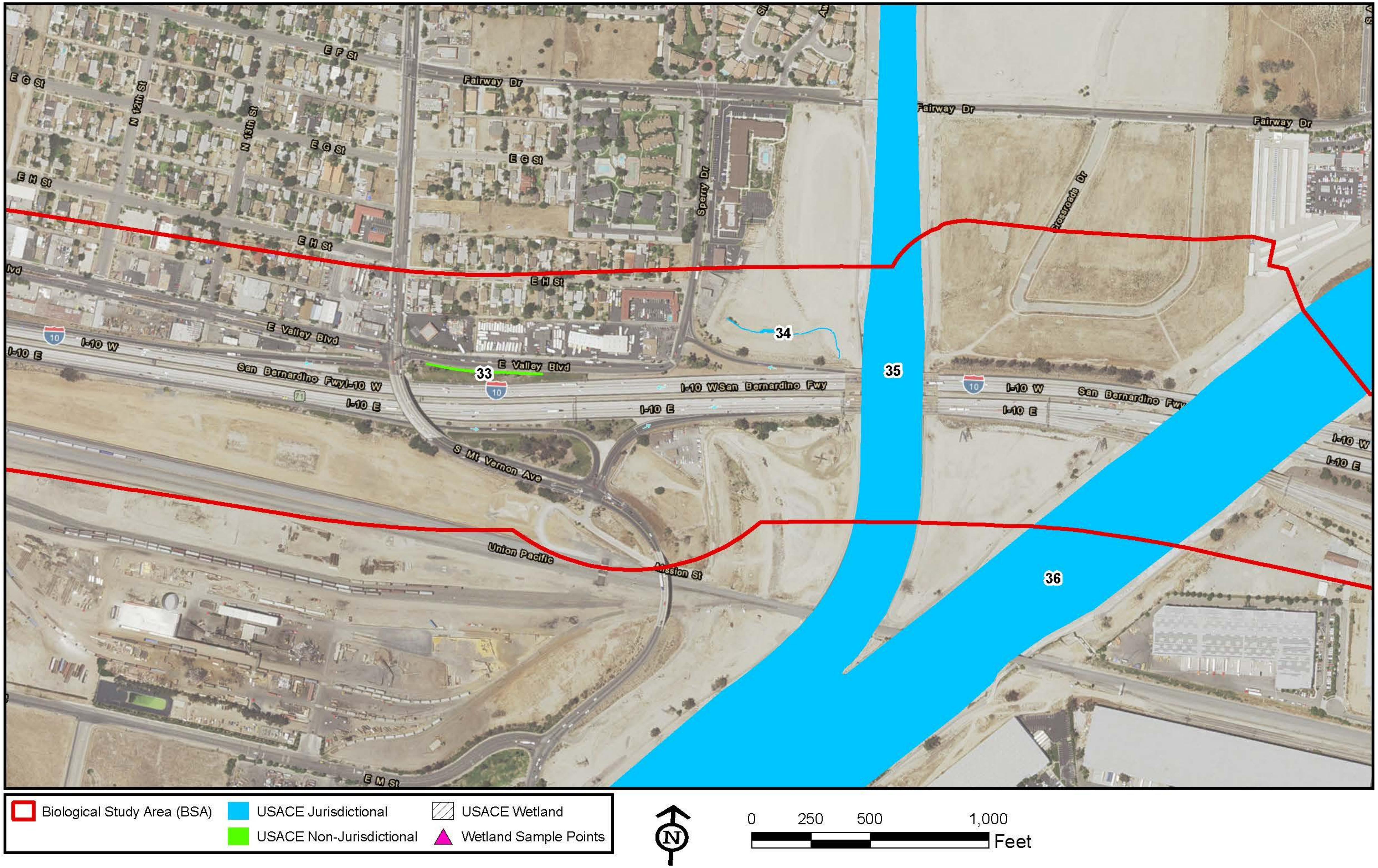
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Fairway Dr
E G St
N 12th St
N 13th St
E H St
Sperry Dr
Crossroads Dr
E Valley Blvd
I-10 W
I-10 E
San Bernardino Fwy I-10 W
I-10 W San Bernardino Fwy
S Mt Vernon Ave
Union Pacific
Mission St
E M St
33
34
35
36
Biological Study Area (BSA)
USACE Jurisdictional
USACE Non-Jurisdictional
USACE Wetland
Wetland Sample Points
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Feet

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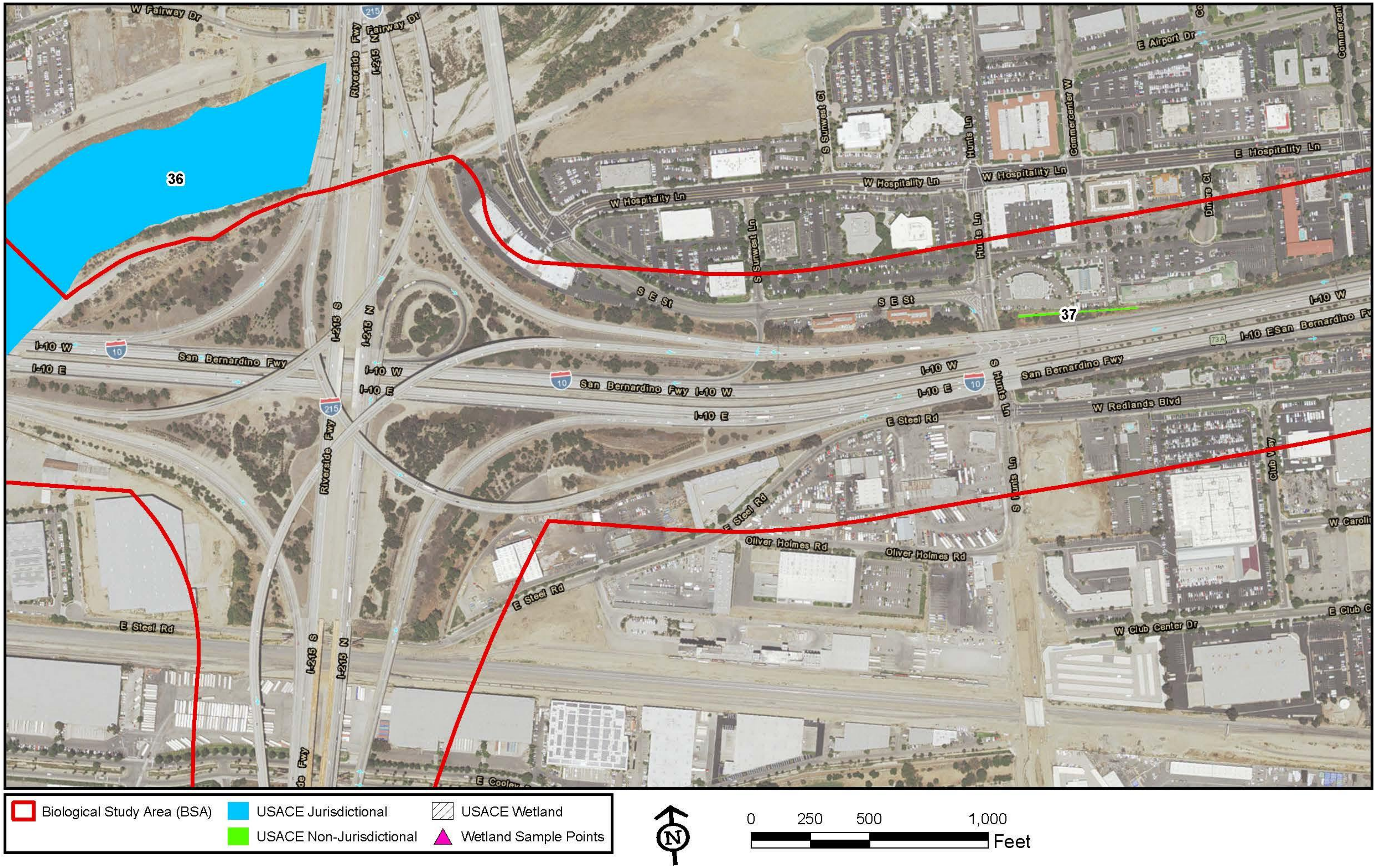
36
37
W Fairway Dr
Fairway Dr
Riverside Fwy
I-215 N
I-215 S
I-10 W
I-10 E
San Bernardino Fwy
W Hospitality Ln
E Hospitality Ln
S Sunwest Ct
S Sunwest Ln
Hunts Ln
S Hunts Ln
Commercenter W
E Airport Dr
S E St
W Redlands Blvd
E Steel Rd
Oliver Holmes Rd
W Club Center Dr
E Cooley Dr
Biological Study Area (BSA)
USACE Jurisdictional
USACE Non-Jurisdictional
USACE Wetland
Wetland Sample Points
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Feet

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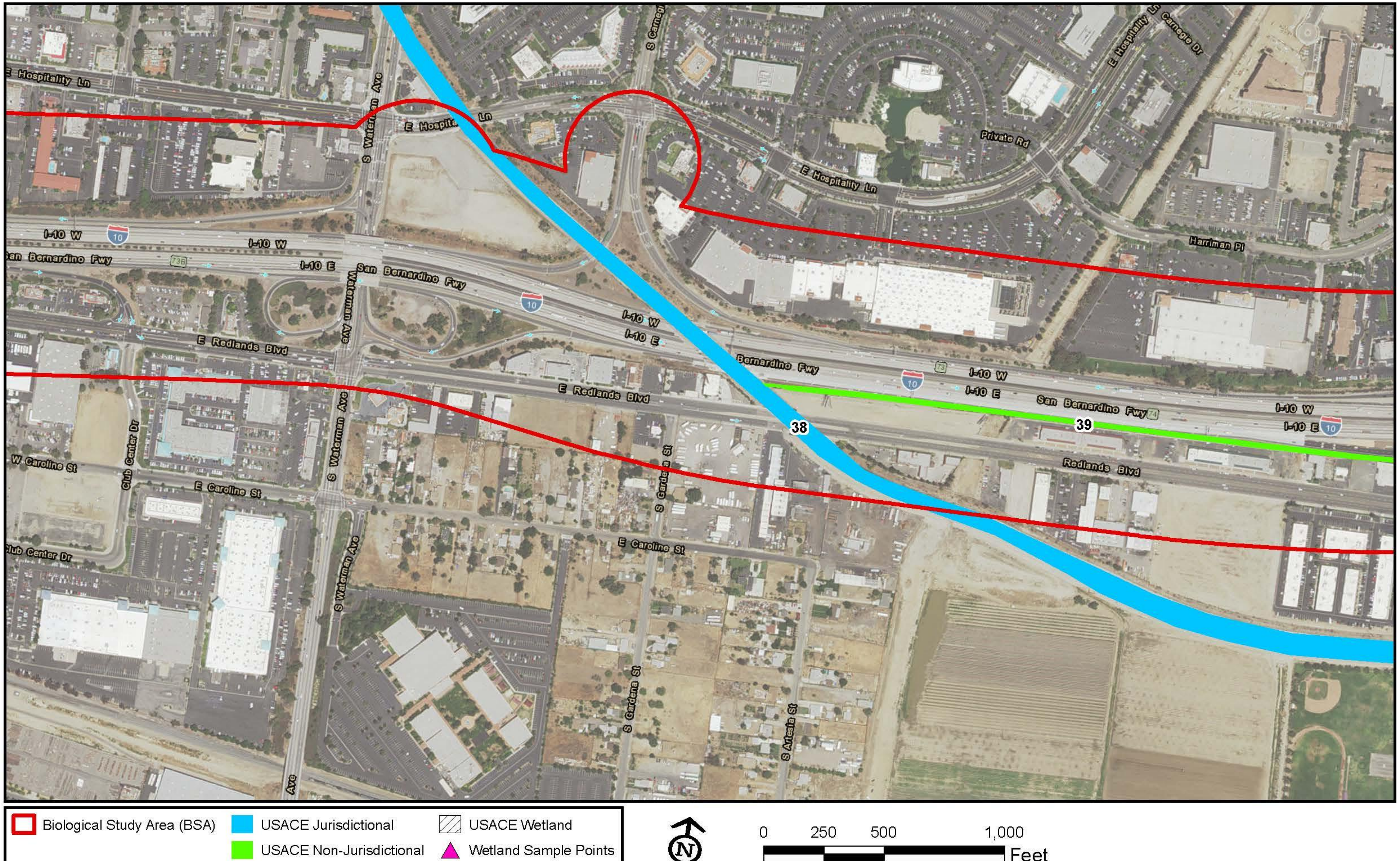
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E Hospitality Ln
S Waterman Ave
S Carnegie Dr
E Hospitality Ln
Carnegie Dr
Private Rd
E Hospitality Ln
Harriman Pl
I-10 W
I-10 W
San Bernardino Fwy
I-10 E
San Bernardino Fwy
S Waterman Ave
I-10 W
I-10 E
E Redlands Blvd
Bernardino Fwy
I-10 W
I-10 E
San Bernardino Fwy
I-10 W
I-10 E
E Redlands Blvd
38
39
Redlands Blvd
W Caroline St
Club Center Dr
E Caroline St
S Waterman Ave
S Gardena St
E Caroline St
Club Center Dr
S Waterman Ave
S Gardena St
S Artesia St
Ave
Biological Study Area (BSA)
USACE Jurisdictional
USACE Non-Jurisdictional
USACE Wetland
Wetland Sample Points
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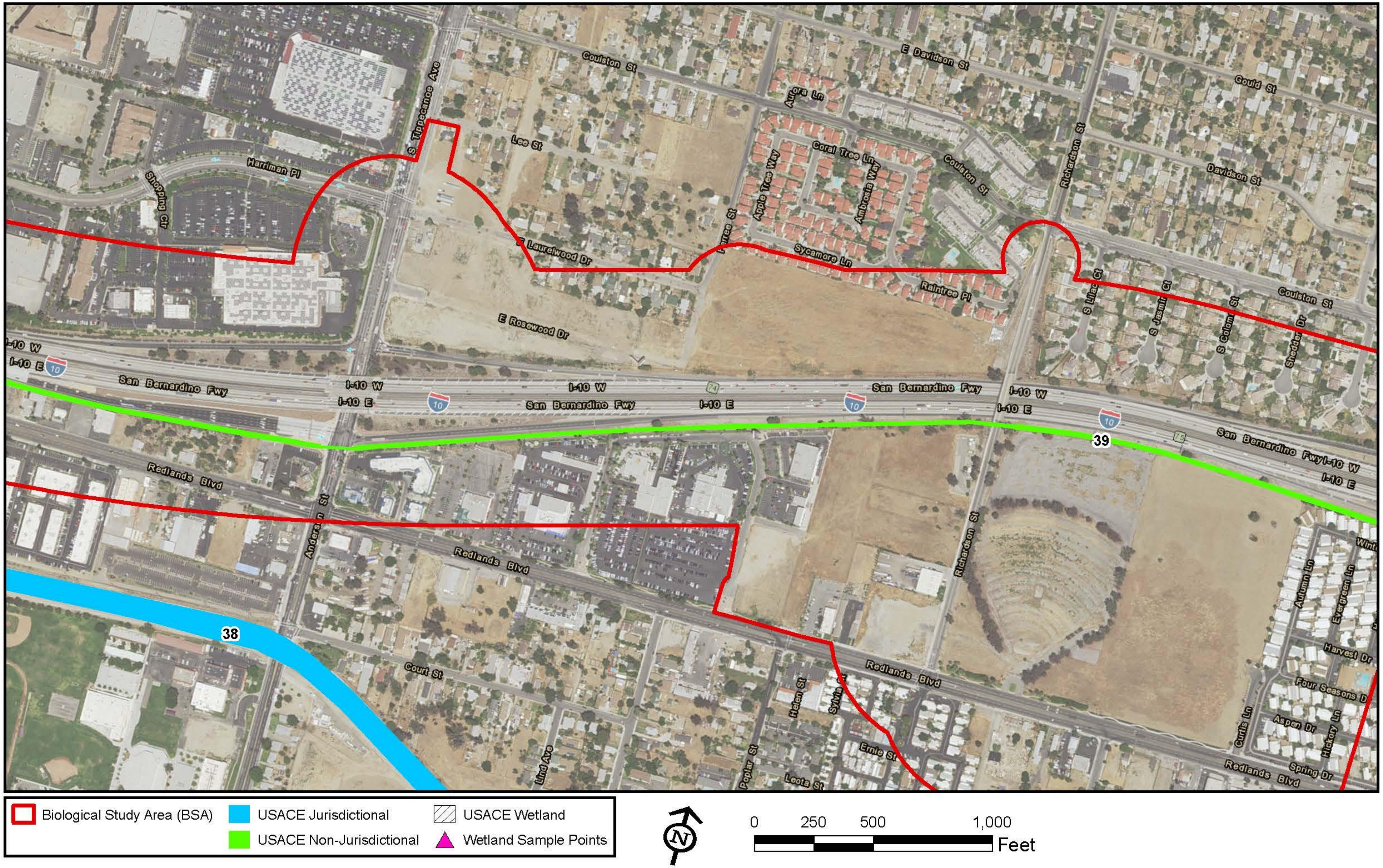
Biological Study Area (BSA)
USACE Jurisdictional
USACE Wetland
USACE Non-Jurisdictional
Wetland Sample Points
0 250 500 1,000
Feet
N
38
39
San Bernardino Fwy
I-10 W
I-10 E
Redlands Blvd
Anderson St
Richardson St
S Tippecanoe Ave
Coulston St
E Davidson St
Davidson St
Gould St
Harriman Pl
Shopping Ctr
Lee St
Laurelwood Dr
E Rosewood Dr
Coral Tree Ln
Apple Tree Way
Ambrosia Way
Sycamore Ln
Raintree Pl
Court St
Lind Ave
Poplar St
Leota St
Ernie St
Helen St
Autumn Ln
Evergreen Ln
Harvest Dr
Four Seasons D
Aspen Dr
Spring Dr
Hickory Ln
Curtis Ln

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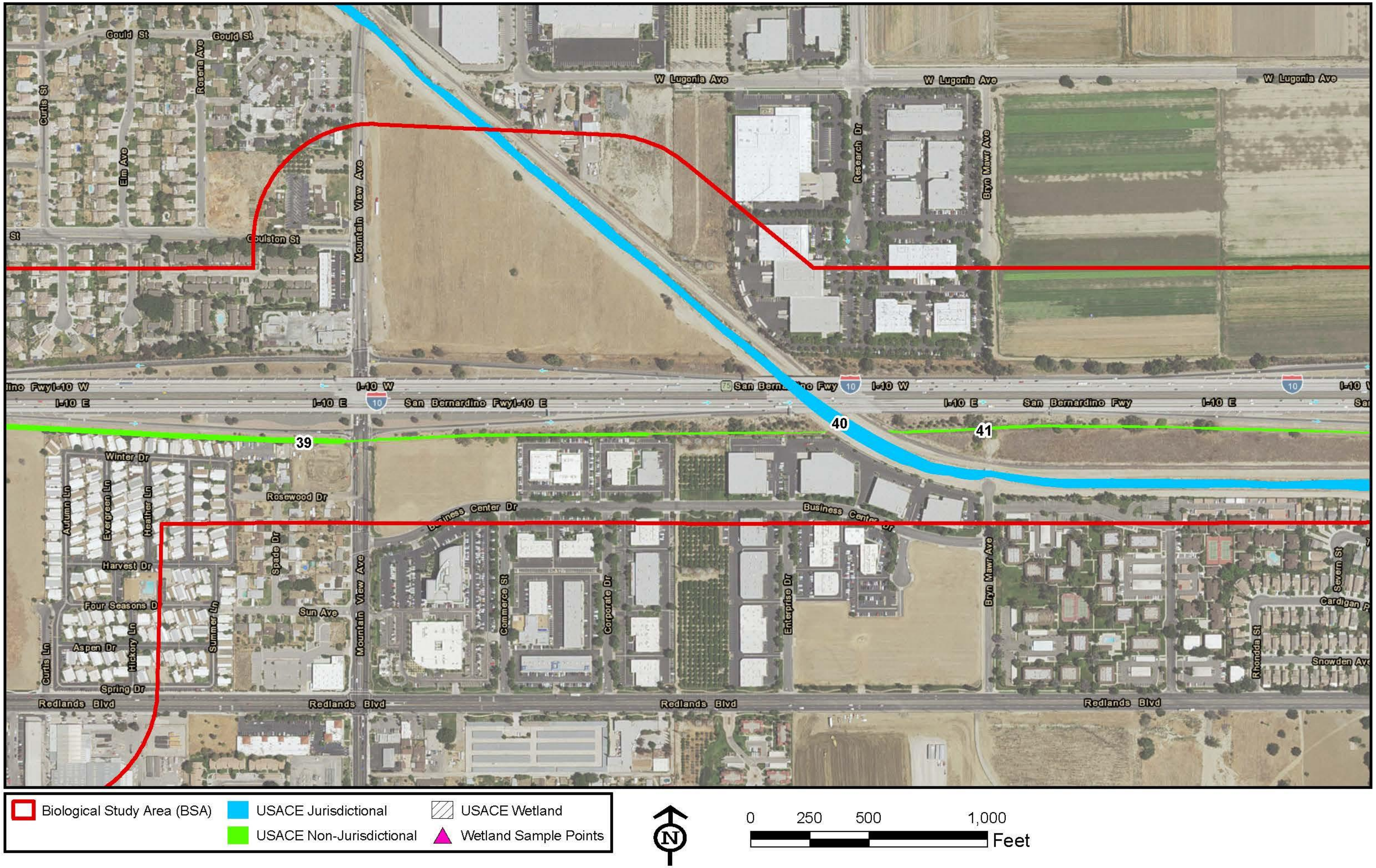
Gould St
Rosena Ave
Curtis St
Elm Ave
Coulston St
Mountain View Ave
W Lugonia Ave
Research Dr
Bryn Mawr Ave
I-10 W
I-10 E
San Bernardino Fwy
39
40
41
Winter Dr
Autumn Ln
Evergreen Ln
Heather Ln
Rosewood Dr
Business Center Dr
Harvest Dr
Spade Dr
Four Seasons Dr
Sun Ave
Aspen Dr
Hickory Ln
Summer Ln
Spring Dr
Commerce St
Corporate Dr
Enterprise Dr
Rhonda St
Severn St
Cardigan Pl
Snowden Ave
Redlands Blvd
Biological Study Area (BSA)
USACE Jurisdictional
USACE Non-Jurisdictional
USACE Wetland
Wetland Sample Points
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Feet

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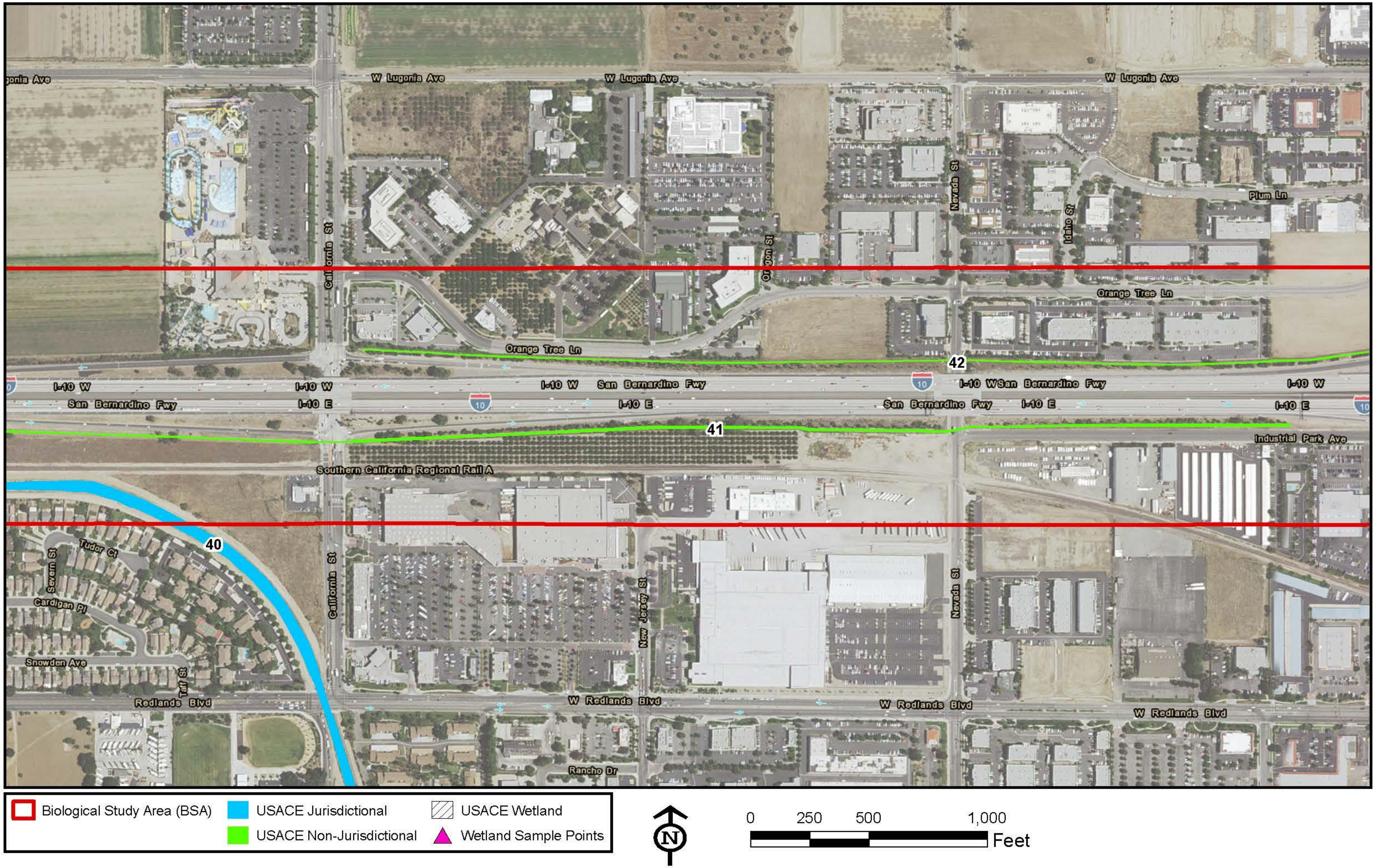
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Nevada St
Idaho St
Plum Ln
Oregon St
California St
Orange Tree Ln
42
I-10 W
San Bernardino Fwy
I-10 E
41
Industrial Park Ave
Southern California Regional Rail A
40
Tudor Ct
Severn St
Cardigan Pl
Snowden Ave
Taft St
Redlands Blvd
W Redlands Blvd
New Jersey St
Rancho Dr
Biological Study Area (BSA)
USACE Jurisdictional
USACE Non-Jurisdictional
USACE Wetland
Wetland Sample Points
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Feet

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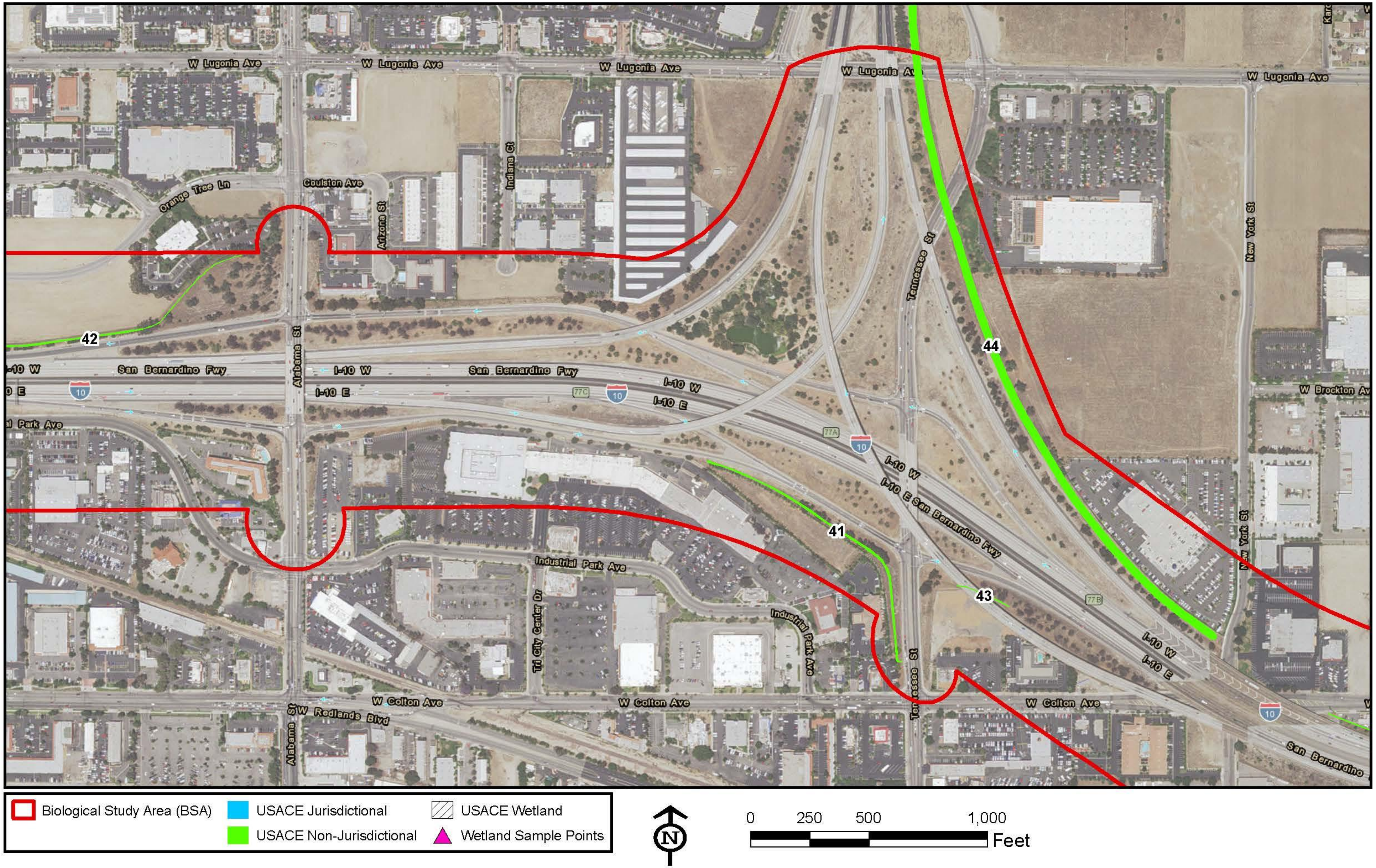
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W Lugonia Ave
W Lugonia Ave
W Lugonia Ave
W Lugonia Ave
Orange Tree Ln
Coulston Ave
Indiana Ct
Arizona St
Tennessee St
New York St
W Brockton Ave
Alabama St
San Bernardino Fwy
I-10 W
I-10 E
Park Ave
77C
77A
77B
I-10 E San Bernardino Fwy
Industrial Park Ave
Industrial Park Ave
Tri City Center Dr
W Colton Ave
W Redlands Blvd
San Bernardino
42
44
41
43
Biological Study Area (BSA)
USACE Jurisdictional
USACE Non-Jurisdictional
USACE Wetland
Wetland Sample Points
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Feet

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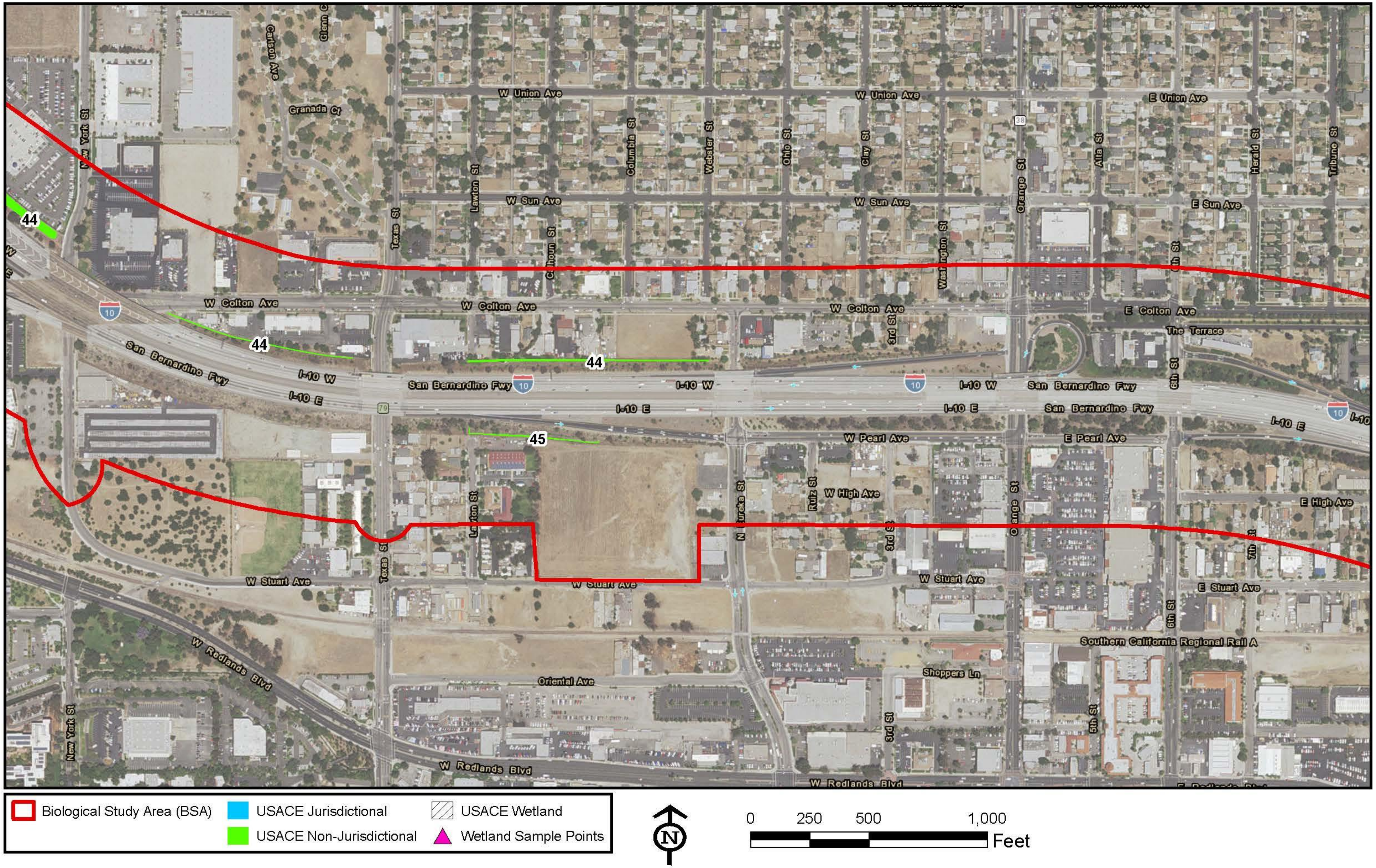
W Union Ave
E Union Ave
W Sun Ave
E Sun Ave
W Colton Ave
E Colton Ave
The Terrace
San Bernardino Fwy
I-10 W
I-10 E
W Pearl Ave
E Pearl Ave
W High Ave
E High Ave
W Stuart Ave
E Stuart Ave
Southern California Regional Rail A
Oriental Ave
Shoppers Ln
W Redlands Blvd
New York St
Texas St
Lawton St
Calhoun St
Columbia St
Webster St
Ohio St
Clay St
Washington St
Orange St
Alta St
6th St
Herald St
7th St
Tribune St
N Eureka St
Ruiz St
3rd St
5th St
Granada Ct
Carlson Ave
44
45
Biological Study Area (BSA)
USACE Jurisdictional
USACE Non-Jurisdictional
USACE Wetland
Wetland Sample Points
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Feet

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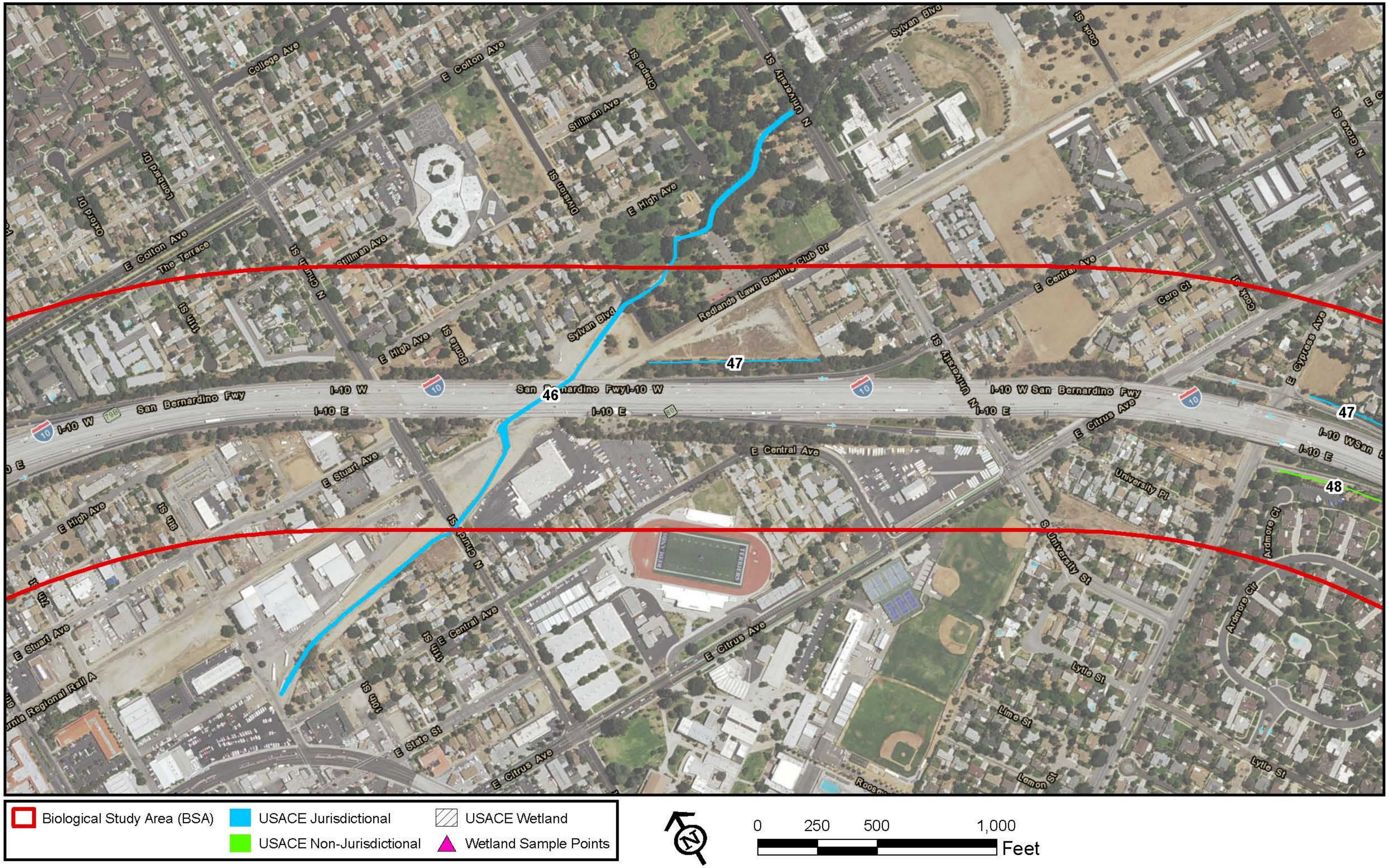
46
47
47
48
I-10 W San Bernardino Fwy
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E Central Ave
E Citrus Ave
University St
E Colton Ave
Sylvan Blvd
E High Ave
E Stuart Ave
Redlands Lawn Bowling Club Dr
Biological Study Area (BSA)
USACE Jurisdictional
USACE Non-Jurisdictional
USACE Wetland
Wetland Sample Points
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Biological Study Area (BSA)
USACE Jurisdictional
USACE Non-Jurisdictional
USACE Wetland
Wetland Sample Points
0 250 500 1,000 Feet
47
48
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52
I-10 W
I-10 E
San Bernardino Fwy
Ford St
S Grove St
E Highland Ave
E Palm Ave
Crestview Rd
Hampton Rd
Rolling Hills Rd
5th Ave
E Redlands Blvd
Parkford Dr
Lytle St
Birch Ct
Everron Ct
Ardmore Cir
Eastwood St
Morrison Dr
Idyllwild Ct
E Citrus Ave
McAuliffe Ct
Napa Ave
Church on the Hill Dr
Oak St
Marshall St

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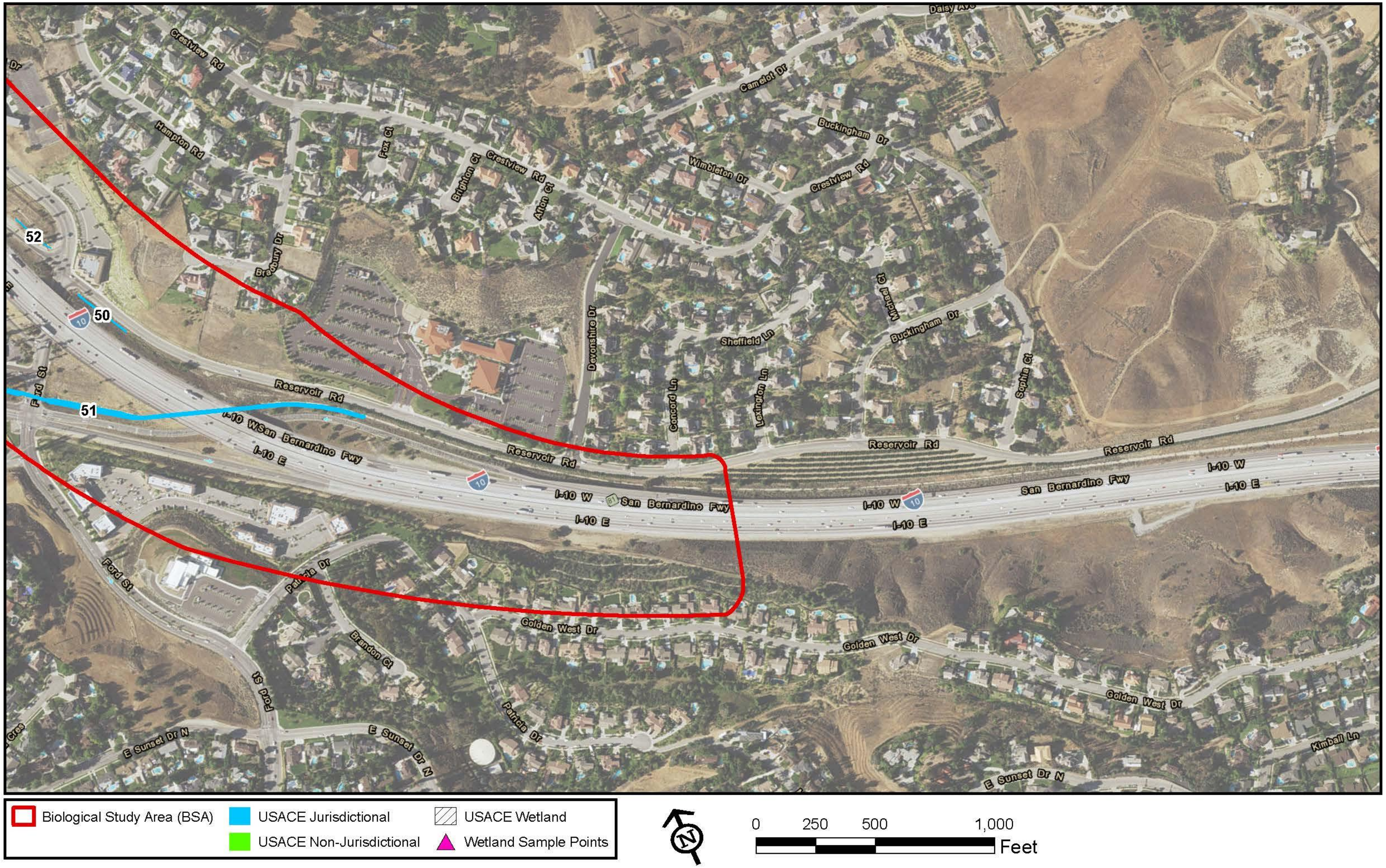
Biological Study Area (BSA)
USACE Jurisdictional
USACE Non-Jurisdictional
USACE Wetland
Wetland Sample Points
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52
Reservoir Rd
San Bernardino Fwy
I-10 W
I-10 E
Golden West Dr
Ford St
Crestview Rd
Buckingham Dr

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Appendix C: Site Photographs

Appendix C

Below you will find a photo compendium containing photos of each jurisdictional and non-jurisdictional drainage feature within the Biological Study Area. Some features are not in this compendium because they were inaccessible to photograph due to fencing, private property, unsafe environment, or construction during the time of survey. Photos in this compendium are referenced by Exhibits 5 – 26.

USACE Jurisdictional Drainages	Photopages 1 – 45
USACE Non-Jurisdictional Drainages	Photopages 46– 69
Sampled USACE Wetland Features	Photopages 83 - 86

USACE Jurisdictional Drainages

(1) San Antonio Creek Channel – north of I-10 facing north
(See Exhibit 7)

Photopage 1

(1) San Antonio Creek Channel – north of I-10, facing south
(See Exhibit 7)

Photopage 2

(2) – Percolation basin near San Antonio Creek Channel, facing southeast
(See Exhibit 7)

Photopage 3

(3) – North of I-10, Montclair Basin complex facing south (See Exhibit 7)

Photopage 4

(7) West Cucamonga Creek Channel – South of I-10, detention basin and I-10 in the background, facing north
(See Exhibit 9)

Photopage 5

(7) West Cucamonga Creek Channel – South side of I-10, south side of detention basin, facing south to outlet
(See Exhibit 9)

Photopage 6

(9) Cucamonga Creek Channel – north of I-10, eastern branch, facing south
(See Exhibit 11)

Photopage 7

(9) Cucamonga Creek Channel – north of I-10, facing south
(See Exhibit 11)

Photopage 8

(9) Cucamonga Creek Channel – south of I-10, facing north
(See Exhibit 11)

Photopage 9

(10) – North side of I-10, west of Archibald Avenue
(See Exhibit 11)

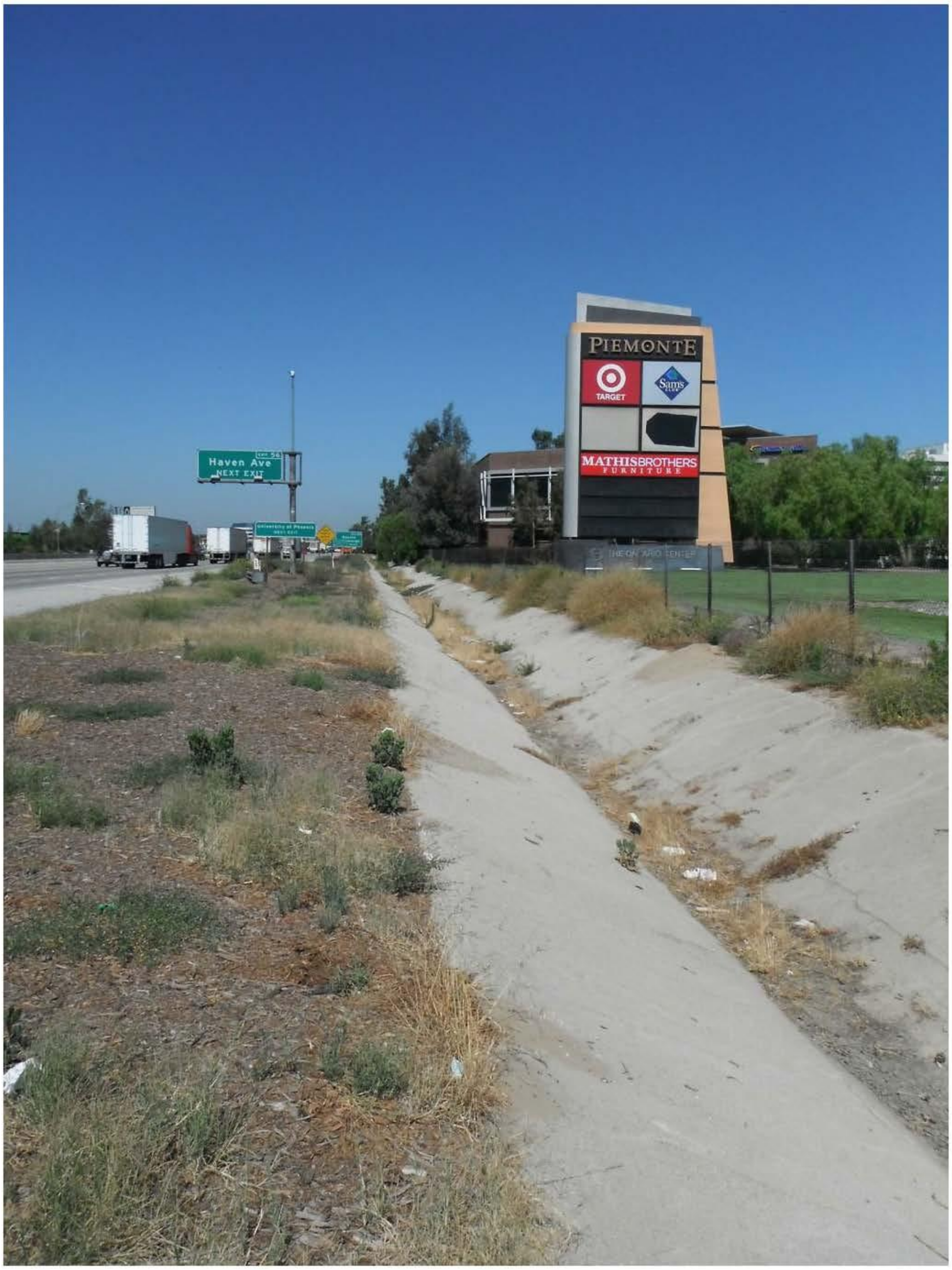
Photopage 10

(10) – South side of I-10 west of Archibald Avenue
(See Exhibit 11)

Photopage 11

(12) –North of I-10, facing south, crossing under I-10 (See Exhibit 11)

Photopage 12

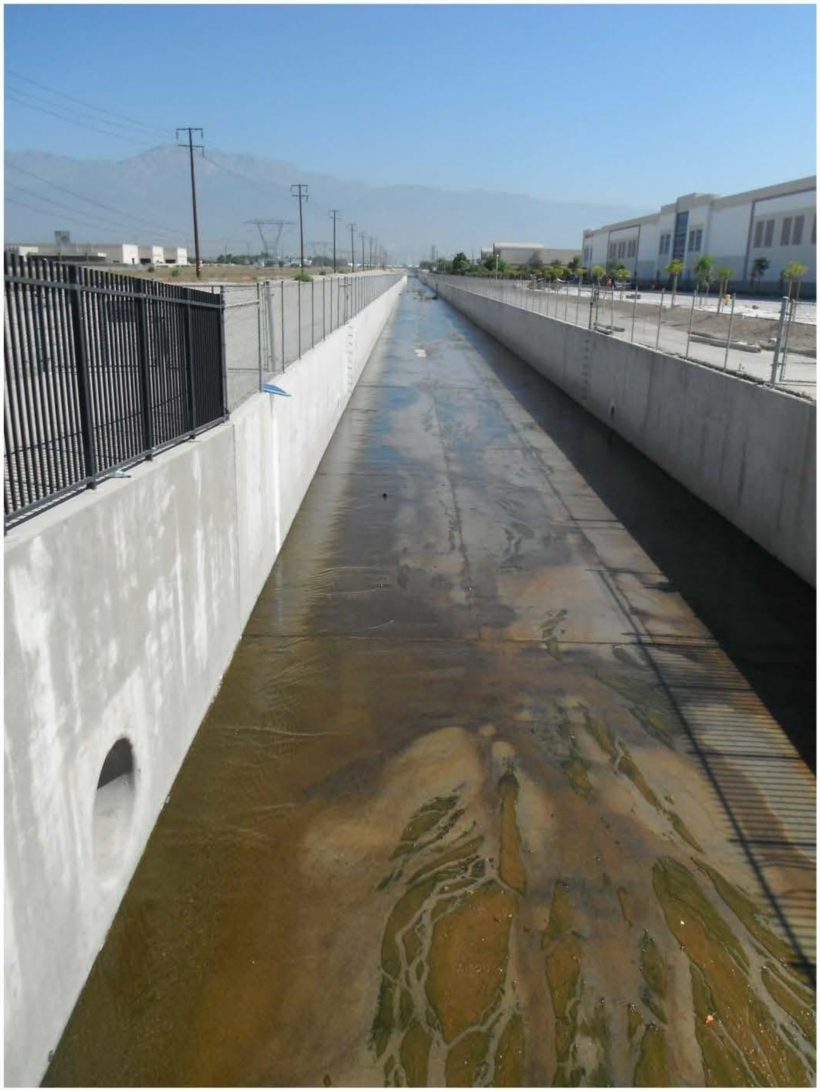


(14) – North of I-10, facing west, east of Haven Avenue (See Exhibit 12)

Photopage 13

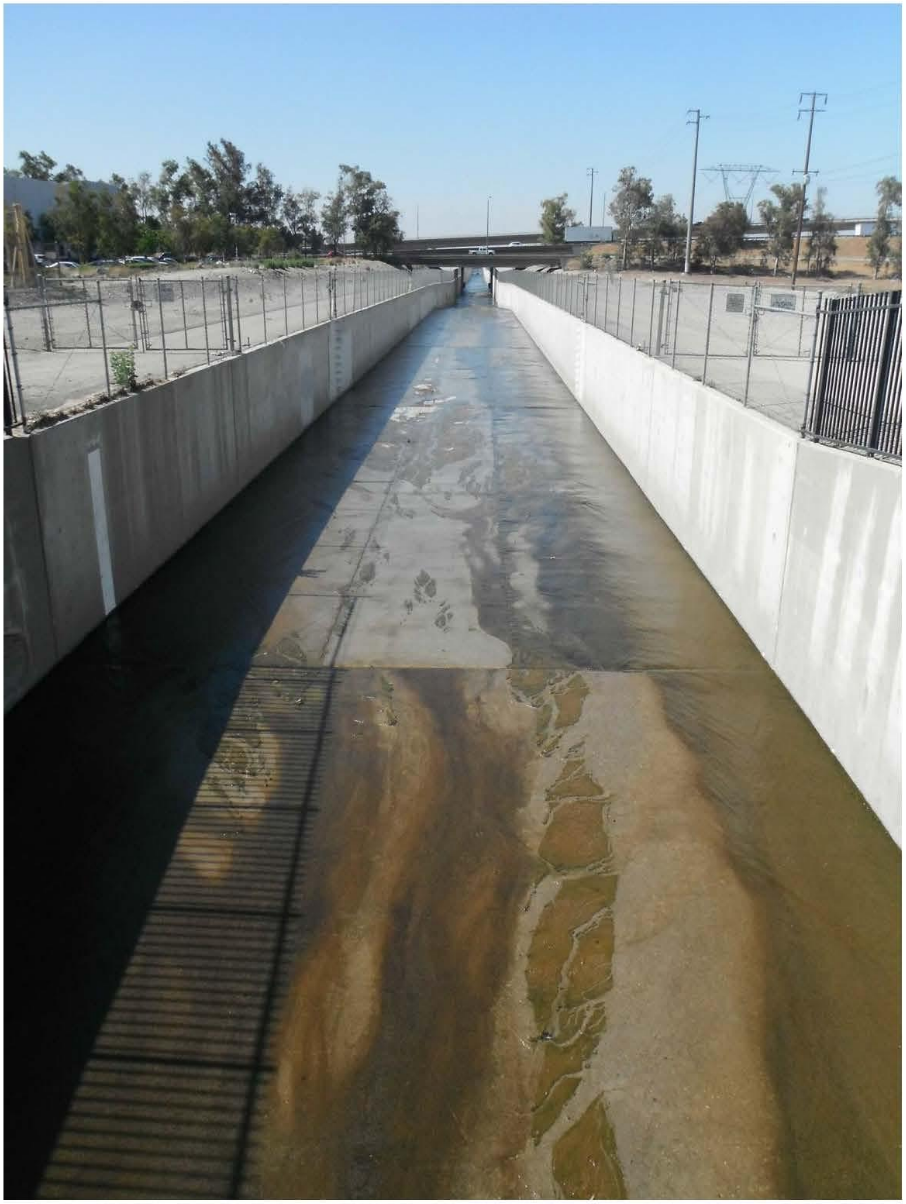
(14) – North of I-10, facing east of Haven Avenue
(See Exhibit 12)

Photopage 14



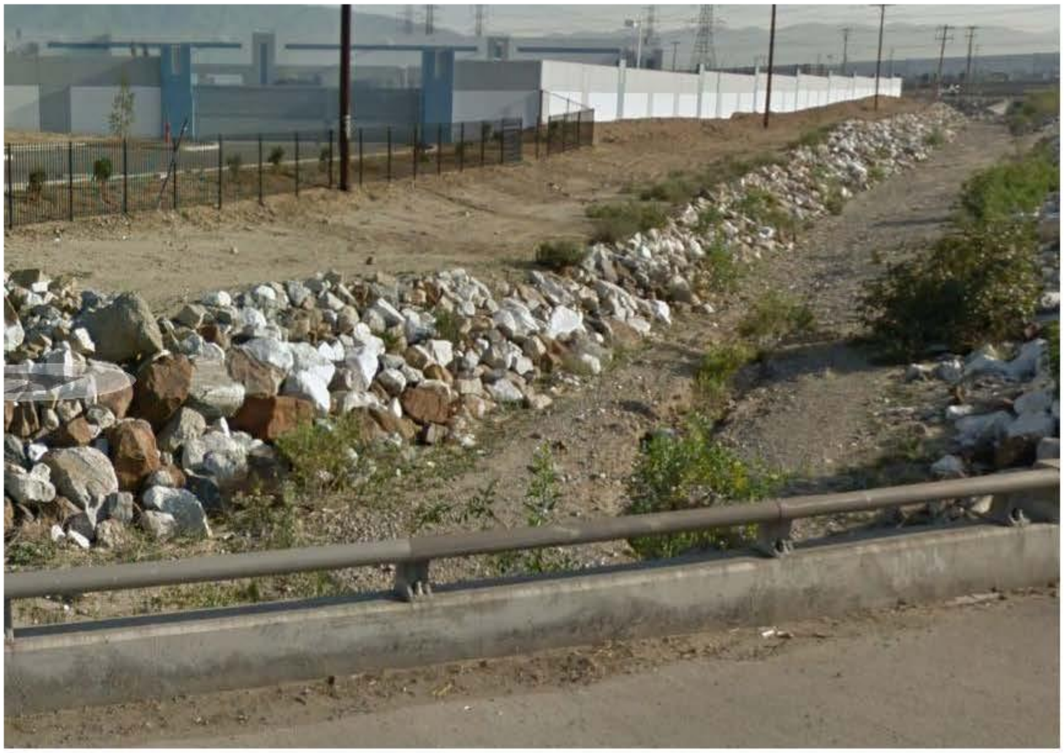
(16) Day Creek Channel – north of I-10, looking upstream, facing north
(See Exhibit 12)

Photopage 15



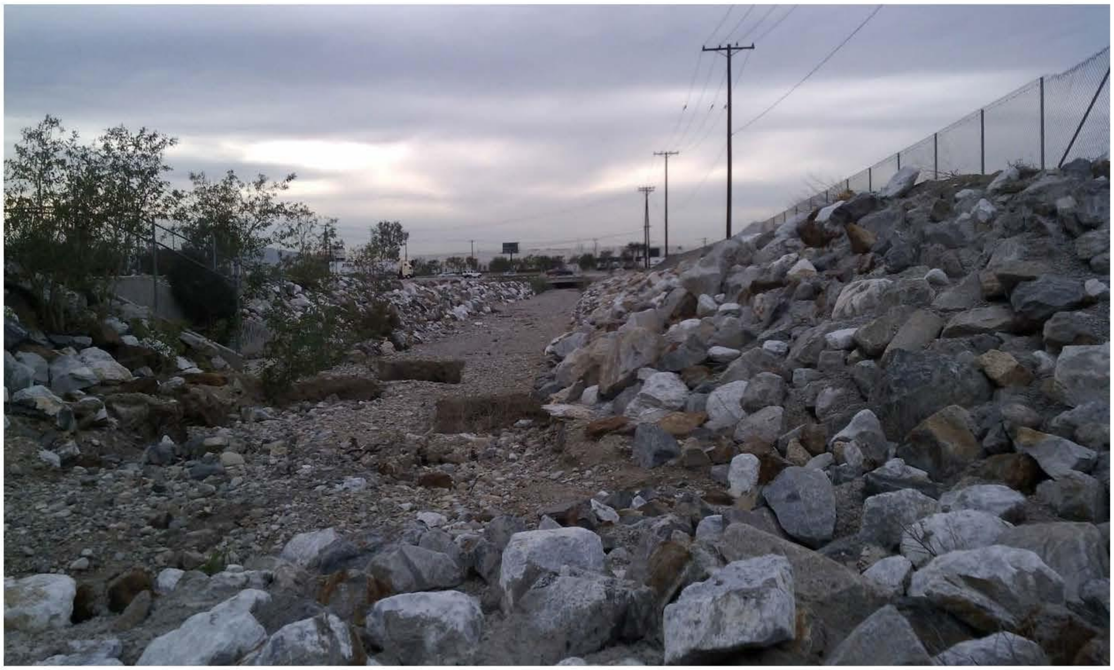
(16) Day Creek Channel – north of I-10, looking downstream, facing south
(See Exhibit 12)

Photopage 16



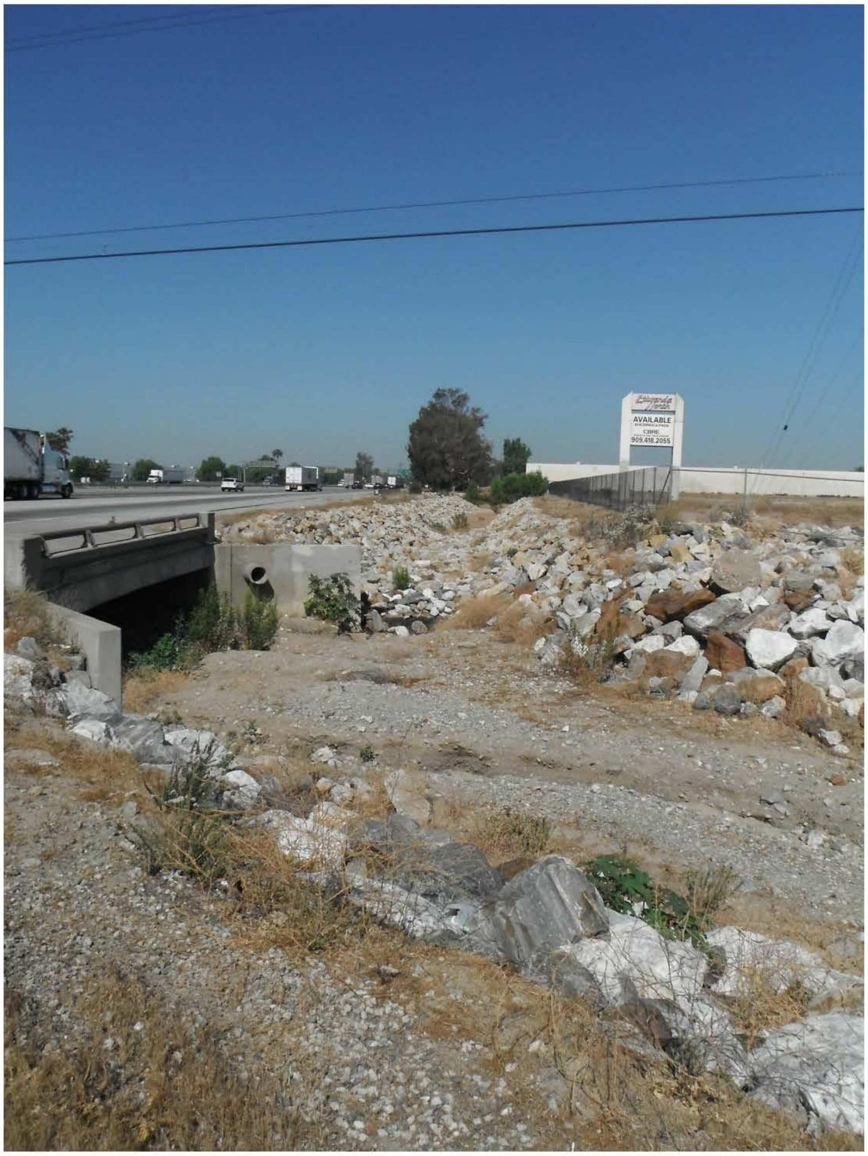
(18) – Lower Etiwanda Creek Tributary – North of I-10, Facing northeast (See exhibit 13)

Photopage 17



(19) Lower Etiwanda Creek Channel – north of I-10, looking southwest towards I-10
(See Exhibit 13)

Photopage 18

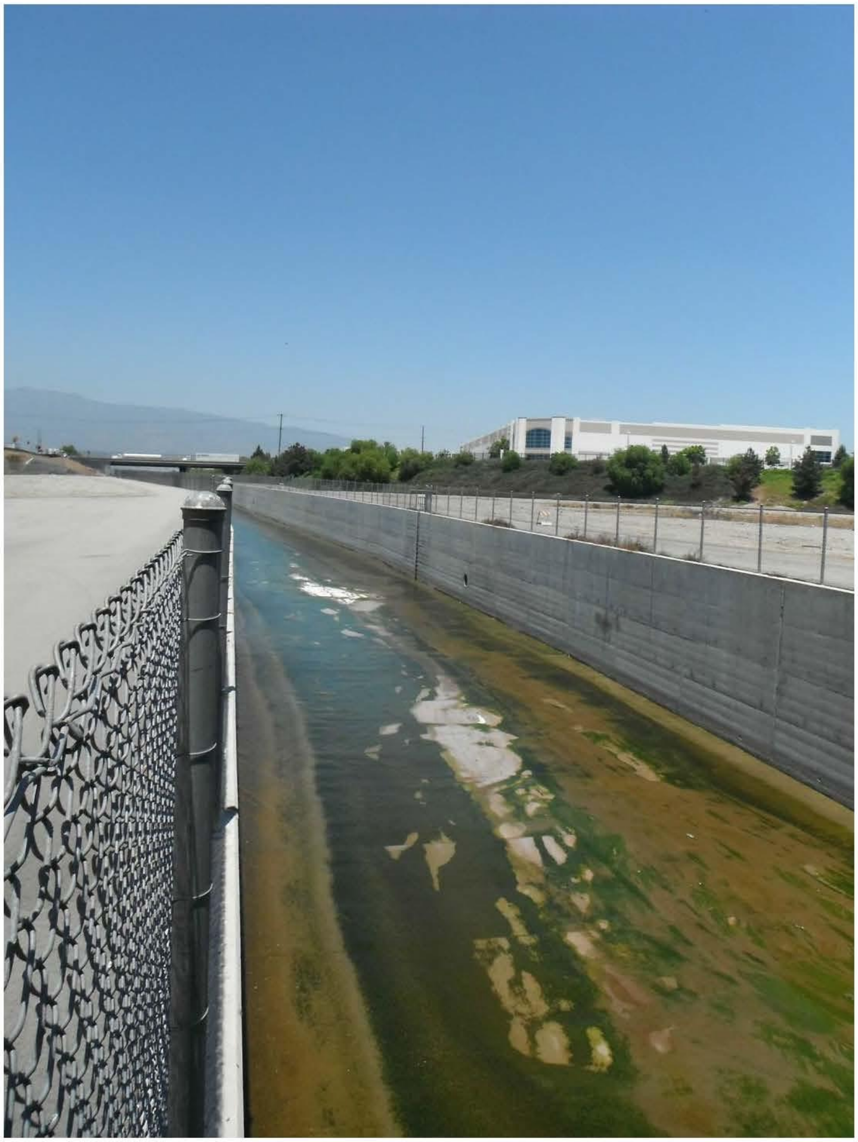


(19) Lower Etiwanda Creek Channel – north side of I-10, facing west
(See Exhibit 13)

Photopage 19

(20) San Sevaine Creek Channel on right, and (21) I-10 channel on left
(See Exhibit 13)

Photopage 20



(20) San Sevaine Creek Channel – north side of I-10, facing north
(See Exhibit 13)

Photopage 21

(21) I-10 Channel - north of I-10 between Cypress and Sierra Avenue facing west
(See Exhibit 15 & 16)

Photopage 22

(21) I-10 Channel – north of I-10 facing east
(See Exhibit 17)

Photopage 23

(21 and 23) I-10 Channel and Feature 23 confluence
(See Exhibit 13)

Photopage 24

(23) North of I-10, facing northeast from I-10 channel (See Exhibit 13)

Photopage 25

(24) Rialto Tributary, facing east (See Exhibit 15)

Photopage 26

(25) Rialto Creek Channel – north of I-10, facing south towards I-10
(See Exhibit 18)

Photopage 27

(34) – North of I-10, west end of drainage, facing east (See Exhibit 20)

Photopage 28

(35) Warm Creek Channel – north of I-10, looking up channel facing north
(See Exhibit 20)

Photopage 29

(35) Warm Creek Channel – north of I-10, facing southeast
(See Exhibit 20)

Photopage 30

(36) Santa Ana River Channel – south of I-10, railroad to the left, facing northeast
(See Exhibit 20)

Photopage 31

(36) Santa Ana River Channel – north side of I-10, looking across the channel, facing east
(See Exhibit 20)

Photopage 32

(38) San Timoteo Creek Channel – south side of I-10, facing northeast
(See Exhibit 21)

Photopage 33

(38) San Timoteo Creek Channel – south side of I-10, facing south
(See Exhibit 21)

Photopage 34

(40) Mission Creek Channel – south side of I-10, facing north
(See Exhibit 22)

Photopage 35

(40) Mission Creek Channel – just south of I-10, facing southeast
(See Exhibit 22)

(46) Zanja Creek Channel – south of I-10 looking up the creek from Church St. going under I-10, facing east
(See Exhibit 24)

Photopage 37

(46) - Zanja Creek Channel – north side of I-10, looking down the creek, facing southwest (See Exhibit 24)

Photopage 38

(47) – North of I-10, looking up drainage towards I-10, facing southeast (See Exhibit 24)

Photopage 39

(47) – South of I-10, facing northwest (See Exhibit 24)

Photopage 40

(50) – North of I-10, facing south
(See Exhibit 26)

Photopage 41

(50) – North of I-10 with Ford St. in the background, facing north (See Exhibit 26)

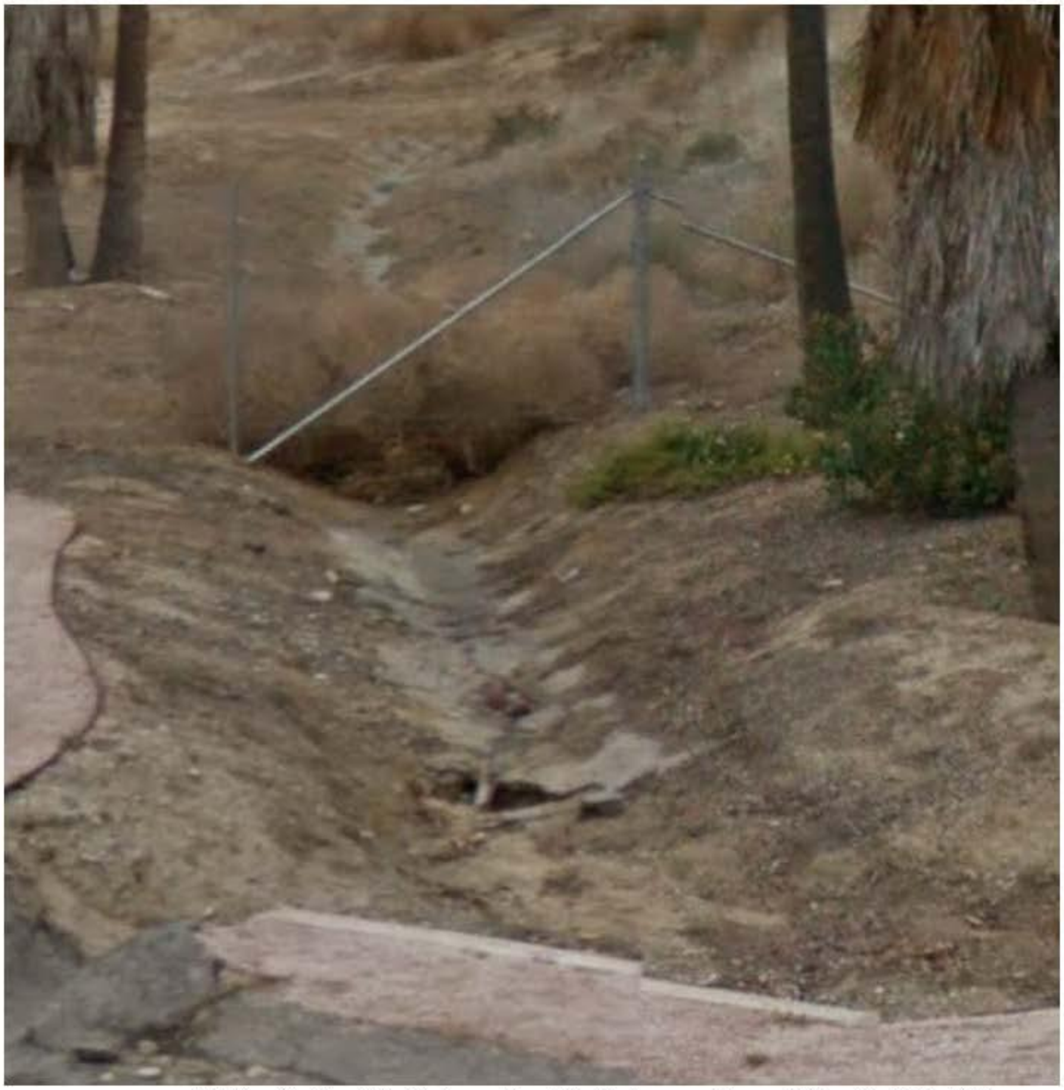
Photopage 42

(51) –South of I-10 from Ford St. facing northwest (See Exhibit 26)

Photopage 43

(51) – South of I-10, drainage culvert under the south side of I-10, facing east
(See Exhibit 26)

Photopage 44



(52) – North of I-10 from Ford St Facing northwest (See Exhibit 26)

Photopage 45

USACE Non-Jurisdictional Features

(4) – North of I-10, east of Monte Vista Avenue (See Exhibit 7)

Photopage 46

(5) – North of I-10, east of Mountain Avenue (See Exhibit 8)

Photopage 47

(6) – North of I-10, east of State Route 83 (See Exhibit 8)

Photopage 48

(6) – North of I-10 east of State Route 83 (See Exhibit 8)

Photopage 49

(8) – North of I-10, facing northwest towards 4th Street (See Exhibit 10)

Photopage 50

(11) – North of I-10 facing west towards Archibald Ave (See Exhibit 11)

Photopage 51

(13) – North of I-10, looking down channel facing west (See Exhibit 11)

Photopage 52

(15) – North of I-10, west end of drainage, looking at outlet of channel (See Exhibit 12)

Photopage 53

(15) – North of I-10 going facing east from Milliken Ave (See Exhibit 12)

Photopage 54

(17) – South of I-10 with I-15 in the background, facing west
(See Exhibit 13)

Photopage 55

(17) – South of I-10, facing east
(See Exhibit 13)

Photopage 56

(26) – South of I-10, Facing east towards Riverside Ave (See Exhibit 18)

Photopage 57

(27) – North of I-10, Facing west towards Riverside Ave (See Exhibit 18)

Photopage 58

(28) – North side of I-10, Facing east (See Exhibit 18)

Photopage 59

(29) – North side of I-10, Facing West (See Exhibit 18)

Photopage 60

(30) – North of I-10, Facing west from I-10 westbound on-ramp (See Exhibit 18)

Photopage 61

(31) – North side of I-10, facing southeast
(See Exhibit 19)

Photopage 62

(31) – North of I-10, west end of drainage; I-10 in the background facing southwest
(See Exhibit 19)

Photopage 63

(32) – North of I-10, west of Rancho Avenue, Facing west (See Exhibit 19)

Photopage 64

(32) – North of I-10, west of Rancho Avenue, facing east (See Exhibit 19)

Photopage 65

(33) – North of I-10 going under Mount Vernon Avenue in the background, facing west
(See Exhibit 20)

Photopage 66

(33) – North of I-10, east end of drainage, facing east (See Exhibit 20)

Photopage 67

(37) – North of I-10, between I-215 and Waterman Avenue facing west
(See Exhibit 20)

Photopage 68

(39) – South of I-10, east of Tippecanoe Avenue
(See Exhibit 21)

(41) – South of I-10, looking at drainage west of Alabama Street
(See Exhibit 22)

Photopage 70

(41) – South of I-10 looking at drainage west of Alabama Street
(See Exhibit 22)

Photopage 71

(41) - South of I-10, west of Tennessee Street facing north (See Exhibit 23)

Photopage 72

(42) – North of I-10 west of Alabama Street
(See Exhibit 22)

Photopage 73

(43) – South of I-10, Facing east from Tennessee Street (See Exhibit 23)

Photopage 74

(44) - North of I-10, towards Tennessee Street facing northwest (See Exhibit 23)

Photopage 75

(44) – North of I-10, east of Tennessee Street facing southeast (See Exhibit 23)

Photopage 76

(45) – North of I-10, west end of feature, facing west (See Exhibit 23)

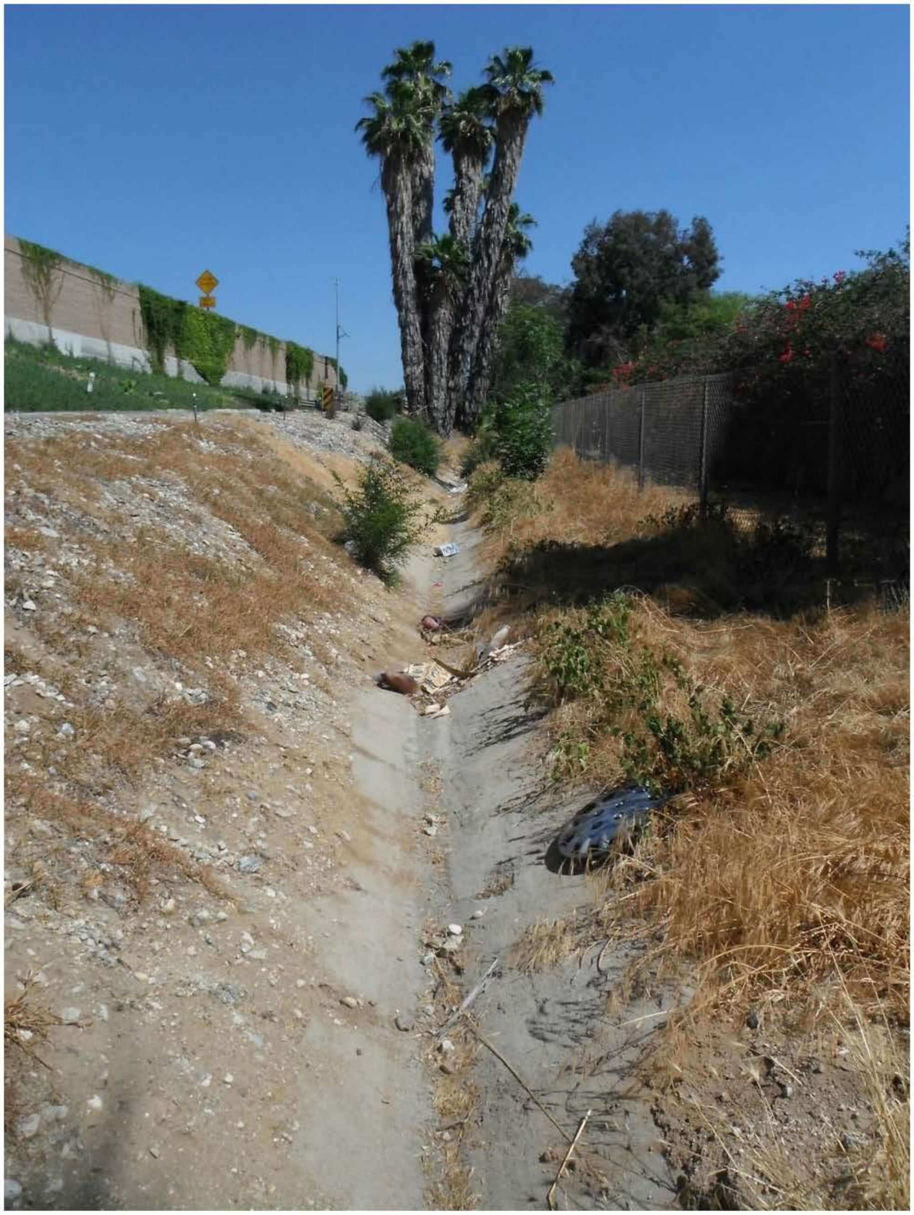
Photopage 77

(45) – North of I-10, east end of feature, facing east (See Exhibit 23)

Photopage 78

(45) – South of I-10, facing northwest
(See Exhibit 23)

Photopage 79



(48) – South of I-10, looking up drainage next to I-10 E onramp, facing southeast
(See Exhibit 24)

Photopage 80

(48) – South of I-10, looking down at the end of the drainage, facing southeast
(See Exhibit 25)

Photopage 81

(49) - South of I-10, Looking South from East Highlands Avenue (See Exhibit 25)

Photopage 82

Sampled USACE Wetland Features

(3) – North of I-10, Montclair Basin complex/percolation basins. Facing north at isolated wetland area (foreground) near San Antonio Creek Channel
(See Exhibit 7)

Photopage 83

(5) – North of I-10 wetlands in concrete channel, facing southwest
(See Exhibit 8)

Photopage 84

(14) – North of I-10, wetlands within a channel, facing west
(See Exhibit 11)

Photopage 85

(32) – North of I-10, west end of drainage, facing south
(See Exhibit 19)

Photopage 86

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Appendix D: Preliminary Jurisdictional Determination Table

Drainage Number	Drainage Name (if applicable)	County	Latitude	Longitude	Linear Feet	Hydrologic Regime	Likely Jurisdictional Status	Potential Non-Wetland Waters (acres)	Potential Deepwater Aquatic Non-Wetland Waters (acres)	Potential Wetlands (acres)	Total Potential Area (acres)	Cowardin Class	Section 10 Water	Approximate Distance to RPW	Flow Route to RPW	Primary Substrate	Hydrologic Indicators	Biological Characteristics
Feature 1	San Antonio Creek Channel	San Bernardino	34.0815142768901	-117.704696981025	1104	Intermittent	Jurisdictional	0.995	0.000	0.000	0.995	Riverine	No	Less than 1 mile	Natural Drainage Above Ground	Concrete	Concrete channel	No vegetation present
Feature 2		San Bernardino	34.0801961688258	-117.704026727549	370	Ephemeral	Jurisdictional	6.177	0.000	0.000	6.177	Riverine	No	Less than 1 mile	Natural Drainage Above Ground	Dirt	Bed and bank with water present	No vegetation present
Feature 3		San Bernardino	34.0827014341894	-117.703321335177	386	Ephemeral	Jurisdictional	1.084	0.000	0.275	1.359	Riverine	No	Less than 1 mile	Natural Drainage Above Ground	Dirt	Bed and bank with water present	Some freshwater marsh vegetation is present within the samller of the two percolation basins
Feature 4		San Bernardino	34.0836087241123	-117.694648681566	898	Ephemeral	Non-Jurisdictional	0.206	0.000	0.000	0.206	Riverine	No	Less than 1 mile	Natural Drainage Above Ground	Concrete	Concrete channel with water staining	No vegetation present
Feature 5		San Bernardino	34.0876411607353	-117.660260637704	5052	Ephemeral	Non-Jurisdictional	1.123	0.000	0.000	1.123	Riverine	No	Less than 1 mile	Natural Drainage Above Ground	Concrete	Concrete channel with sediment deposition	Some freshwater marsh vegetation is present near I-10, but otherwise the channel is mostly
Feature 6		San Bernardino	34.0873023216407	-117.642966237983	4095	Ephemeral	Non-Jurisdictional	0.484	0.000	0.000	0.484	Riverine	No	Less than 1 mile	Natural Drainage Above Ground	Concrete	Concrete channel with sediment deposition	No vegetation present
Feature 7	West Cucamonga Channel	San Bernardino	34.0807021682826	-117.630152615116	2031	Ephemeral	Jurisdictional	3.529	0.000	0.000	3.529	Riverine	No	Less than 1 mile	Natural Drainage Above Ground	Concrete (channel) and Dirt (basin)	Concrete channel for channel and water marks, bed and bank for basin	No vegetation present
Feature 8		San Bernardino	34.0753381408485	-117.618839380608	709	Ephemeral	Non-Jurisdictional	0.065	0.000	0.000	0.065	Riverine	No	Less than 1 mile	Natural Drainage Above Ground	Concrete	Concrete channel with sediment deposition	No vegetation present
Feature 9	Cucamonga Creek Channel	San Bernardino	34.0707815297376	-117.599929167089	1162	Intermittent	Jurisdictional	10.222	0.000	0.000	10.222	Riverine	No	Less than 1 mile	Natural Drainage Above Ground	Concrete	Concrete channel with water staining	No vegetation present
Feature 10		San Bernardino	34.0676695781302	-117.594966165129	1126	Ephemeral	Jurisdictional	0.181	0.000	0.000	0.181	Riverine	No	Less than 1 mile	Natural Drainage Above Ground	Cobbles and sand	Bed and bank, slight erosion, some sediment deposition, riparian growth in channel	Weeds, grasses, and shrubs; coastal sage scrub community.
Feature 11		San Bernardino	34.0678082621415	-117.58754912308	962	Ephemeral	Non-Jurisdictional	0.066	0.000	0.000	0.066	Riverine	No	Less than 1 mile	Natural Drainage Above Ground	Concrete	Concrete channel with sediment deposition	Unvegetated channel
Feature 12	Lower Deer Creek Channel	San Bernardino	34.0673423581876	-117.584504766562	449	Ephemeral	Jurisdictional	0.153	0.000	0.000	0.153	Riverine	No	Less than 1 mile	Natural Drainage Above Ground	Concrete	Concrete channel with water staining	Unvegetated channel
Feature 13		San Bernardino	34.0678633365895	-117.58283365946	1128	Ephemeral	Non-Jurisdictional	0.273	0.000	0.000	0.273	Riverine	No	Less than 1 mile	Natural Drainage Above Ground	Concrete	Concrete channel, wrack zone, some water staining	High vegetation on banks, many shrubs growing through cracks in the
Feature 14		San Bernardino	34.0678268933717	-117.566967101476	1907	Ephemeral	Jurisdictional	0.696	0.000	0.000	0.696	Riverine	No	Less than 1 mile	Natural Drainage Above Ground	Concrete	Concrete channel, wrack zone, sediment deposition	Sparse grasses, mostly devoid of vegetation. Some small amounts of marshy vegetation present in portions of channel
Feature 15		San Bernardino	34.0678928267633	-117.556937777059	795	Ephemeral	Non-Jurisdictional	0.121	0.000	0.000	0.121	Riverine	No	Less than 1 mile	Natural Drainage Above Ground	Concrete, then cobbles and sand	Bed and bank, some water staining, some sediment deposition, connected to a concrete channel	Cattails and other marshy vegetation present in portions of the feature
Feature 16	Day Creek Channel	San Bernardino	34.0670500464593	-117.541583575024	1065	Intermittent	Jurisdictional	0.845	0.000	0.000	0.845	Riverine	No	Less than 1 mile	Natural Drainage Above Ground	Concrete	Concrete channel, some water present	No vegetation present
Feature 17		San Bernardino	34.0669649361423	-117.535964339283	3194	Ephemeral	Non-Jurisdictional	0.148	0.000	0.000	0.148	Riverine	No	Less than 1 mile	Natural Drainage Above Ground	Concrete	Concrete channel, some water present	No vegetation present
Feature 18		San Bernardino	34.0678879788359	-117.527315572248	492	Intermittent	Jurisdictional	0.159	0.000	0.000	0.159	Riverine	No	Less than 1 mile	Natural Drainage Above Ground	Rip rap	Water marks, Bed and Bank	No vegetation present
Feature 19	Lower Etiwanda Creek Channel	San Bernardino	34.0685472695999	-117.525568780079	1289	Ephemeral	Jurisdictional	1.385	0.000	0.000	1.385	Riverine	No	Less than 1 mile	Natural Drainage Above Ground	Rip rap, sand, and cobbles	Water marks, Bed and Bank	No vegetation present
Feature 20	San Sevaine Creek Channel	San Bernardino	34.0667250076338	-117.515044941877	1105	Ephemeral	Jurisdictional	6.997	0.000	0.000	6.997	Riverine	No	Less than 1 mile	Natural Drainage Above Ground	Concrete	Concrete channel with sediment deposition	No vegetation present
Feature 21	I-10 Channel	San Bernardino	34.0668155833404	-117.480998674506	25936	Ephemeral	Jurisdictional	13.515	0.000	0.000	13.515	Riverine	No	Less than 1 mile	Natural Drainage Above Ground	Concrete	Concrete channel with water staining	No vegetation present
Feature 22		San Bernardino	34.0657795902075	-117.512112265128	416	Ephemeral	Jurisdictional	0.035	0.000	0.000	0.035	Riverine	No	Less than 1 mile	Natural Drainage Above Ground	Concrete	Concrete channel with sediment deposition	Grasses, bushes, shrubs
Feature 23		San Bernardino	34.0666158633308	-117.506951147807	558	Ephemeral	Jurisdictional	0.229	0.000	0.000	0.229	Riverine	No	Less than 1 mile	Natural Drainage Above Ground	Concrete	Concrete channel with sediment deposition	No vegetation present
Feature 24	Rialto Tributary	San Bernardino	34.0683818598528	-117.39921629367	15975	Ephemeral	Jurisdictional	5.680	0.000	0.000	5.680	Riverine	No	Less than 1 mile	Natural Drainage Above Ground	Concrete	Concrete channel with water staining	No vegetation present
Feature 25	Rialto Creek Channel	San Bernardino	34.0675574787571	-117.371119306765	1056	Ephemeral	Jurisdictional	5.578	0.000	0.000	5.578	Riverine	No	Less than 1 mile	Natural Drainage Above Ground	Concrete	Concrete channel with water present	No vegetation present

Drainage Number	Drainage Name (if applicable)	County	Latitude	Longitude	Linear Feet	Hydrologic Regime	Likely Jurisdictional Status	Potential Non-Wetland Waters (acres)	Potential Deepwater Aquatic Non-Wetland Waters (acres)	Potential Wetlands (acres)	Total Potential Area (acres)	Cowardin Class	Section 10 Water	Approximate Distance to RPW	Flow Route to RPW	Primary Substrate	Hydrologic Indicators	Biological Characteristics
Feature 26		San Bernardino	34.0683216942185	-117.370674057234	973	Ephemeral	Non-Jurisdictional	0.022	0.000	0.000	0.022	Riverine	No	Less than 1 mile	Natural Drainage Above Ground	Concrete	Concrete channel with water present	No vegetation present
Feature 27		San Bernardino	34.0692085706267	-117.3683591995	908	Ephemeral	Non-Jurisdictional	0.021	0.000	0.000	0.021	Riverine	No	Less than 1 mile	Natural Drainage Above Ground	Concrete	Concrete channel with water staining	No vegetation present
Feature 28		San Bernardino	34.0690870426406	-117.365193375841	478	Ephemeral	Non-Jurisdictional	0.033	0.000	0.000	0.033	Riverine	No	Less than 1 mile	Natural Drainage Above Ground	Concrete	Concrete channel with sediment deposition	No vegetation present
Feature 29		San Bernardino	34.0691728898107	-117.361205881818	582	Ephemeral	Non-Jurisdictional	0.013	0.000	0.000	0.013	Riverine	No	Less than 1 mile	Natural Drainage Above Ground	Concrete	Concrete channel with sediment deposition	No vegetation present
Feature 30		San Bernardino	34.0694224699758	-117.354628090085	164	Ephemeral	Non-Jurisdictional	0.048	0.000	0.000	0.048	Riverine	No	Less than 1 mile	Natural Drainage Above Ground	Concrete	Concrete channel with sediment deposition	No vegetation present
Feature 31		San Bernardino	34.0691036407303	-117.348142215126	89	Ephemeral	Non-Jurisdictional	0.009	0.000	0.000	0.009	Riverine	No	Less than 1 mile	Natural Drainage Above Ground	Concrete	Bed and bank, concrete channel with mild wrack zone	No vegetation present
Feature 32		San Bernardino	34.0685591829494	-117.338346661573	408	Ephemeral	Non-Jurisdictional	0.030	0.000	0.000	0.030	Riverine	No	Less than 1 mile	Natural Drainage Above Ground	Concrete	Concrete bed and bank with water present	Grasses and shrubs, cat tail, and other riparian vegetation
Feature 33		San Bernardino	34.0652541932016	-117.312628770323	495	Ephemeral	Non-Jurisdictional	0.091	0.000	0.000	0.091	Riverine	No	Less than 1 mile	Natural Drainage Above Ground	Concrete	Concrete channel with water present	Overgrowth of ornamental and invasive vegetation on banks, but devoid of vegetation within channel
Feature 34		San Bernardino	34.0658558265414	-117.30850018471	592	Ephemeral	Jurisdictional	0.048	0.000	0.000	0.048	Riverine	No	Less than 1 mile	Natural Drainage Above Ground	Cobbles and sand	Sediment deposition, sandy, some water staining	No vegetation present in study area
Feature 35	Warm Creek Channel	San Bernardino	34.0663065474645	-117.307032123303	1077	Intermittent	Jurisdictional	17.083	0.000	0.000	17.083	Riverine	No	Less than 1 mile	Natural Drainage Above Ground	Concrete	Concrete channel with sediment deposition	No vegetation present in study area
Feature 36	Santa Ana River Channel	San Bernardino	34.0634095682425	-117.304359080474	1378	Intermittent	Jurisdictional	56.222	0.000	0.000	56.222	Riverine	No	Less than 1 mile	Natural Drainage Above Ground	Concrete	Concrete channel with sediment deposition	No vegetation present in study area
Feature 37		San Bernardino	34.0641756311128	-117.286423664682	505	Ephemeral	Non-Jurisdictional	0.065	0.000	0.000	0.065	Riverine	No	Less than 1 mile	Natural Drainage Above Ground	Concrete	Concrete channel, wrack zone with some water staining	Highly vegetated for a concrete channel. Trees, shrubs, and grasses exist in and around the bed and bank with lots of overgrowth into the channel
Feature 38	San Timoteo Creek Chan	San Bernardino	34.06324579081	-117.26922806647	2505	Intermittent	Jurisdictional	14.346	0.000	0.000	14.346	Riverine	No	Less than 1 mile	Natural Drainage Above Ground	Concrete	Concrete channel with water present	No vegetation present
Feature 39		San Bernardino	34.0649262665124	-117.256670336729	10935		Non-Jurisdictional	4.328	0.000	0.000	4.328	Riverine	No	Less than 1 mile	Natural Drainage Above Ground	Concrete	Concrete channel with water present in some areas. Part of this feature has drainage culverts and is currently under construction on the west end	Sparse weeds and grasses, mostly devoid of vegetation
Feature 40	Mission Creek Channel	San Bernardino	34.0670522557958	-117.235700022226	4626	Intermittent	Jurisdictional	7.800	0.000	0.000	7.800	Riverine	No	Less than 1 mile	Natural Drainage Above Ground	Rip rap and sand	Water marks, Bed and Bank	No vegetation present in study area
Feature 41		San Bernardino	34.0660090108877	-117.221180690385	8497	Ephemeral	Non-Jurisdictional	1.687	0.000	0.000	1.687	Riverine	No	Less than 1 mile	Natural Drainage Above Ground	Concrete	Concrete channel, sediment deposition and wrack zone	No vegetation present
Feature 42		San Bernardino	34.0670449716319	-117.217796192238	5040	Ephemeral	Non-Jurisdictional	0.572	0.000	0.000	0.572	Riverine	No	Less than 1 mile	Natural Drainage Above Ground	Concrete	Concrete channel, wrack zone	No vegetation present
Feature 43		San Bernardino	34.0641202439048	-117.199173372652		Ephemeral	Non-Jurisdictional	0.011	0.000	0.000	0.011	Riverine	No	Less than 1 mile	Natural Drainage Above Ground	Concrete	Concrete channel, wrack zone	No vegetation present
Feature 44		San Bernardino	34.0686968640978	-117.198743939228	3166	Ephemeral	Non-Jurisdictional	3.433	0.000	0.000	3.433	Riverine	No	Less than 1 mile	Natural Drainage Above Ground	Concrete	Concrete channel, wrack zone and water staining	Weeds and schrubs growing through some areas of the channel, mostly devoid of vegetation
Feature 45		San Bernardino	34.0613124228455	-117.189297991064	573	Ephemeral	Non-Jurisdictional	0.039	0.000	0.000	0.039	Riverine	No	Less than 1 mile	Natural Drainage Above Ground	Concrete	Concrete channel with no vegetation	No vegetation present
Feature 46	Zanja Creek Channel	San Bernardino	34.0590751311309	-117.171781584616	1479	Intermittent	Jurisdictional	1.214	0.000	0.000	1.214	Riverine	No	Less than 1 mile	Natural Drainage Above Ground	Rip rap and sand	Water marks, Bed and Bank	No vegetation present
Feature 47		San Bernardino	34.0519523315446	-117.161417562563	3990	Ephemeral	Jurisdictional	0.375	0.000	0.000	0.375	Riverine	No	Less than 1 mile	Natural Drainage Above Ground	Concrete	Concrete channel, wrack zone and sediment deposition	No vegetation present
Feature 48		San Bernardino	34.0535807716939	-117.16318320726	448	Ephemeral	Non-Jurisdictional	0.041	0.000	0.000	0.041	Riverine	No	Less than 1 mile	Natural Drainage Above Ground	Concrete	Concrete channel, wrack zone and sediment deposition	No vegetation present
Feature 49		San Bernardino	34.0478467007566	-117.158593232696	350	Ephemeral	Non-Jurisdictional	0.032	0.000	0.000	0.032	Riverine	No	Less than 1 mile	Natural Drainage Above Ground	Concrete	Concrete channel, wrack zone	No vegetation present

Drainage Number	Drainage Name (if applicable)	County	Latitude	Longitude	Linear Feet	Hydrologic Regime	Likely Jurisdictional Status	Potential Non-Wetland Waters (acres)	Potential Deepwater Aquatic Non-Wetland Waters (acres)	Potential Wetlands (acres)	Total Potential Area (acres)	Cowardin Class	Section 10 Water	Approximate Distance to RPW	Flow Route to RPW	Primary Substrate	Hydrologic Indicators	Biological Characteristics
Feature 50		San Bernardino	34.0413079083119	-117.154826660861	256	Ephemeral	Jurisdictional	0.041	0.000	0.000	0.041	Riverine	No	Less than 1 mile	Natural Drainage Above Ground	Concrete	Bed and bank	No vegetation present
Feature 51		San Bernardino	34.0425954144859	-117.160095078087	1842	Ephemeral	Jurisdictional	2.181	0.000	0.000	2.181	Riverine	No	Less than 1 mile	Natural Drainage Above Ground	Concrete	Concrete channel with water present	No vegetation present
Feature 52		San Bernardino	34.0424679498626	-117.155226436514	191	Ephemeral	Jurisdictional	0.013	0.000	0.000	0.013	Riverine	No	Less than 1 mile	Natural Drainage Above Ground	Concrete	Bed and bank	No vegetation present

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Appendix E: Sample Point Data

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: I-10 Corridor City/County: Montclair, San Bernardino County Sampling Date: 1/22/2013

Applicant/Owner: Caltrans State: CA Sampling Point: SP1

Investigator(s): S. Taylor, K. Day Section, Township, Range: Section 15, Township 1S, Range 8W

Landform (hillslope, terrace, etc.): Detention Basin Local relief (concave, convex, none): Concave Slope (%): 2

Subregion (LRR): LRR-C Lat: ~~435055~~ 34.082199 Long: ~~3771493~~ -117.703738 Datum: NAD83

Soil Map Unit Name: Soboba gravelly loamy sand NWI classification: N/A

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? N Are "Normal Circumstances" present? Yes ✓ No ____

Are Vegetation ____, Soil X, or Hydrology ____ naturally problematic? Y (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 ~~X~~
Hydric Soil Present?	Yes X	No ____
Wetland Hydrology Present?	Yes X	No ____

Is the Sampled Area within a Wetland? Yes ✓ No ~~X~~

Remarks: Flood control basin
Chino Water District

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1. N/A			
2.			
3.			
4.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 10'x25')			
1. Rumex crispus	5	N	FAC
2. Unk. grass 1	20	Y	FACU
3.			
4.			
5.			
	25	= Total Cover	
Herb Stratum (Plot size: 10'x25')			
1. Xanthium strumarium	10	~~N~~ Y	FAC
2. Rumex crispus	15	Y	FAC
3. Senecio sp.	5	N	FAC
4.			
5.			
6.			
7.			
8.			
	30	= Total Cover	
Woody Vine Stratum (Plot size: ____)			
1. N/A			
2.			
		= Total Cover	

% Bare Ground in Herb Stratum 60 % 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: ~~4~~ 3 (B)

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

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species		x 1 =
FACW species		x 2 =
FAC species	4	x 3 = 12
FACU species	1	x 4 = 4
UPL species		x 5 =
Column Totals:	5 (A)	16 (B)

Prevalence Index = B/A = 3.2

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 X No ~~X~~

Remarks:

US Army Corps of Engineers Arid West – Version 2.0

SOIL I-10 Corridor 6/22/13 Sampling Point: SP1

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
1-8	7.5YR 3/1						Sandy loam	30% coarse (pebbles)
8-18	7.5YR 3/2						sandy loam	30% coarse (pebbles)

[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:
Layer division is poorly defined
Second layer has slightly more redox features.

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)
- X Water-Stained Leaves (B9)
- __ Salt Crust (B11)
- __ Biotic Crust (B12)
- __ Aquatic Invertebrates (B13)
- __ Hydrogen Sulfide Odor (C1)
- __ Oxidized Rhizospheres along Living Roots (C3)
- X 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 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 X No ___

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

Remarks:
Water is pooled within part of the feature

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WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: I-10 Corridor City/County: Montclair, San Bernardino County Sampling Date: 1/22/13
Applicant/Owner: Caltrans State: CA Sampling Point: SP 1A
Investigator(s): S. Taylor, K. Day Section, Township, Range: Section 15, Township 1S, Range 8W
Landform (hillslope, terrace, etc.): Detention Basin Local relief (concave, convex, none): Concave Slope (%): ______
Subregion (LRR): LRR-C Lat: ~~435051~~ 34.082198 Long: ~~377443~~ -117.703484 Datum: NAD83
Soil Map Unit Name: Soboba gravelly loamy sand NWI classification: N/A
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 X, 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 ___ 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. N/A			
2.			
3.			
4.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: ______)			
1. Brassica nigra	20	Y	Ø
2. Rumex crispus	15	~~N~~ Y	FAC
3.			
4.			
5.			
	35	= Total Cover	
Herb Stratum (Plot size: ______)			
1. Helminthotheca echioides	60	Y	FACU
2. Polygonum sp.	25	N	FACW
3. Rumex crispus	10	N	FAC
4. Erodium cicutarium	2	N	Ø
5. Xanthium strumarium	10	N	FAC
6.			
7.			
8.			
	107	= Total Cover	
Woody Vine Stratum (Plot size: ______)			
1. N/A			
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: 1 (A)
Total Number of Dominant Species Across All Strata: 3 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 33% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species	0	x 1 =
FACW species	1	x 2 = 2
FAC species	3	x 3 = 9
FACU species	1	x 4 = 4
UPL species		x 5 =
Column Totals:	5 (A)	15 (B)

Prevalence Index = B/A = 3

Hydrophytic Vegetation Indicators:

- ___ Dominance Test is >50%
- X 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:

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SOIL I-10 Corridor 1/22/13 Sampling Point: SP 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 Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
1-18	7.5 YR 3/1						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 X

Remarks:

No indicators present

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**)
- X 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:

Indicators present, but not sufficient to meet hydrology

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WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: I-10 Corridor City/County: San Bernardino County Sampling Date: 1/22/13

Applicant/Owner: Caltrans State: CA Sampling Point: SP3

Investigator(s): S. Taylor, K. Day Section, Township, Range: Section 13 Township 1S, Range 8W

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

Subregion (LRR): LRR C Lat: ~~4455~~ 34.087683 Long: ~~37694826~~ -117.667087 Datum: NAD83

Soil Map Unit Name: Tujunga gravelly loamy sand NWI classification: N/A

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

Are Vegetation ___, Soil X, or Hydrology ___ significantly disturbed? Are "Normal Circumstances" present? Yes ___ No X

Are Vegetation ___, Soil X, 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 ~~X~~	Is the Sampled Area within a Wetland? Yes ___ No X
Hydric Soil Present?	Yes ___ No X	
Wetland Hydrology Present?	Yes X No ___	

Remarks: Within a cement-lined culvert next to a freeway

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: ___)			
1. Salix lasiolepis	2	N	FACW
2. Washingtonia robusta	2	N	Ø
3.			
4.			
	4 = Total Cover		
Sapling/Shrub Stratum (Plot size: ___)			
1. Typha domingensis	60	Y	OBL
2. Epilobium canum	50	Y	Ø
3. Cyperus involucratus	30	Y	FACW
4. Syagrus romanzoffiana	1	N	Ø
5.			
	141 = Total Cover		
Herb Stratum (Plot size: ___)			
1. Epilobium canum	5	Y	Ø
2. Polypogon monspeliensis	5	Y	FACW
3. Baccharis salicifolia	2	N	FAC
4. Gnapthalium sp.	>1	N	Ø
5. Cynodon dactylon	10	Y	FACU
6.			
7.			
8.			
	22 = Total Cover		
Woody Vine Stratum (Plot size: ___)			
1. N/A			
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: 4 (A)

Total Number of Dominant Species Across All Strata: 8 (B)

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

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species	1	x 1 = 1
FACW species	3	x 2 = 6
FAC species	1	x 3 = 3
FACU species	1	x 4 = 4
UPL species		x 5 =
Column Totals:	6 (A)	14 (B)

Prevalence Index = B/A = 2.3

Hydrophytic Vegetation Indicators:

- ___ Dominance Test is >50%
- X 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:

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SOIL I-10 Corridor 1/22/13 Sampling Point: SP 2

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
~3 inches							Sandy loam, trash	

[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:

No pit dug, concrete lined channel with soil deposits on top.
No obvious indicators present

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- X 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:

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WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: I-10 Corridor City/County: San Bernardino County Sampling Date: 1/22/13
Applicant/Owner: Caltrans State: CA Sampling Point: SP2A
Investigator(s): S. Taylor, K. Day Section, Township, Range: Section 13, Township 1S, Range 8W
Landform (hillslope, terrace, etc.): Road shoulder Local relief (concave, convex, none): concave Slope (%): 1
Subregion (LRR): LRR-C Lat: 34.087594 Long: -117.667088 Datum: ____
Soil Map Unit Name: Tujunga gravelly loamy sand NWI classification: N/A
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No ___ (If no, explain in Remarks.)
Are Vegetation ___, Soil X, or Hydrology ___ significantly disturbed? Are "Normal Circumstances" present? Yes ___ No X
Are Vegetation ___, Soil X, 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 ___ No X	
Wetland Hydrology Present?	Yes ___ No X	

Remarks:
Fill off roadway shoulder

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: ___)			
1. N/A			
2.			
3.			
4.			
= Total Cover			
Sapling/Shrub Stratum (Plot size: ___)			
1. Verbesina encelioides ssp.	10	Y	FACU
2. exauriculata			
3.			
4.			
5.			
= Total Cover	10		
Herb Stratum (Plot size: ___)			
1. Erodium cicutarium	90	Y	Ø
2.			
3.			
4.			
5.			
6.			
7.			
8.			
= Total Cover	90		
Woody Vine Stratum (Plot size: ___)			
1. N/A			
2.			
= Total Cover			

% Bare Ground in Herb Stratum 10 % Cover of Biotic Crust ___

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: Ø (A)
Total Number of Dominant Species Across All Strata: ___ (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

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

Prevalence Index = B/A = 4

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:

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SOIL I-10 Corridor 1/22/13 Sampling Point: SP2A

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	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: ________
Depth (inches): ________

Hydric Soil Present? Yes ____ No X

Remarks:
No pit dug and no indicators present

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:
No indicators present

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WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: I-10 Corridor City/County: San Bernardino County Sampling Date 1/23/2013
Applicant/Owner Caltrans State CA Sampling Point SP3
Investigator(s): S. Taylor, K. Day Section, Township, Range: Section 24, Township 1S, Range 7W
Landform (hillslope, terrace, etc.) ditch Local relief (concave, convex, none) Concave Slope (%) 2
Subregion (LRR): LRR-C Lat: 34.067831 Long: -117.568610 Datum: NAD83
Soil Map Unit Name: Delhi fine sand NWI classification: N/A

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 ___	Is the Sampled Area within a Wetland?	Yes ___ No X
Hydric Soil Present? Yes ___ No ✓		
Wetland Hydrology Present? Yes ✓ No ___		

Remarks
Concrete V-ditch

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ___)	Absolute % Cover	Dominant Species?	Indicator Status
1. N/A			
2.			
3.			
4.			
= Total Cover			
Sapling/Shrub Stratum (Plot size: ___)			
1. Typha latifolia	10	Y	OBL
2. Rumex crispus	30	Y	FAC
3.			
4.			
5.			
= Total Cover	40		
Herb Stratum (Plot size: ___)			
1. Cynodon dactylon	20	Y	Ø
2. Bromus sp.	40	N	Ø
3.			
4.			
5.			
6.			
7.			
8.			
= Total Cover	60		
Woody Vine Stratum (Plot size: ___)			
1. N/A			
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: 3 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 66% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species	10	x 1 = 10
FACW species		x 2 =
FAC species	30	x 3 = 90
FACU species		x 4 =
UPL species		x 5 =
Column Totals	40 (A)	100 (B)

Prevalence Index = B/A = 2.5

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

US Army Corps of Engineers Arid West – Version 2.0

SOIL

Sampling Point SP3

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
<3 inches of soil							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:

No pit dug, sandy loam present but had no apparent indicators

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:

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WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: I-10 Corridor City/County: San Bernardino Cnty Sampling Date: 1/23/2013

Applicant/Owner: Caltrans State: CA Sampling Point: SP3A

Investigator(s): S. Taylor, K. Day Section, Township, Range: Section 24, Township 1S, Range 7W

Landform (hillslope, terrace, etc.): concrete ditch, shoulder Local relief (concave, convex, none): concave Slope (%): 0

Subregion (LRR): LRR-C Lat: 34.067802 Long: -117.568659 Datum: NAD83

Soil Map Unit Name: Delhi Fine Sand NWI classification: N/A

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: Road shoulder

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: ___)			
1. N/A			
2.			
3.			
4.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: ___)			
1. Fouquieria (hedge)	20	Y	Ø
2.			
3.			
4.			
5.			
	20	= Total Cover	
Herb Stratum (Plot size: ___)			
1. Erodium cic.	10	Y	Ø
2. Bromus diandrus	10	Y	Ø
3.			
4.			
5.			
6.			
7.			
8.			
	20	= Total Cover	
Woody Vine Stratum (Plot size: ___)			
1. N/A			
2.			
		= Total Cover	

% Bare Ground in Herb Stratum 60 % Cover of Biotic Crust —

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (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

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SOIL

Sampling Point SP 3A

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: ____________
Depth (inches): ____________

Hydric Soil Present? Yes ______ No ______

Remarks:
No indicators present. Fill soil on road shoulder

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:
No indicators

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WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: I-10 Corridor City/County: Ontario, San Bernardino County Sampling Date: 1/29/13

Applicant/Owner: Caltrans State: CA Sampling Point: SP. 4

Investigator(s): K. Day Section, Township, Range: Section 19, Township 1S, Range 6W

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

Subregion (LRR): LRR-C Lat: 34.067724 Long: -117.557462 Datum: ______

Soil Map Unit Name: Delhi Fine Sand NWI classification: N/A

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 X 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 ____	Is the Sampled Area within a Wetland? Yes ____ No X
Hydric Soil Present?	Yes ~~X~~ No X	
Wetland Hydrology Present?	Yes X No ~~X~~	

Remarks:

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: ______)			
1. N/A			
2.			
3.			
4.			
= Total Cover			
Sapling/Shrub Stratum (Plot size: 150 ft²)			
1. Typha domingensis	60	Y	OBL
2. Salix lasiolepis	1	N	FACW
3.			
4.			
5.			
= Total Cover	61		
Herb Stratum (Plot size: 150 ft²)			
1. Bromus diandrus	5	Y	FACU
2. Aster sp.	1	N	NI
3. Cynodon dactylon	20	~~N~~ Y	FACU
4. Avena barbata	<1	N	NI
5.			
6.			
7.			
8.			
= Total Cover	8		
Woody Vine Stratum (Plot size: ______)			
1. N/A			
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: 1 (A)

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

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

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species	1	x 1 = 1
FACW species	1	x 2 = 2
FAC species		x 3 =
FACU species	2	x 4 = 4
UPL species		x 5 =
Column Totals:	4 (A)	7 (B)

Prevalence Index = B/A = 1.75

Hydrophytic Vegetation Indicators:

- ___ Dominance Test is >50%
- X 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:

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SOIL I-10 Corridor 1/29/13 Sampling Point: SP-4

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
<5 inches at deepest							Sandy loam + trash	

[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:

Concrete lined channel; no pit dug. Soil indicators not apparent

HYDROLOGY

Wetland Hydrology Indicators:

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

- X Surface Water (A1)
- __ High Water Table (A2)
- X Saturation (A3)
- X Water Marks (B1) (**Nonriverine**)
- X 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 X No ____ Depth (inches): 6"

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

Saturation Present? (includes capillary fringe) Yes X No ____ Depth (inches): 6"

Wetland Hydrology Present? Yes X No ____

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

Remarks:

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WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: I-10 Corridor City/County: Ontario, San Bernardino County Sampling Date: 1/29/13

Applicant/Owner: Caltrans State: CA Sampling Point: SP 4A

Investigator(s): K. Day Section, Township, Range: Section 19, Township 1S, Range 6W

Landform (hillslope, terrace, etc.): Road shoulder Local relief (concave, convex, none): convex Slope (%): <5

Subregion (LRR): LRR-C Lat: 34.067954 Long: -117.557412 Datum: NAD83

Soil Map Unit Name: Delhi fine sand NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ______ 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	Is the Sampled Area within a Wetland? Yes ___ No X
Hydric Soil Present?	Yes ___ No X	
Wetland Hydrology Present?	Yes ___ No X	

Remarks:

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: ______)			
1. N/A			
2.			
3.			
4.			
	___ = Total Cover		
Sapling/Shrub Stratum (Plot size: ______)			
1. N/A			
2.			
3.			
4.			
5.			
	___ = Total Cover		
Herb Stratum (Plot size: ______)			
1. Cynodon dactylon	5		FACU
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	5 = Total Cover		
Woody Vine Stratum (Plot size: ______)			
1. N/A			
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: 0 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

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

Prevalence Index = B/A = 4

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:

Wood chip coverage is 100% over top soil.

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SOIL I-10 Corridor 1/29/13 Sampling Point: SP 4A

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: ___

Depth (inches): ___

Hydric Soil Present? Yes ___ No ___

Remarks:

No pit dug; all fill material No indicators apparent.

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:

No indicators present.

US Army Corps of Engineers Arid West – Version 2.0

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: I-10 Corridor City/County: Ontario, San Bernardino County Sampling Date: 1/29/13
Applicant/Owner: Caltrans State: CA Sampling Point: SP 5
Investigator(s): K. Day Section, Township, Range: Section 19 Township 1S, Range 4W
Landform (hillslope, terrace, etc.): Channel Local relief (concave, convex, none): concave Slope (%): 0
Subregion (LRR): LRR-C Lat: 34.068570 Long: -117.338708 Datum: NAD83
Soil Map Unit Name: Tujunga loamy sand NWI classification: N/A
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 X 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 ___	Is the Sampled Area within a Wetland? Yes ___ No ✓	
Hydric Soil Present? Yes ___ No X		
Wetland Hydrology Present? Yes X No ___		

Remarks:
Concrete channel

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: ___)			
1. Salix lasiolepis	10	Y	FACW
2.			
3.			
4.			
	10 = Total Cover		
Sapling/Shrub Stratum (Plot size: ___)			
1. Eucalyptus globulus	<1	N	Ø
2. Typha domingensis	60	Y	OBL
3. Helianthus annua	5	N	Ø
4.			
5.			
	66 = Total Cover		
Herb Stratum (Plot size: ___)			
1. Cynodon dactylon	30	Y	FACU
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	30 = Total Cover		
Woody Vine Stratum (Plot size: ___)			
1. N/A			
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: 2 (A)
Total Number of Dominant Species Across All Strata: 3 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 66% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species	1	x 1 = 1
FACW species	1	x 2 = 2
FAC species		x 3 =
FACU species	1	x 4 = 4
UPL species		x 5 =
Column Totals:	3 (A)	7 (B)

Prevalence Index = B/A = 2.3

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:
Channel clogged with vegetative debris

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SOIL I-10 Corridor 1/29/13 Sampling Point: SP. 5

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
25 inches							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 X

Remarks:

No pit dug, concrete lined channels with soil deposits on top
No apparent indicators

HYDROLOGY

Wetland Hydrology Indicators:

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

- X Surface Water (A1)
- __ High Water Table (A2)
- X Saturation (A3)
- __ Water Marks (B1) (**Nonriverine**)
- __ Sediment Deposits (B2) (**Nonriverine**)
- __ Drift Deposits (B3) (**Nonriverine**)
- __ Surface Soil Cracks (B6)
- __ Inundation Visible on Aerial Imagery (B7)
- X 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:

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WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: I-10 Corridor City/County: Colton / Rialto / San Bernardino County Sampling Date: 1/29/2013

Applicant/Owner: Caltrans State: CA Sampling Point: SP 5A

Investigator(s): Krissy Day Section, Township, Range: Section 11, Township 1S, Range 4W

Landform (hillslope, terrace, etc.): Road Shoulder Local relief (concave, convex, none): Concave Slope (%): 0

Subregion (LRR): LRR-C Lat: 34.068546 Long: -117.338720 Datum: NAD83

Soil Map Unit Name: Tujunga loamy sand NWI classification: N/A

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 X significantly disturbed? Are "Normal Circumstances" present? Yes X No ___

Are Vegetation X, 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 ___ No X		
Wetland Hydrology Present? Yes ___ No X		

Remarks: Road shoulder, highly disturbed

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: ___)			
1. N/A			
2.			
3.			
4.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: ___)			
1. N/A			
2.			
3.			
4.			
5.			
	= Total Cover		
Herb Stratum (Plot size: 100 Ft²)			
1. Salsola tragus	40	Y	Ø
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	40 = Total Cover		
Woody Vine Stratum (Plot size: ___)			
1. N/A			
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: 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	___	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:

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SOIL

Sampling Point: SP-5A

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 %	Redox Features Type[1]	Redox Features 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: ____________

Depth (inches): ____________

Hydric Soil Present? Yes ______ No X

Remarks: No pit dug - Fill next to roadway
No indicators apparent

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: No indicators present

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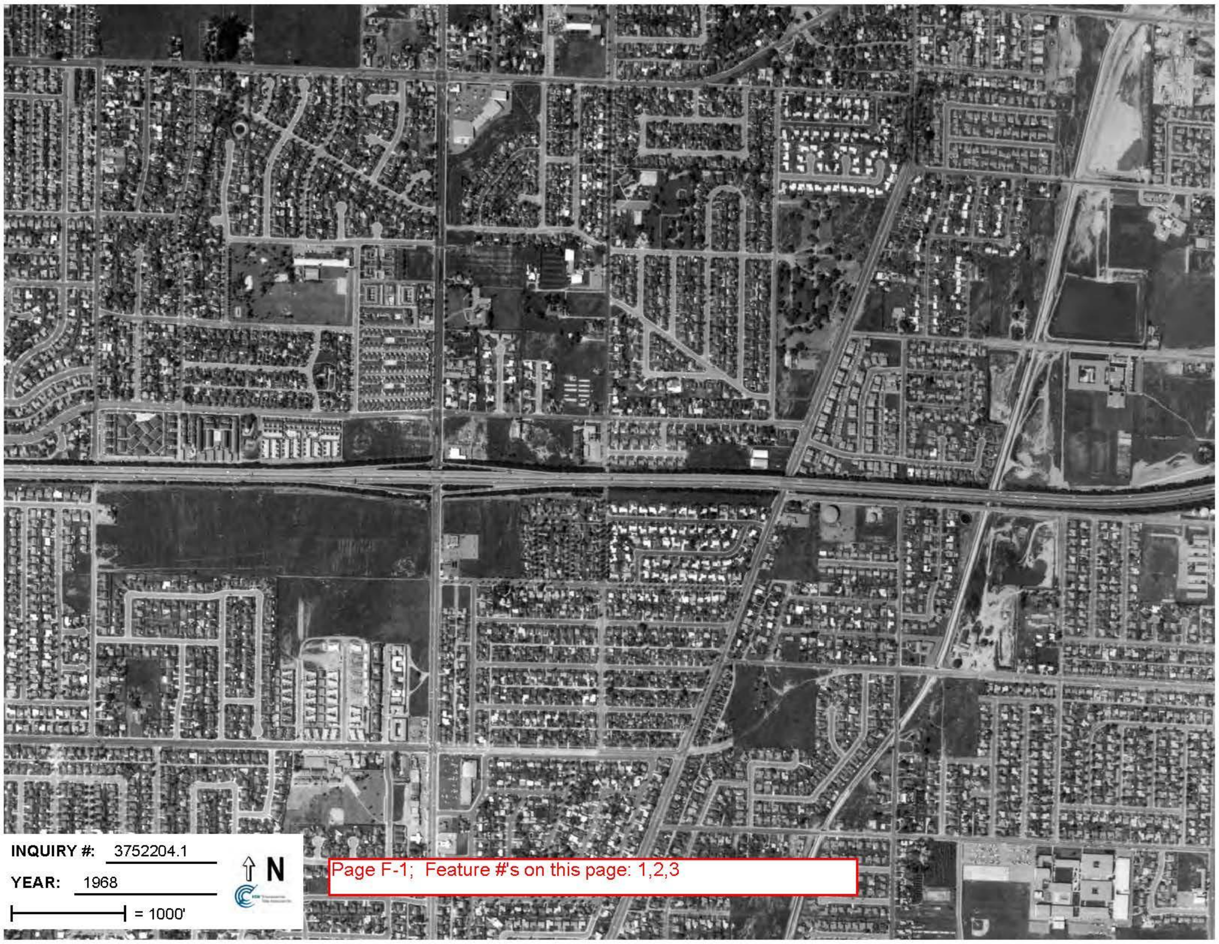
Appendix F: Historic Photographs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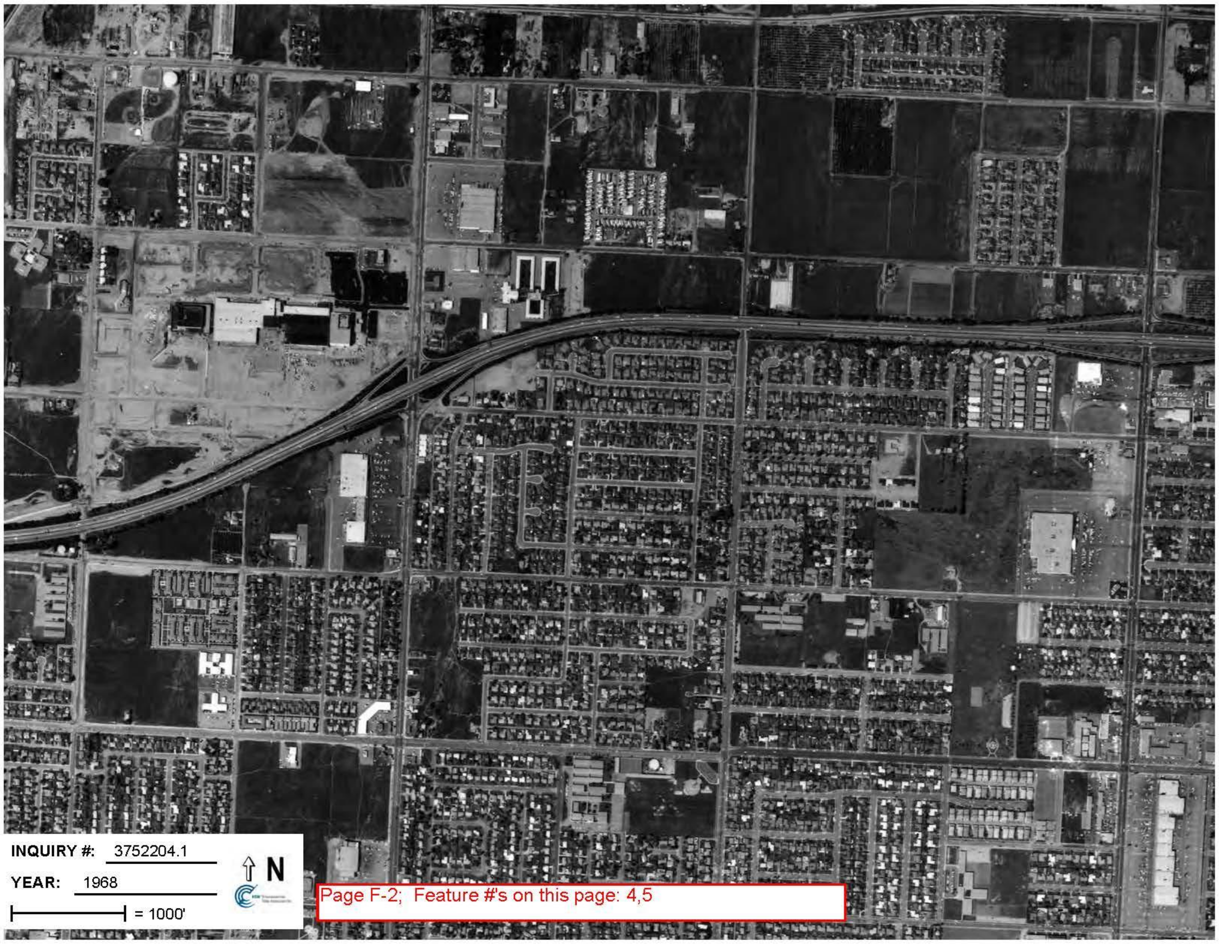
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Page F-3; Feature #'s on this page: 5,6


INQUIRY #: 3752204.1
YEAR: 1968
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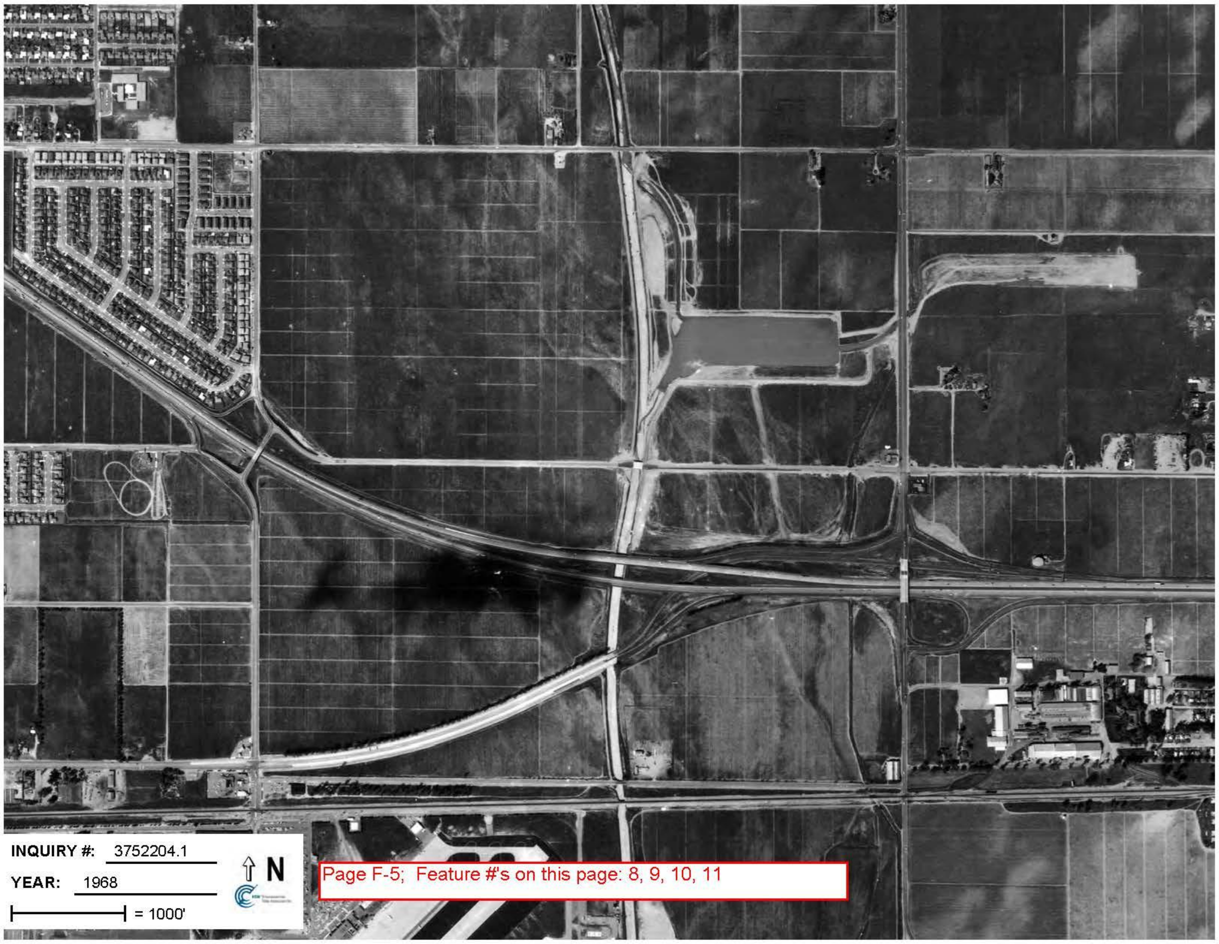
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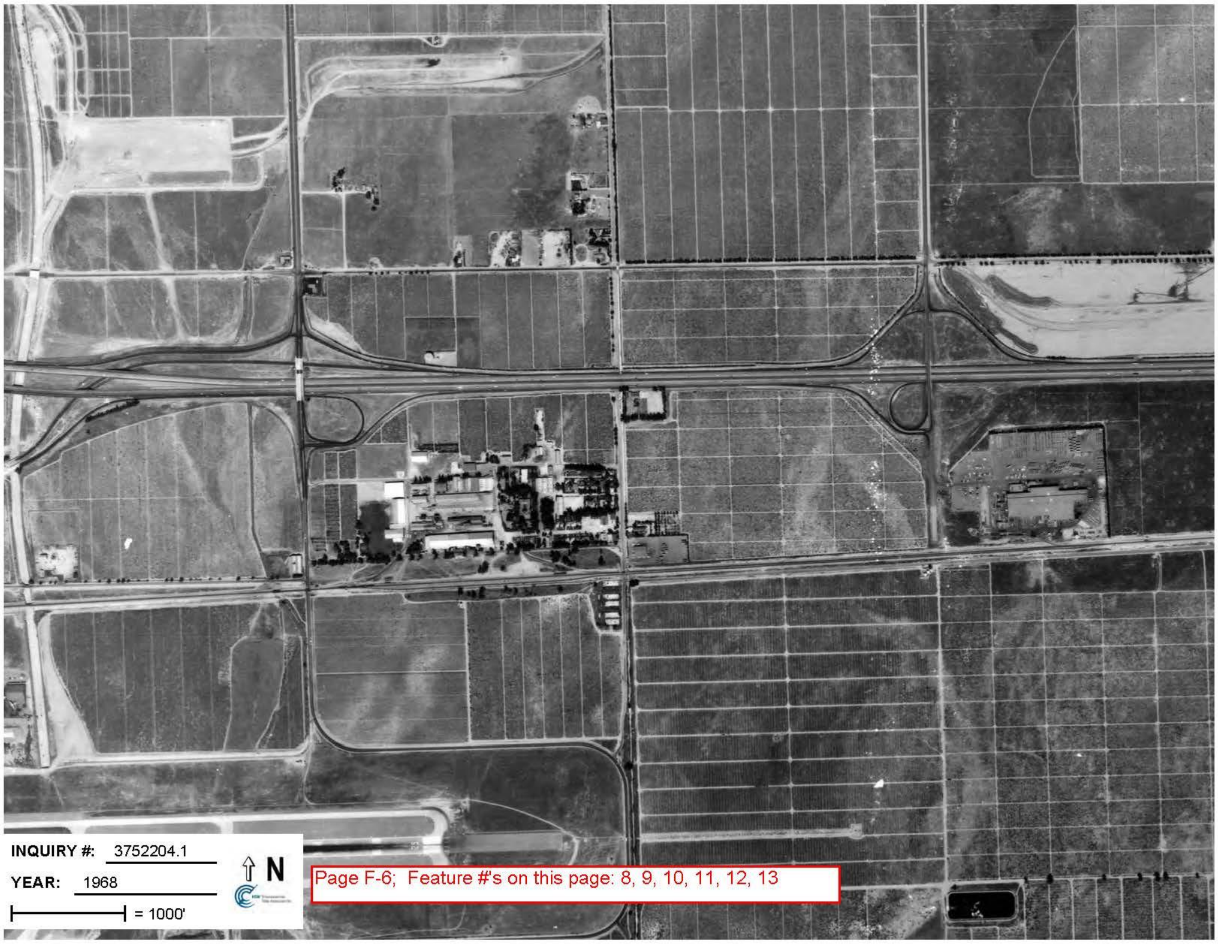
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Page F-6; Feature #'s on this page: 8, 9, 10, 11, 12, 13

Track Info Services, LLC

Historical Aerial Photo

Site: Ontario to Redlands, CA 92324

Photo Year: 1966

Job Number: 646884

Original Scale of Photo: 1:24,000

Approximate Scale of This Image: 1 in equals 1,500 ft

Coverage Area Approximately 1 Mile Radius from Subject Site

≈ 1,500 ft

Track Info Services, LLC

Historical Aerial Photo

Site: Ontario to Redlands, CA 92324

Photo Year: 1966

Page F-8; Feature #'s on this page: 19, 20, 21, 22

Job Number: 646884

Original Scale of Photo: 1:24,000

Approximate Scale of This Image: 1 in equals 1,500 ft

Coverage Area Approximately 1 Mile Radius from Subject Site

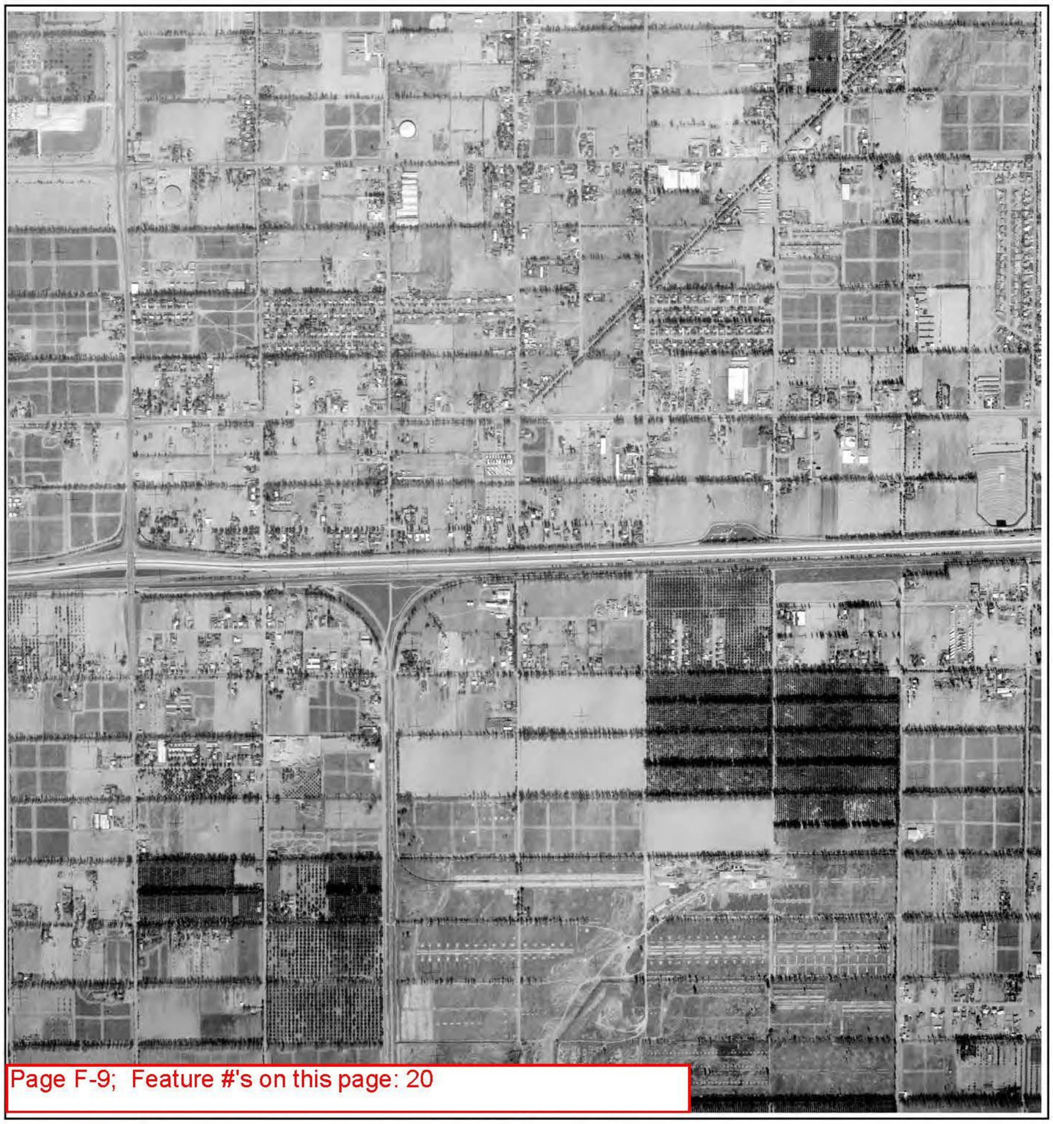
≈ 1,500 ft

Track Info Services, LLC

Historical Aerial Photo

Site: Ontario to Redlands, CA 92324

Photo Year: 1966



Job Number: 646884

Original Scale of Photo: 1:24,000

Approximate Scale of This Image: 1 in equals 1,500 ft

Coverage Area Approximately 1 Mile Radius from Subject Site

≈ 1,500 ft

Track Info Services, LLC

Historical Aerial Photo

Site: Ontario to Redlands, CA 92324

Photo Year: 1966

Job Number: 646884

Original Scale of Photo: 1:24,000

Approximate Scale of This Image: 1 in equals 1,500 ft

Coverage Area Approximately 1 Mile Radius from Subject Site

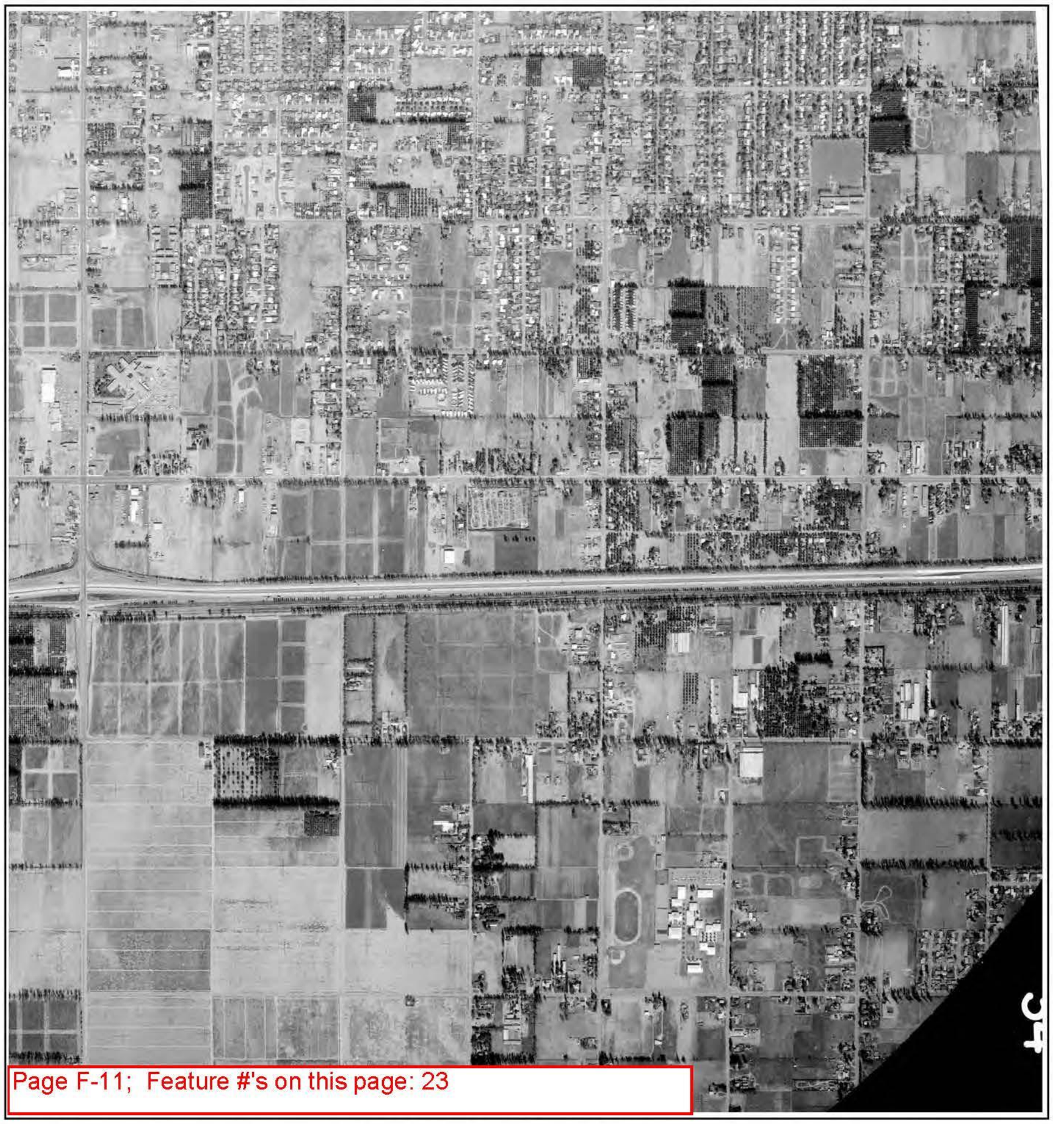
≈ 1,500 ft

Track Info Services, LLC

Historical Aerial Photo

Site: Ontario to Redlands, CA 92324

Photo Year: 1966



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Approximate Scale of This Image: 1 in equals 1,500 ft

Coverage Area Approximately 1 Mile Radius from Subject Site

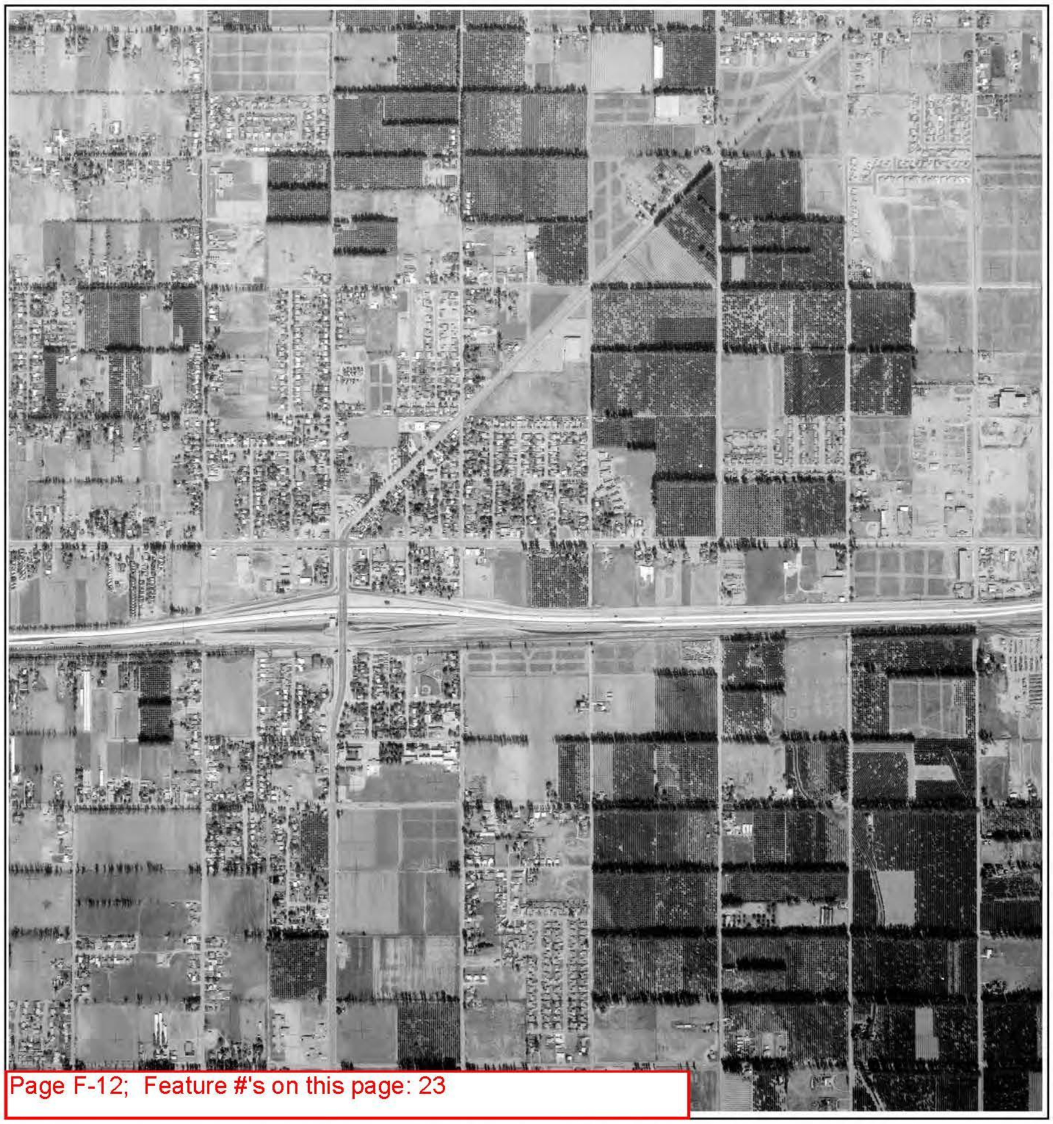
≈ 1,500 ft

Track Info Services, LLC

Historical Aerial Photo

Site: Ontario to Redlands, CA 92324

Photo Year: 1966



Page F-12; Feature #'s on this page: 23

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Approximate Scale of This Image: 1 in equals 1,500 ft

Coverage Area Approximately 1 Mile Radius from Subject Site

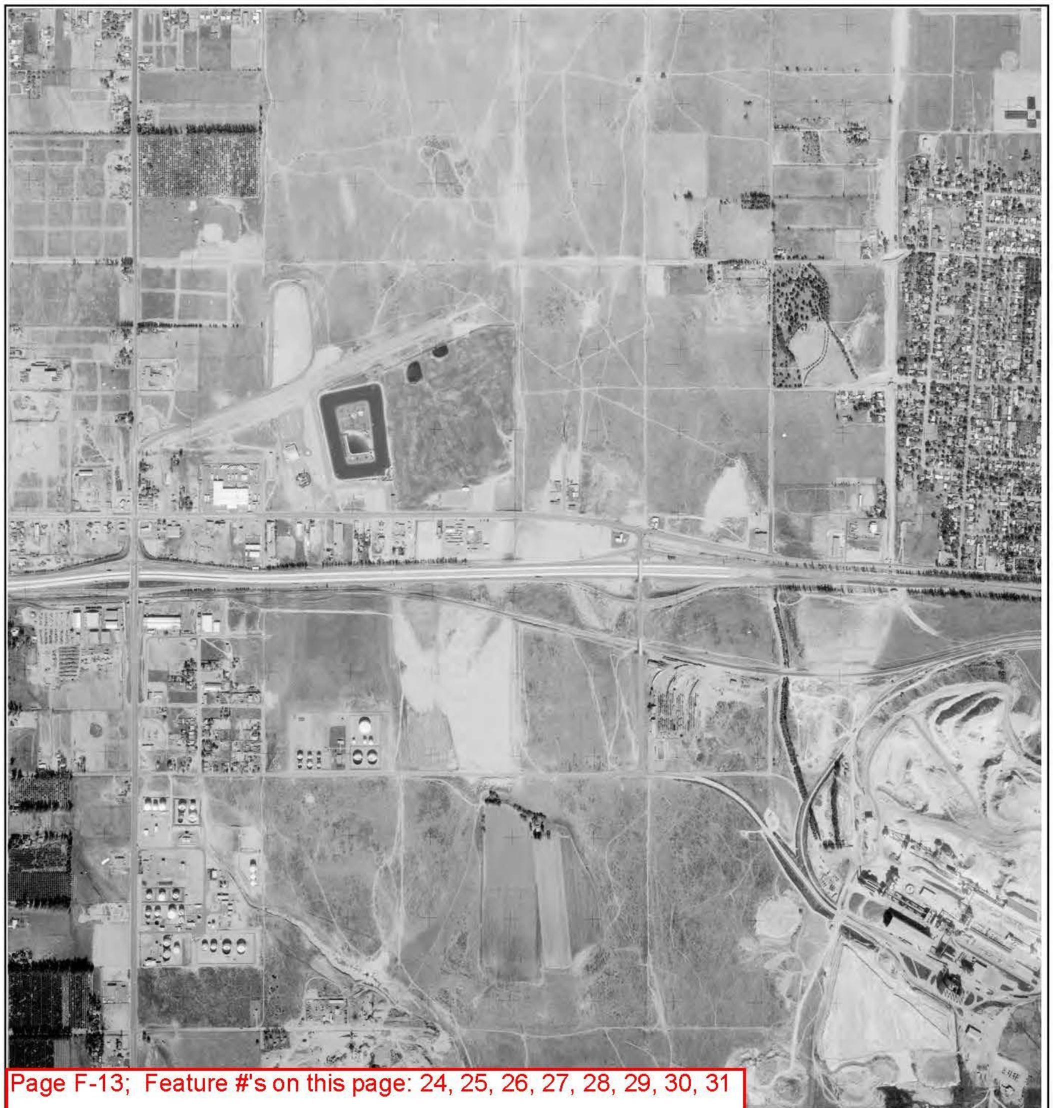
≈ 1,500 ft

Track Info Services, LLC

Historical Aerial Photo

Site: Ontario to Redlands, CA 92324

Photo Year: 1966



Page F-13; Feature #'s on this page: 24, 25, 26, 27, 28, 29, 30, 31

Job Number: 646884

Original Scale of Photo: 1:24,000

Approximate Scale of This Image: 1 in equals 1,500 ft

Coverage Area Approximately 1 Mile Radius from Subject Site

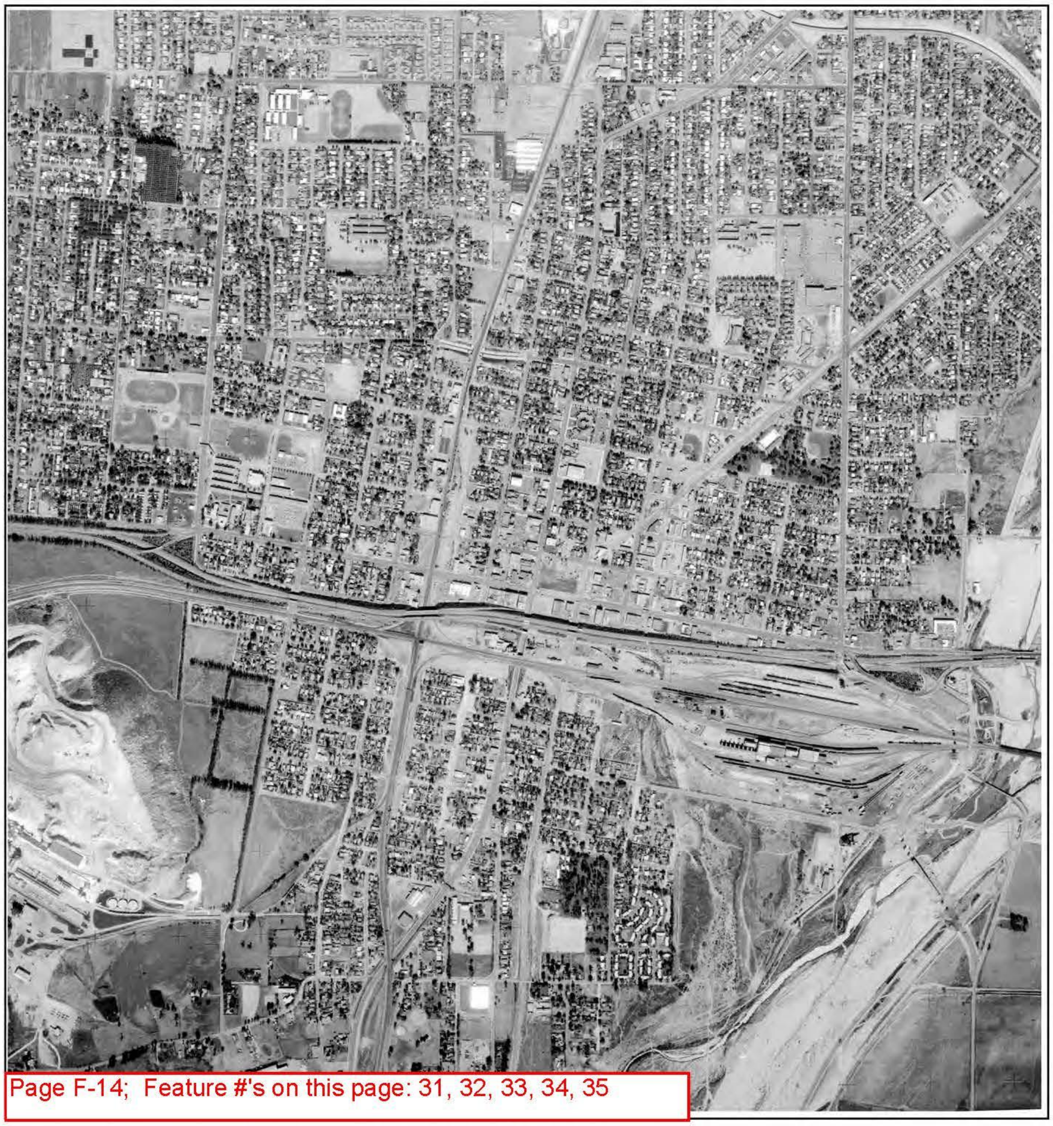
≈ 1,500 ft

Track Info Services, LLC

Historical Aerial Photo

Site: Ontario to Redlands, CA 92324

Photo Year: 1966



Page F-14; Feature #'s on this page: 31, 32, 33, 34, 35

Job Number: 646884

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Approximate Scale of This Image: 1 in equals 1,500 ft

Coverage Area Approximately 1 Mile Radius from Subject Site

≈ 1,500 ft

Track Info Services, LLC

Historical Aerial Photo

Site: Ontario to Redlands, CA 92324

Photo Year: 1966

Environmental FIRSTSEARCH Network

Page F-15; Feature #'s on this page:32, 33, 34, 35, 36, 37

Job Number: 646884

Original Scale of Photo: 1:24,000

Approximate Scale of This Image: 1 in equals 1,500 ft

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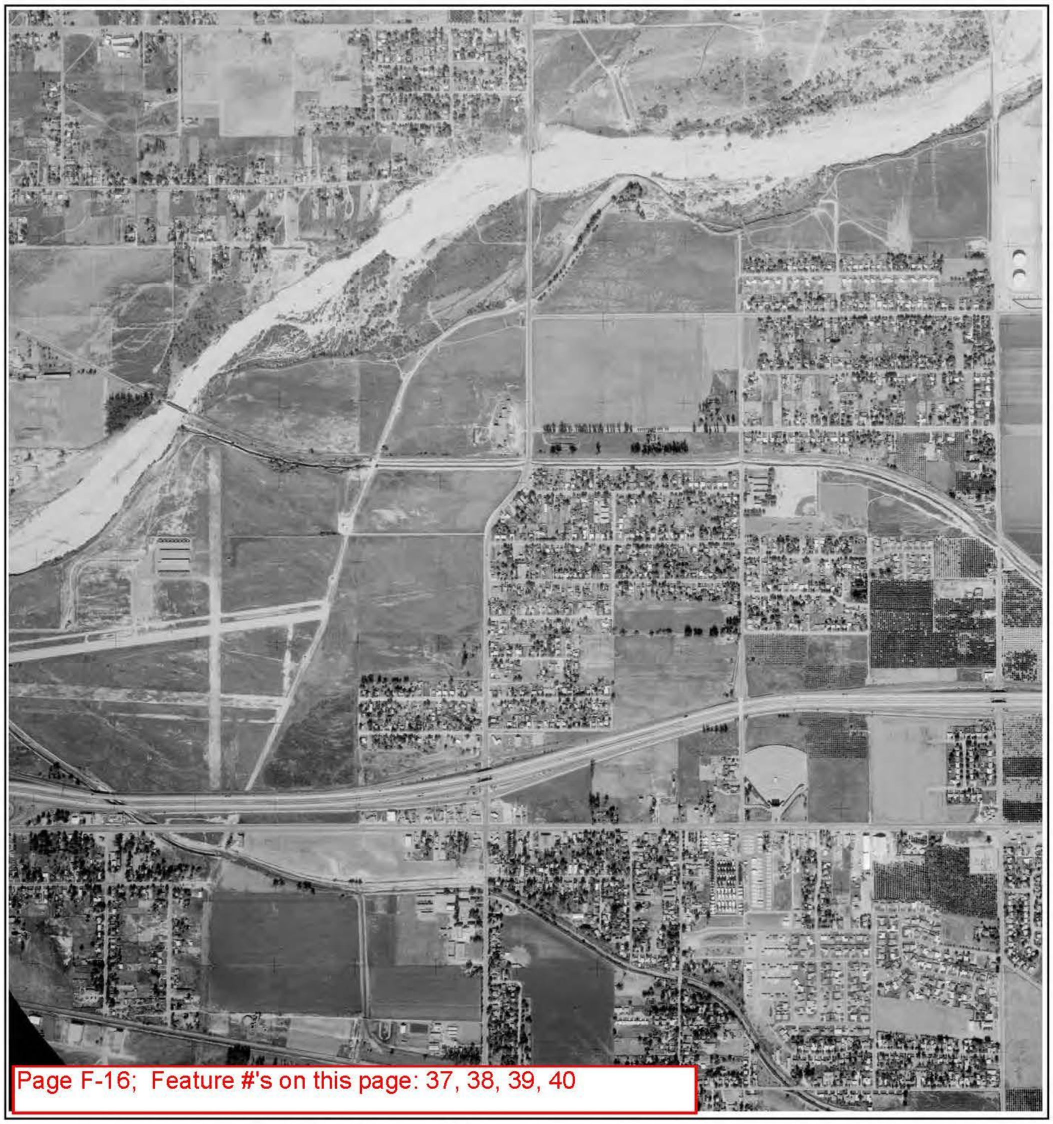
≈ 1,500 ft

Track Info Services, LLC

Historical Aerial Photo

Site: Ontario to Redlands, CA 92324

Photo Year: 1966



Job Number: 646884

Original Scale of Photo: 1:24,000

Approximate Scale of This Image: 1 in equals 1,500 ft

Coverage Area Approximately 1 Mile Radius from Subject Site

≈ 1,500 ft

Track Info Services, LLC

Historical Aerial Photo

Site: Ontario to Redlands, CA 92324

Photo Year: 1966

Job Number: 646884

Original Scale of Photo: 1:24,000

Approximate Scale of This Image: 1 in equals 1,500 ft

Coverage Area Approximately 1 Mile Radius from Subject Site

≈ 1,500 ft

Track Info Services, LLC

Historical Aerial Photo

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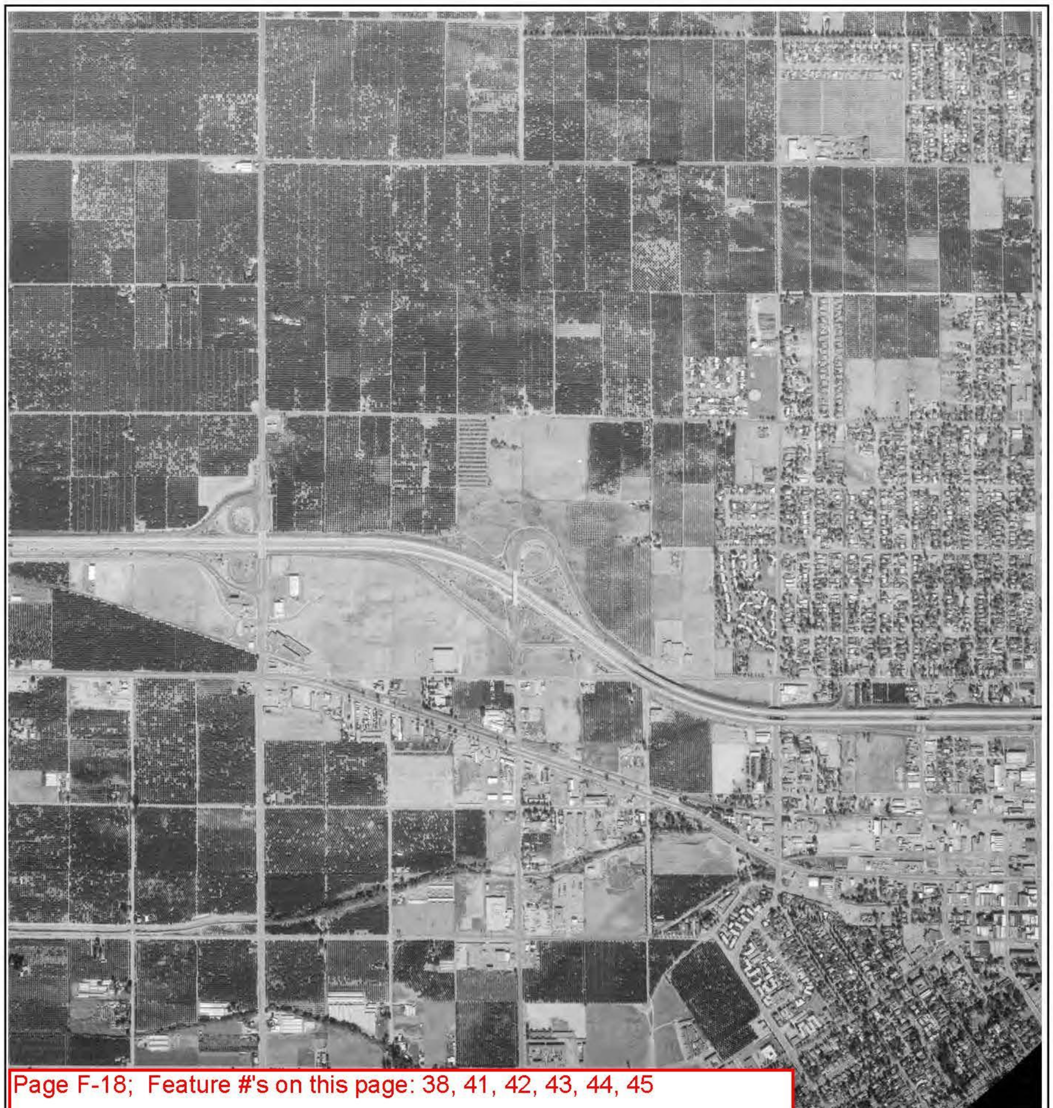
Photo Year: 1966



Page F-18; Feature #'s on this page: 38, 41, 42, 43, 44, 45

Job Number: 646884

Original Scale of Photo: 1:24,000

Approximate Scale of This Image: 1 in equals 1,500 ft

Coverage Area Approximately 1 Mile Radius from Subject Site

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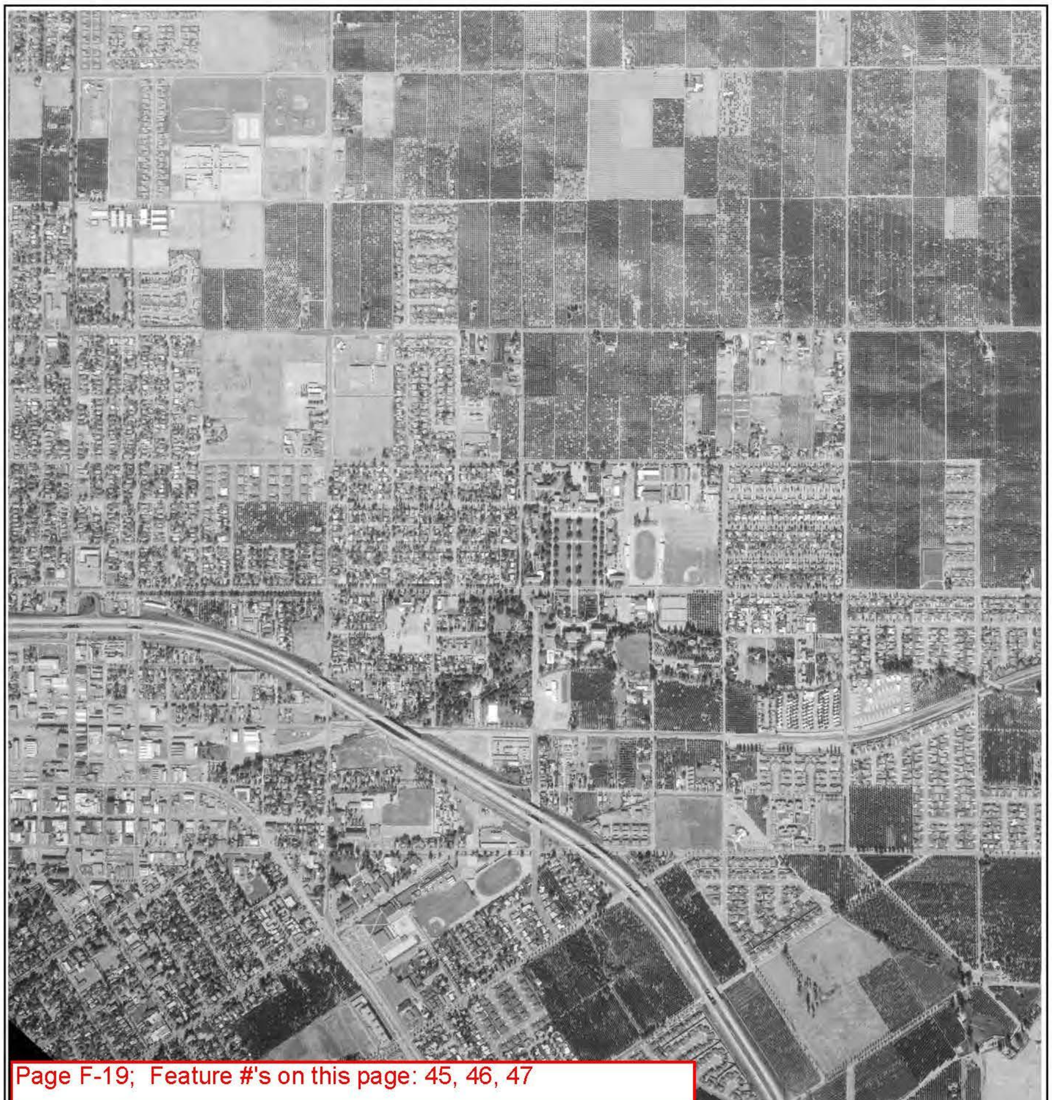
Track Info Services, LLC

Historical Aerial Photo

Site: Ontario to Redlands, CA 92324

Photo Year: 1966



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Job Number: 646884

Original Scale of Photo: 1:24,000

Approximate Scale of This Image: 1 in equals 1,500 ft

Coverage Area Approximately 1 Mile Radius from Subject Site

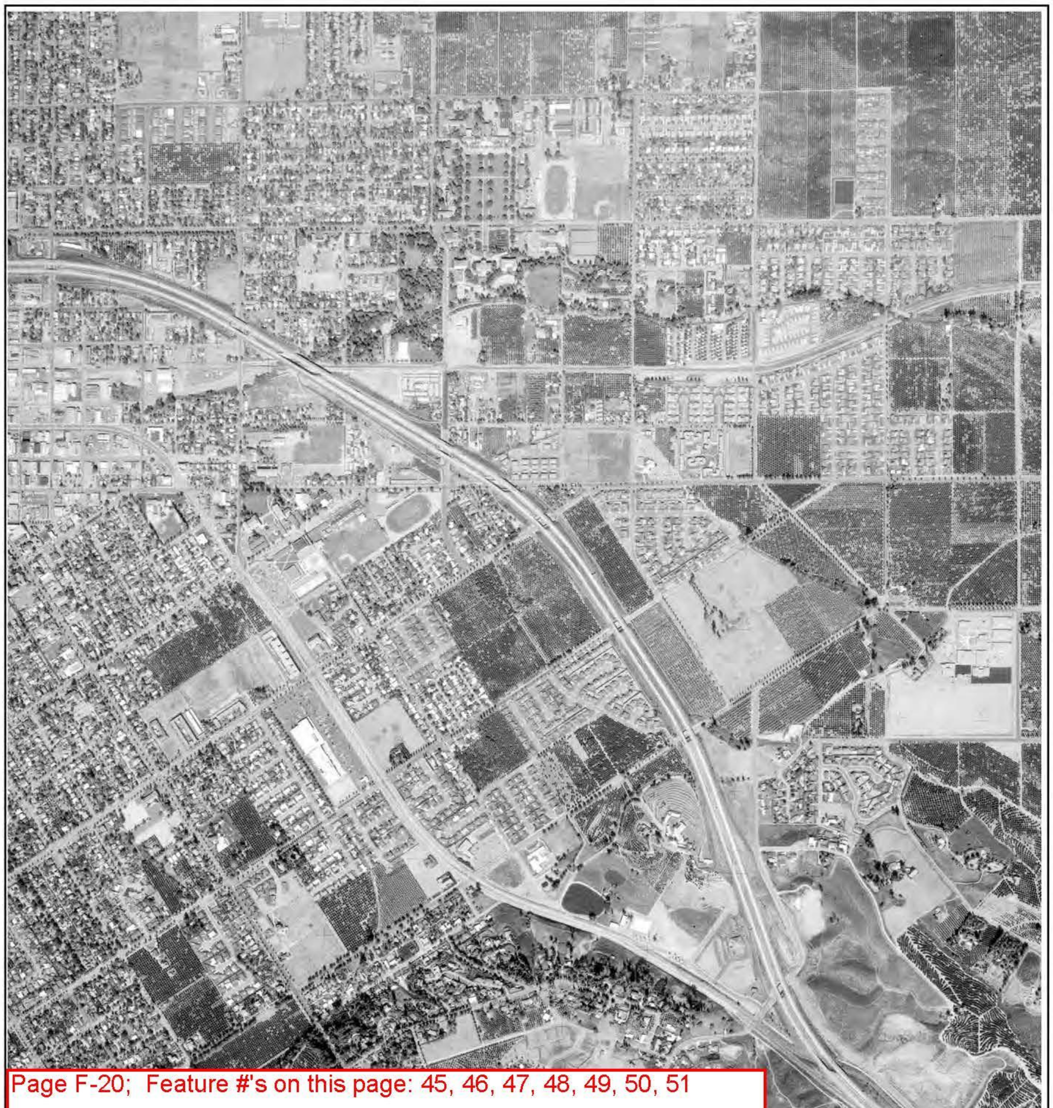
≈ 1,500 ft

Track Info Services, LLC

Historical Aerial Photo

Site: Ontario to Redlands, CA 92324

Photo Year: 1966



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Job Number: 646884

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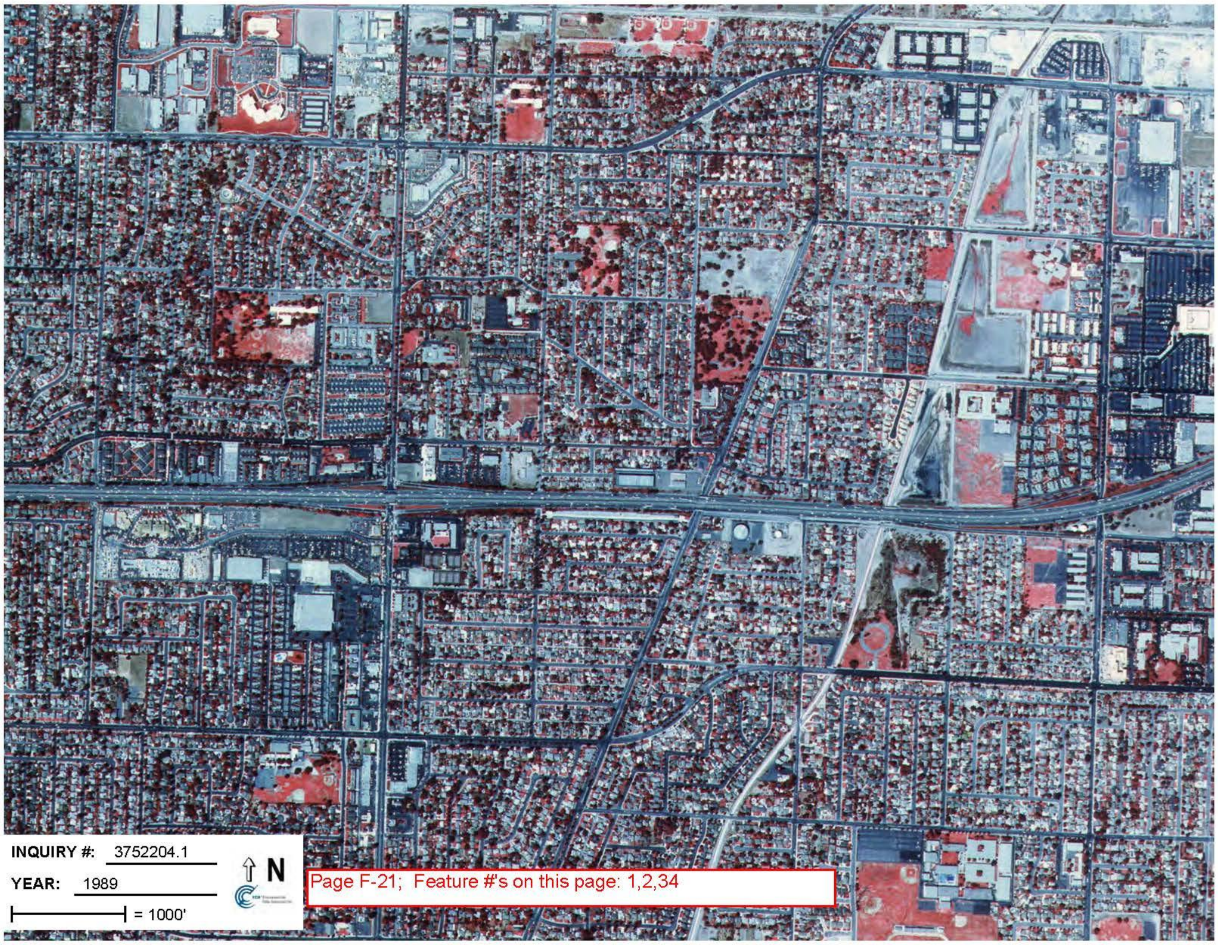
Approximate Scale of This Image: 1 in equals 1,500 ft

Coverage Area Approximately 1 Mile Radius from Subject Site

≈ 1,500 ft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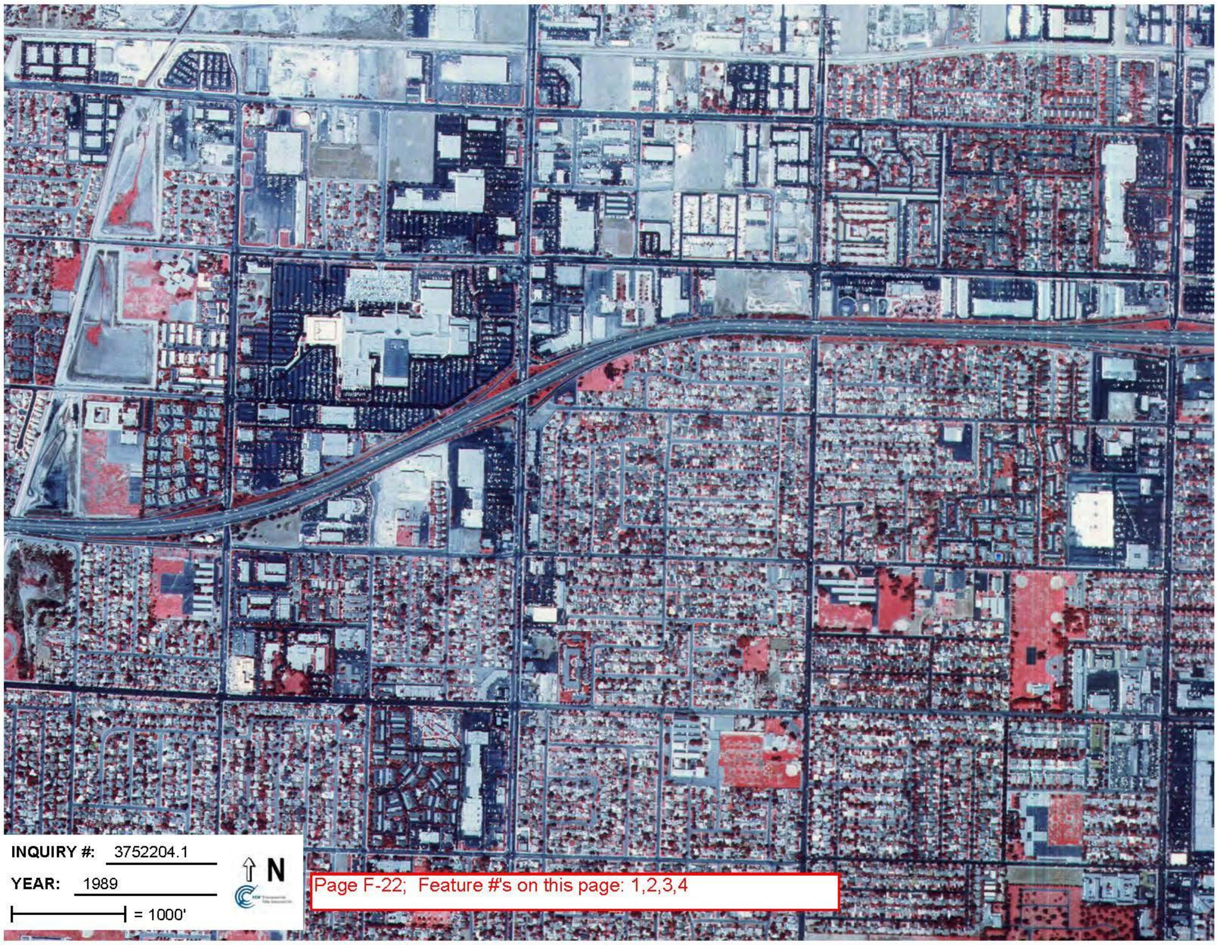
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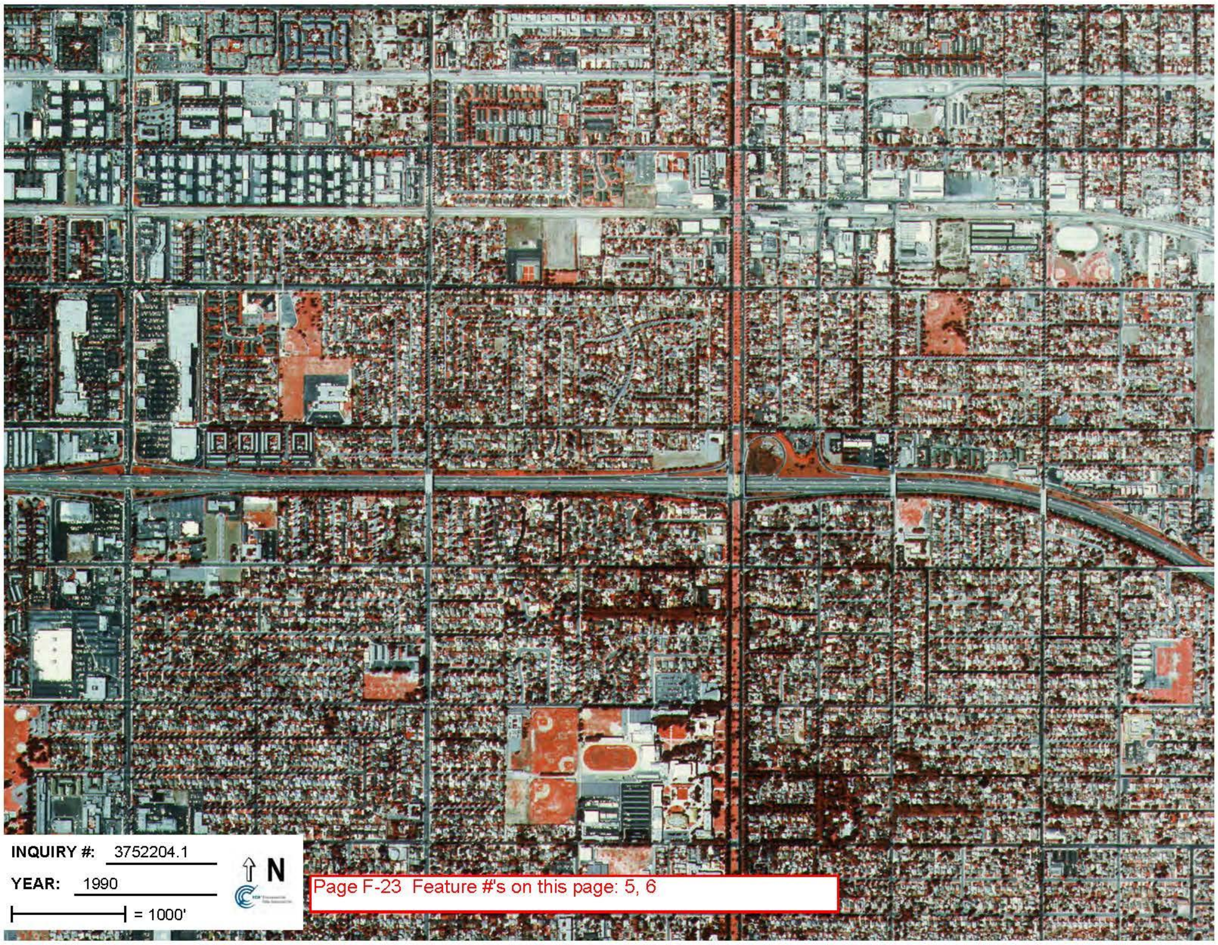
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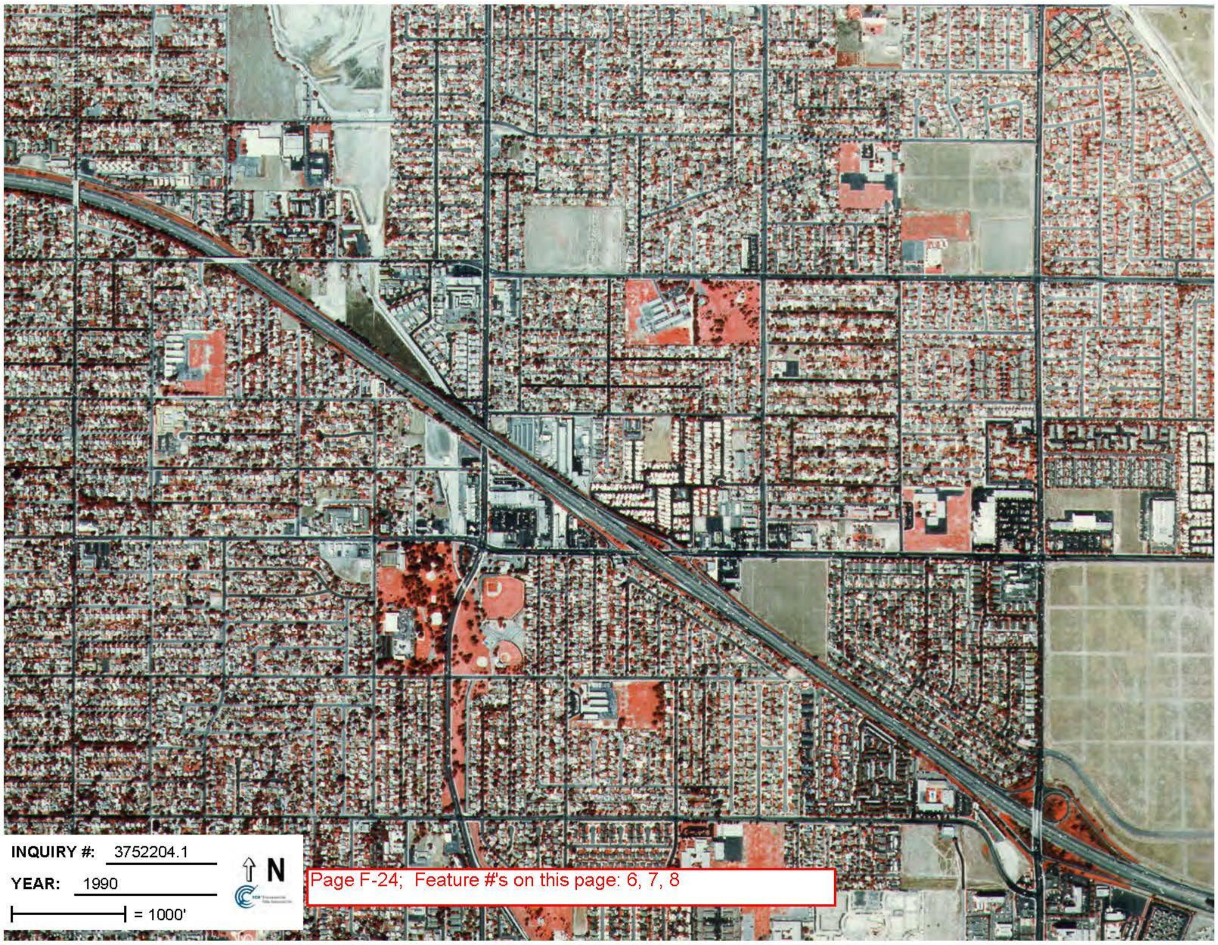
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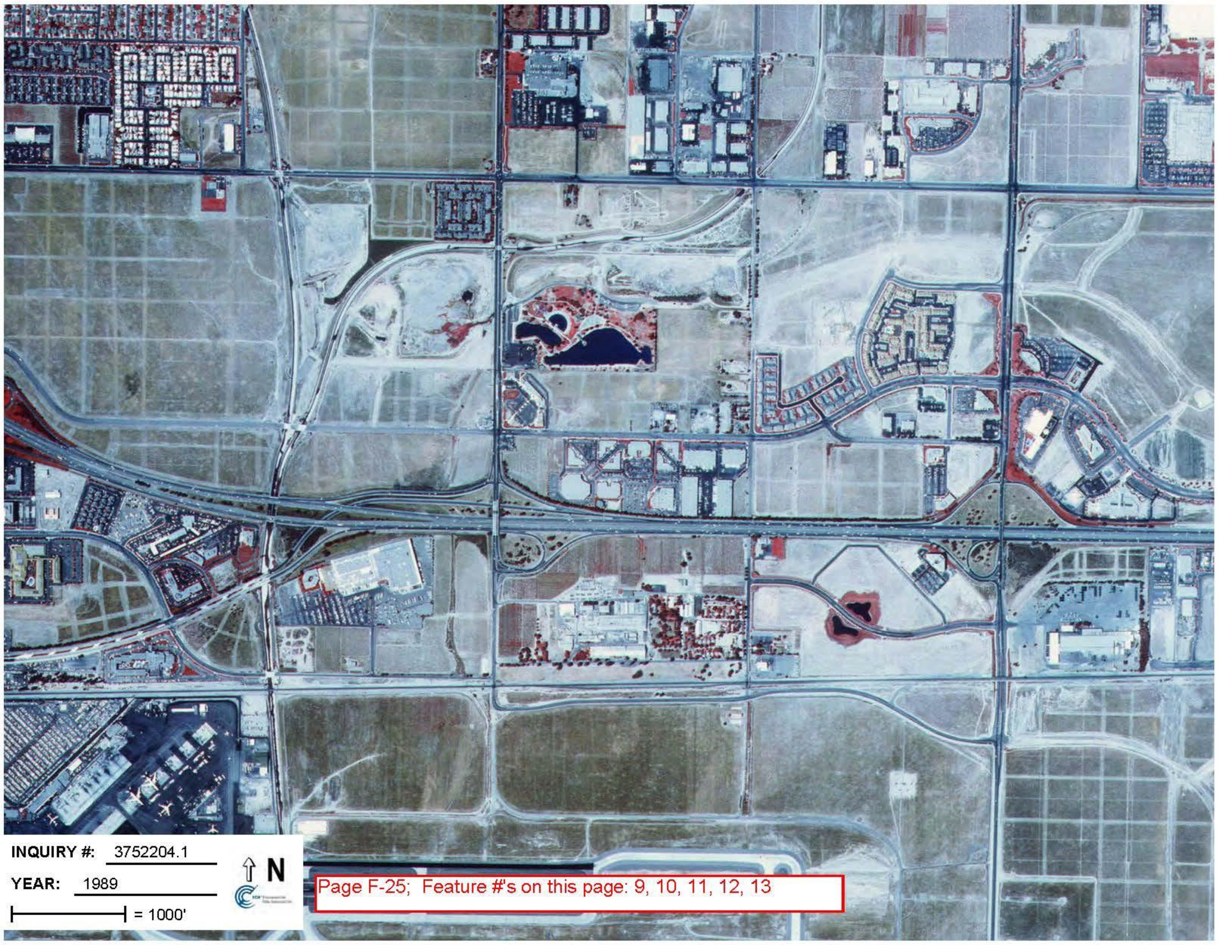
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Page F-25; Feature #'s on this page: 9, 10, 11, 12, 13

Track Info Services, LLC

Historical Aerial Photo

Site: Ontario to Redlands, CA 92324

Photo Year: 1980

Page F-26; Feature #'s on this page: 13, 14

Job Number: 646884

Original Scale of Photo: 1:36,000

Approximate Scale of This Image: 1 in equals 1,500 ft

Coverage Area Approximately 1 Mile Radius from Subject Site

≈ 1,500 ft

Track Info Services, LLC

Historical Aerial Photo

Site: Ontario to Redlands, CA 92324

Photo Year: 1980

Job Number: 646884

Original Scale of Photo: 1:36,000

Approximate Scale of This Image: 1 in equals 1,500 ft

Coverage Area Approximately 1 Mile Radius from Subject Site

≈ 1,500 ft

Track Info Services, LLC

Historical Aerial Photo

Site: Ontario to Redlands, CA 92324

Photo Year: 1980

Page F-28; Feature #'s on this page: 19, 20, 21, 22

Job Number: 646884

Original Scale of Photo: 1:36,000

Approximate Scale of This Image: 1 in equals 1,500 ft

Coverage Area Approximately 1 Mile Radius from Subject Site

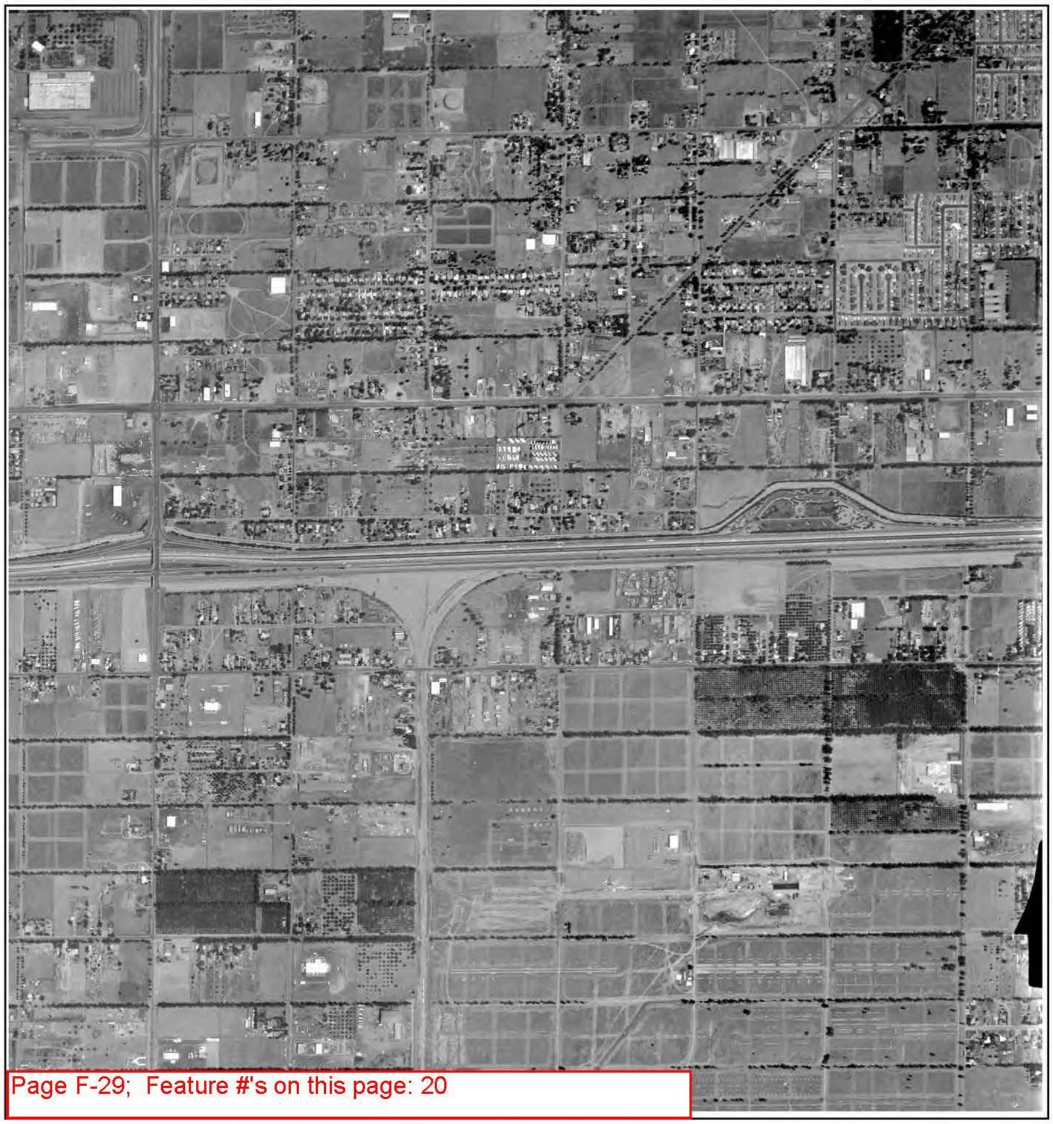
≈ 1,500 ft

Track Info Services, LLC

Historical Aerial Photo

Site: Ontario to Redlands, CA 92324

Photo Year: 1980



Job Number: 646884

Original Scale of Photo: 1:36,000

Approximate Scale of This Image: 1 in equals 1,500 ft

Coverage Area Approximately 1 Mile Radius from Subject Site

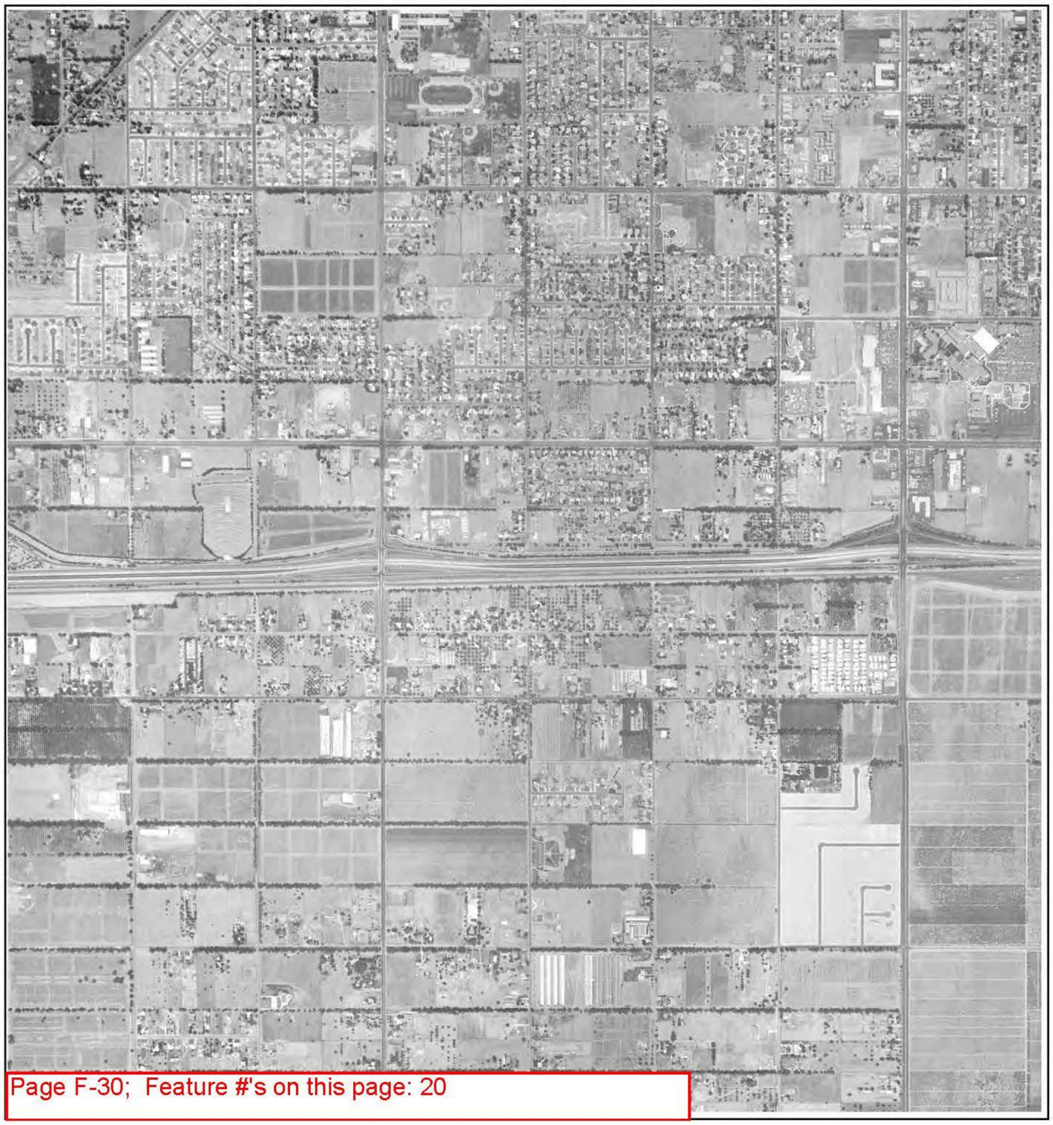
≈ 1,500 ft

Track Info Services, LLC

Historical Aerial Photo

Site: Ontario to Redlands, CA 92324

Photo Year: 1980



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Job Number: 646884

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Approximate Scale of This Image: 1 in equals 1,500 ft

Coverage Area Approximately 1 Mile Radius from Subject Site

≈ 1,500 ft

Track Info Services, LLC

Historical Aerial Photo

Site: Ontario to Redlands, CA 92324

Photo Year: 1980

Page F-31; Feature #'s on this page: 20, 23

Job Number: 646884

Original Scale of Photo: 1:36,000

Approximate Scale of This Image: 1 in equals 1,500 ft

Coverage Area Approximately 1 Mile Radius from Subject Site

≈ 1,500 ft

Track Info Services, LLC

Historical Aerial Photo

Site: Ontario to Redlands, CA 92324

Photo Year: 1980

Job Number: 646884

Original Scale of Photo: 1:36,000

Approximate Scale of This Image: 1 in equals 1,500 ft

Coverage Area Approximately 1 Mile Radius from Subject Site

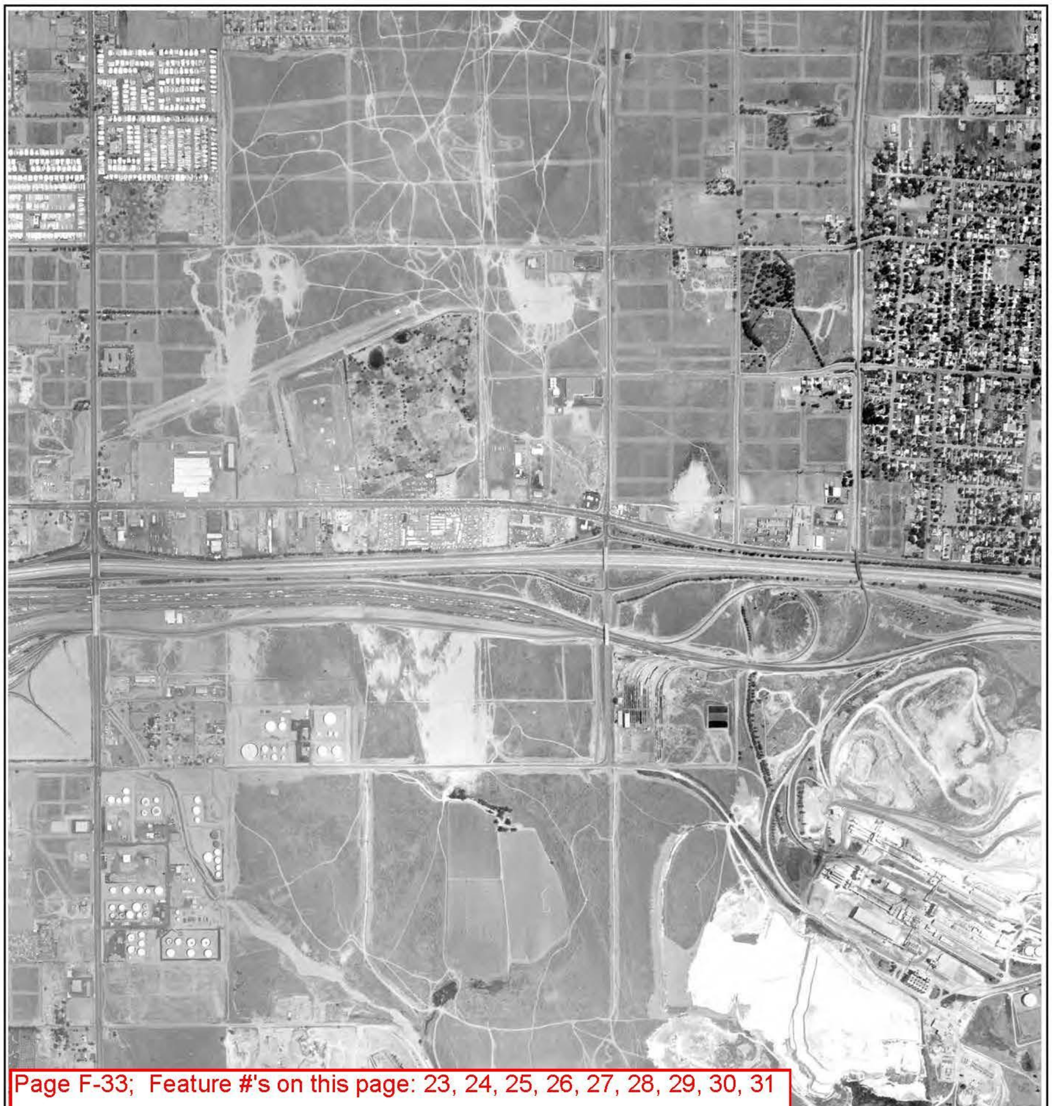
≈ 1,500 ft

Track Info Services, LLC

Historical Aerial Photo

Site: Ontario to Redlands, CA 92324

Photo Year: 1980



Page F-33; Feature #'s on this page: 23, 24, 25, 26, 27, 28, 29, 30, 31

Job Number: 646884

Original Scale of Photo: 1:36,000

Approximate Scale of This Image: 1 in equals 1,500 ft

Coverage Area Approximately 1 Mile Radius from Subject Site

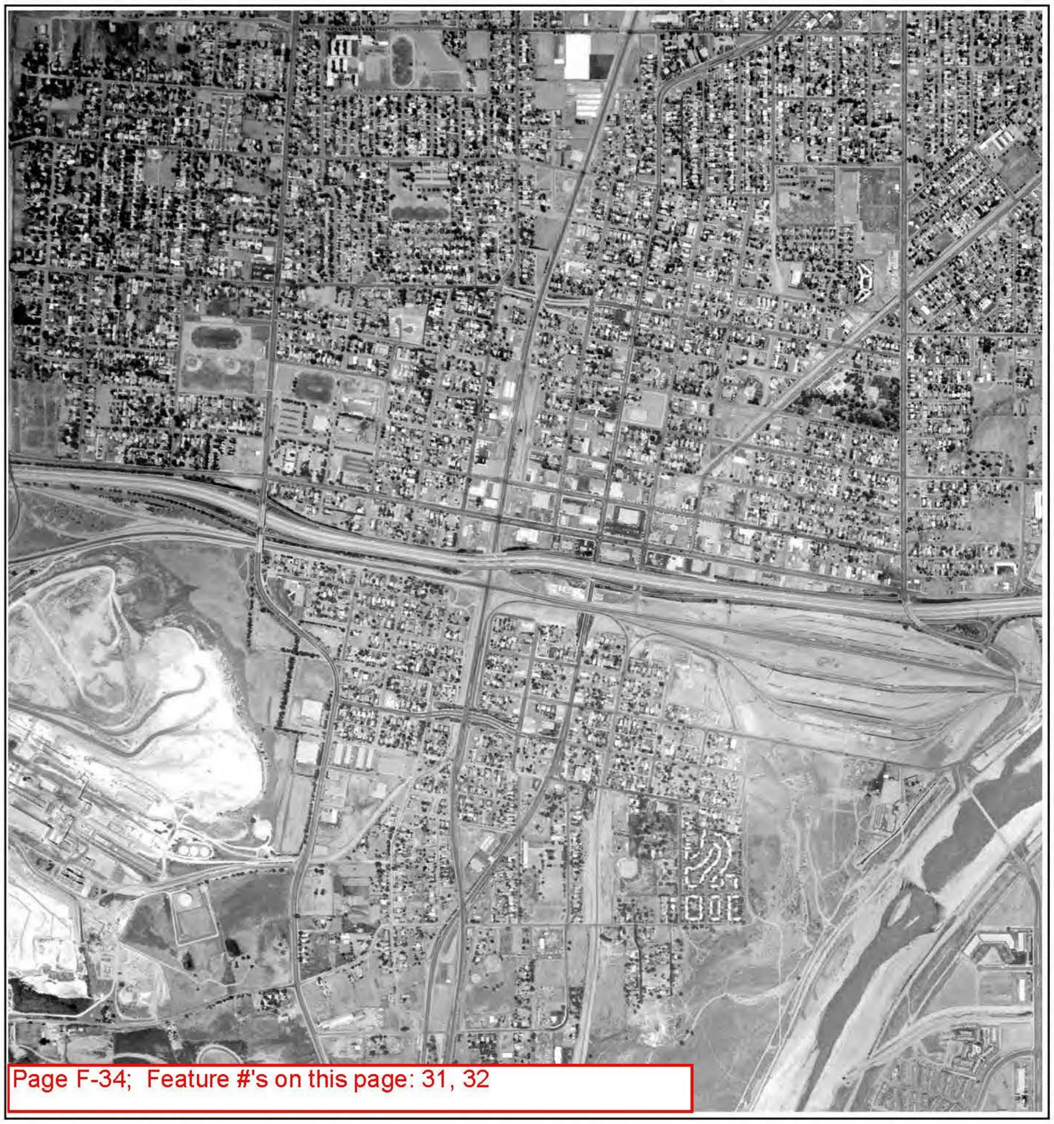
≈ 1,500 ft

Track Info Services, LLC

Historical Aerial Photo

Site: Ontario to Redlands, CA 92324

Photo Year: 1980



Page F-34; Feature #'s on this page: 31, 32

Job Number: 646884

Original Scale of Photo: 1:36,000

Approximate Scale of This Image: 1 in equals 1,500 ft

Coverage Area Approximately 1 Mile Radius from Subject Site

≈ 1,500 ft

Track Info Services, LLC

Historical Aerial Photo

Site: Ontario to Redlands, CA 92324

Photo Year: 1980

Job Number: 646884

Original Scale of Photo: 1:36,000

Approximate Scale of This Image: 1 in equals 1,500 ft

Coverage Area Approximately 1 Mile Radius from Subject Site

≈ 1,500 ft

Track Info Services, LLC

Historical Aerial Photo

Site: Ontario to Redlands, CA 92324

Photo Year: 1980

Job Number: 646884

Original Scale of Photo: 1:36,000

Approximate Scale of This Image: 1 in equals 1,500 ft

Coverage Area Approximately 1 Mile Radius from Subject Site

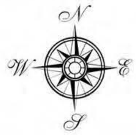
≈ 1,500 ft

Track Info Services, LLC

Historical Aerial Photo

Site: Ontario to Redlands, CA 92324

Photo Year: 1980



Page F-37; Feature #'s on this page: 38, 40, 39, 41, 42,

Job Number: 646884

Original Scale of Photo: 1:36,000

Approximate Scale of This Image: 1 in equals 1,500 ft

Coverage Area Approximately 1 Mile Radius from Subject Site

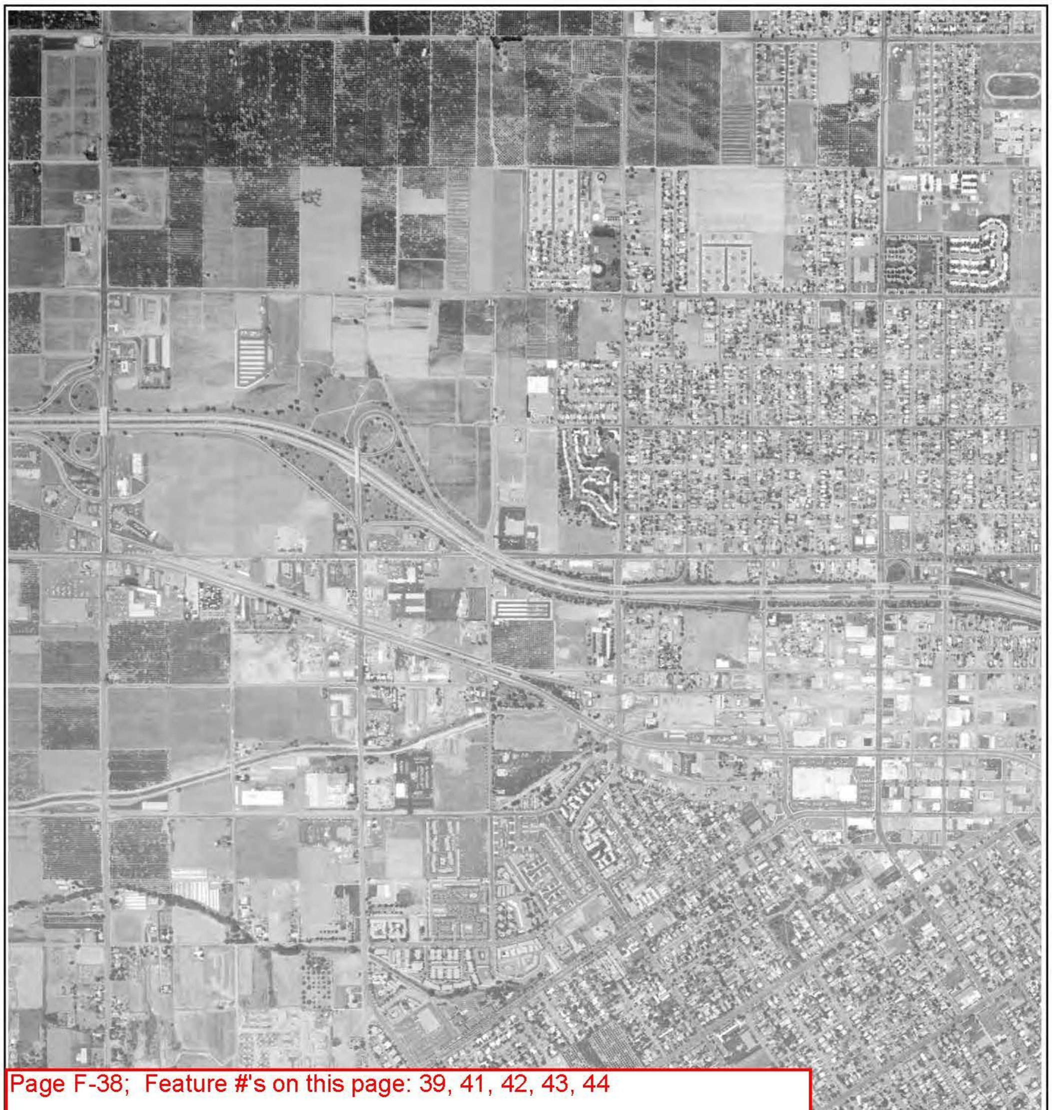
≈ 1,500 ft

Track Info Services, LLC

Historical Aerial Photo

Site: Ontario to Redlands, CA 92324

Photo Year: 1980



Page F-38; Feature #'s on this page: 39, 41, 42, 43, 44

Job Number: 646884

Original Scale of Photo: 1:36,000

Approximate Scale of This Image: 1 in equals 1,500 ft

Coverage Area Approximately 1 Mile Radius from Subject Site

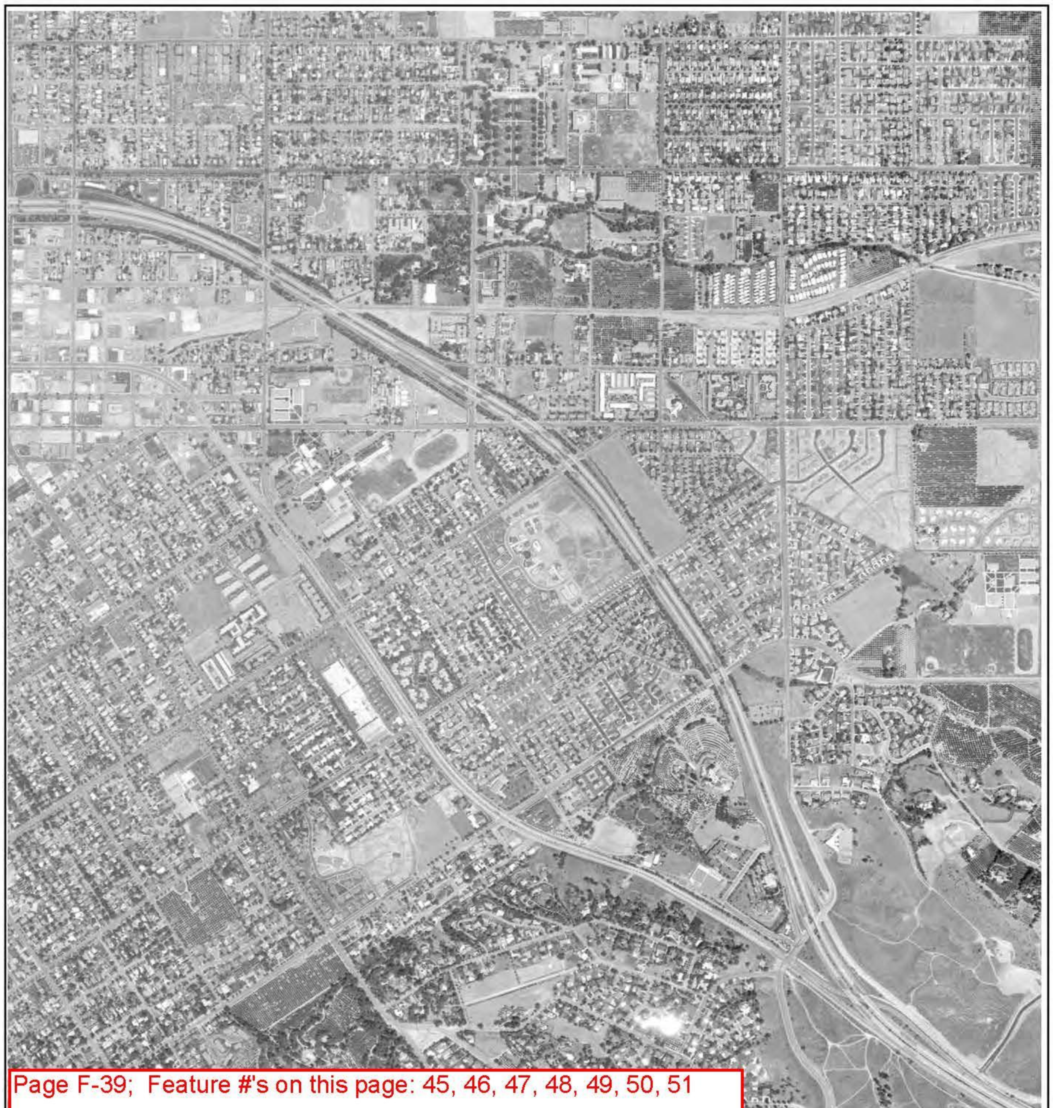
≈ 1,500 ft

Track Info Services, LLC

Historical Aerial Photo

Site: Ontario to Redlands, CA 92324

Photo Year: 1980



Page F-39; Feature #'s on this page: 45, 46, 47, 48, 49, 50, 51

Job Number: 646884

Original Scale of Photo: 1:36,000

Approximate Scale of This Image: 1 in equals 1,500 ft

Coverage Area Approximately 1 Mile Radius from Subject Site

≈ 1,500 ft

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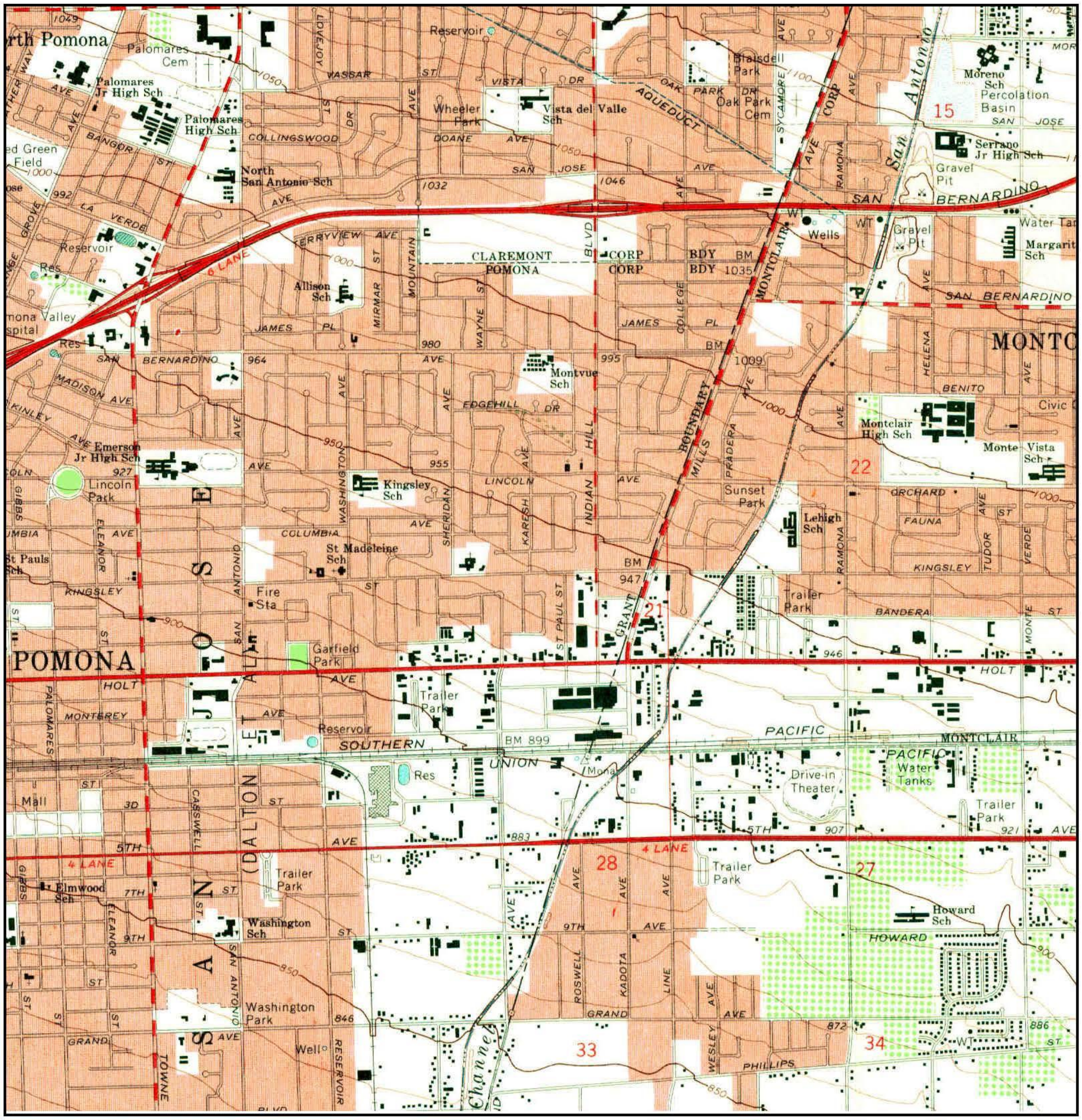
Appendix G: Historic Topographic Maps

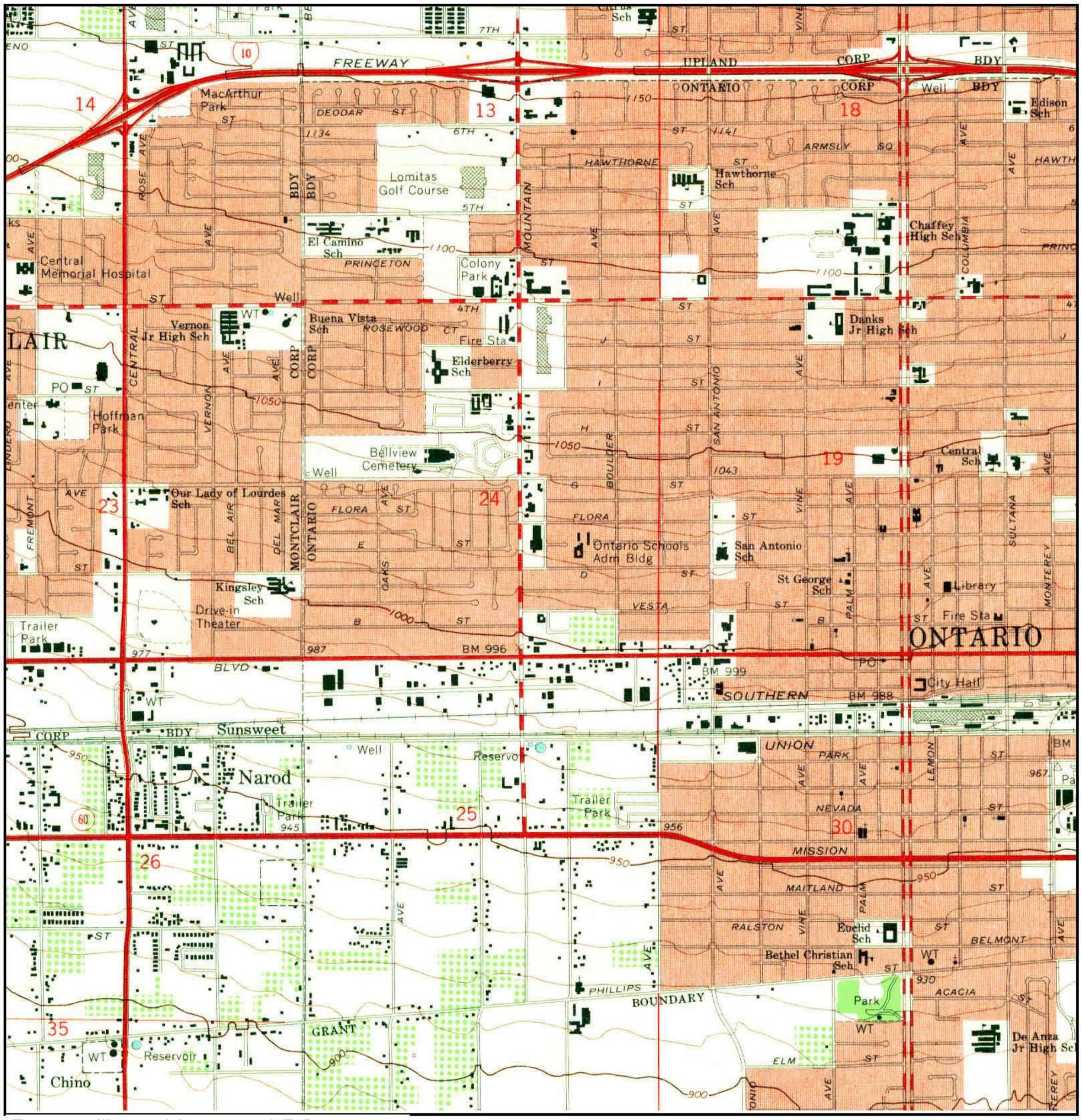
Historical Topographic Map



Feature #'s on this page: 1,2,3,4

N ↑	TARGET QUAD NAME: ONTARIO MAP YEAR: 1967 SERIES: 7.5 SCALE: 1:24000	SITE NAME: I-10 Corridor Project, Pomona To Redlands ADDRESS: Interstate 10, East of Garey Ave. and Ford St. Pomona, CA 97168 LAT/LONG: 34.0878 / -117.6502	CLIENT: Parsons CONTACT: Angela Schnapp INQUIRY#: 3751726.1 RESEARCH DATE: 10/08/2013 Page G-1

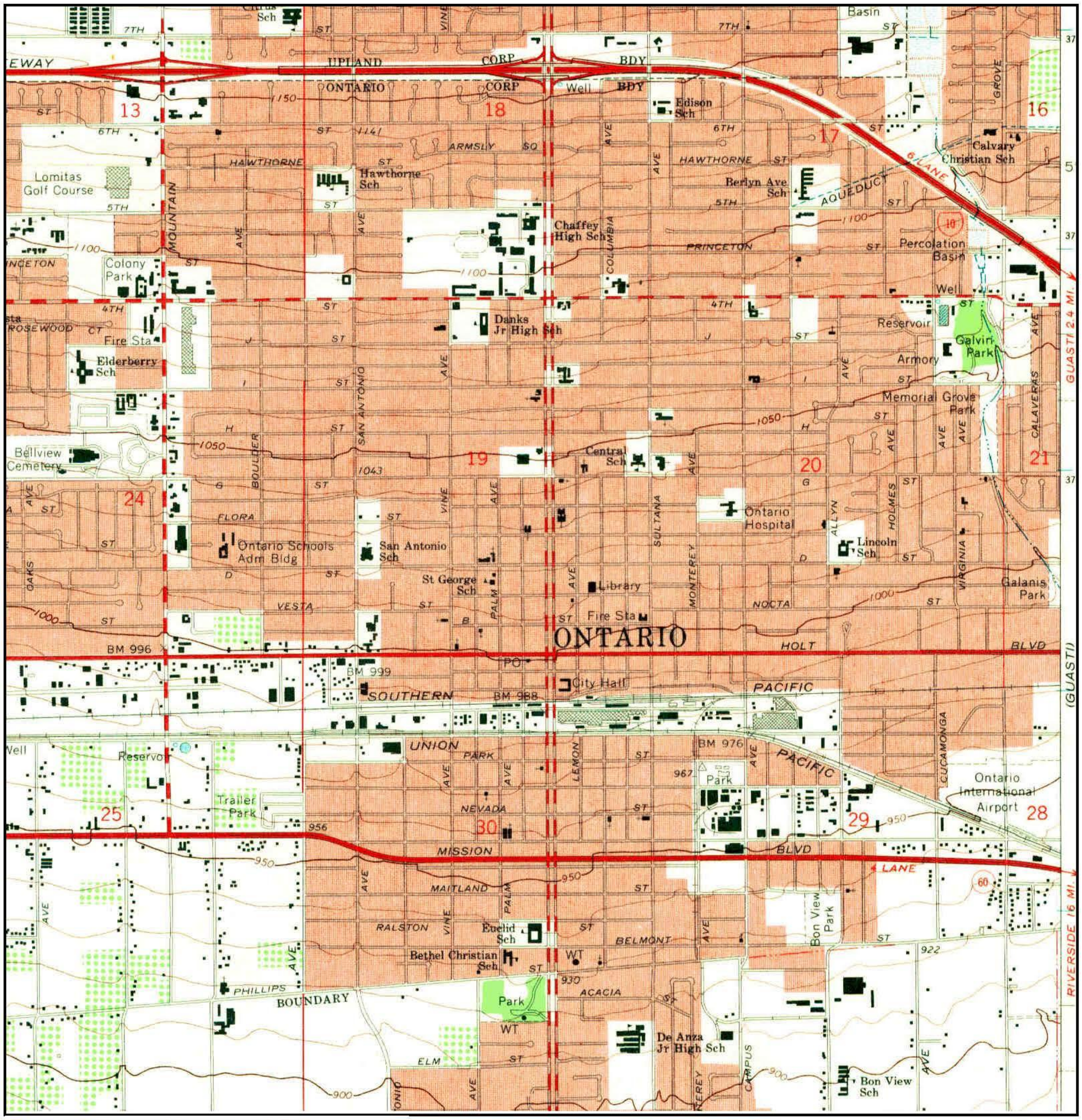
Historical Topographic Map



Feature #'s on this page: 4,5,6

N	TARGET QUAD NAME: ONTARIO MAP YEAR: 1967 SERIES: 7.5 SCALE: 1:24000	SITE NAME: I-10 Corridor Project, Pomona To Redlands ADDRESS: Interstate 10, East of Garey Ave. and Ford St. Pomona, CA 97168 LAT/LONG: 34.0878 / -117.6502	CLIENT: Parsons CONTACT: Angela Schnapp INQUIRY#: 3751726.1 RESEARCH DATE: 10/08/2013 Page G-2

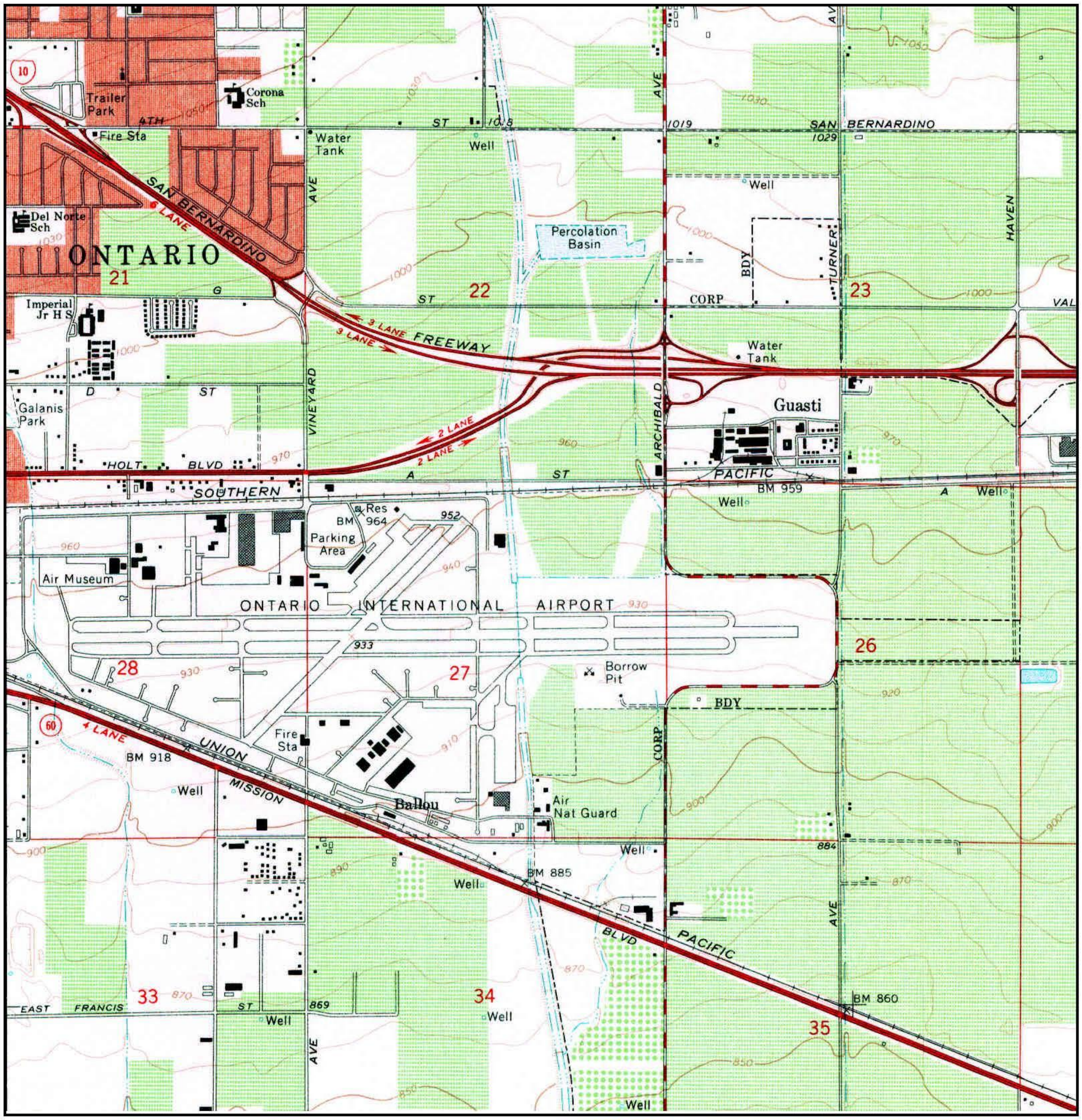
Historical Topographic Map



Feature #'s on this page: 6,7

N	TARGET QUAD NAME: ONTARIO MAP YEAR: 1967 SERIES: 7.5 SCALE: 1:24000	SITE NAME: I-10 Corridor Project, Pomona To Redlands ADDRESS: Interstate 10, East of Garey Ave. and Ford St. Pomona, CA 97168 LAT/LONG: 34.0878 / -117.6502	CLIENT: Parsons CONTACT: Angela Schnapp INQUIRY#: 3751726.1 RESEARCH DATE: 10/08/2013 Page G-3

Historical Topographic Map



Feature #'s on this page: 8,9,10,11,12a,12b,

N	TARGET QUAD NAME: GUASTI MAP YEAR: 1966 SERIES: 7.5 SCALE: 1:24000	SITE NAME: I-10 Corridor Project, Pomona To Redlands ADDRESS: Interstate 10, East of Garey Ave. and Ford St. Pomona, CA 97168 LAT/LONG: 34.0878 / -117.6502	CLIENT: Parsons CONTACT: Angela Schnapp INQUIRY#: 3751726.1 RESEARCH DATE: 10/08/2013 Page G-4

Track Info Services, LLC

Historical Topographic Map

Site: Ontario to Redlands, Ca 92324

Quadrangle Year: 1966 - Image 1

Building		Railroad	
Topo Contour	6000	Tanks	
Depression		Primary Highway	
Quarry or Open Pit Mine		Trail	

0 1/4 1/2 3/4 1 mile

Job Number: 646884

Original Scale of Full Topo: 1:24,000

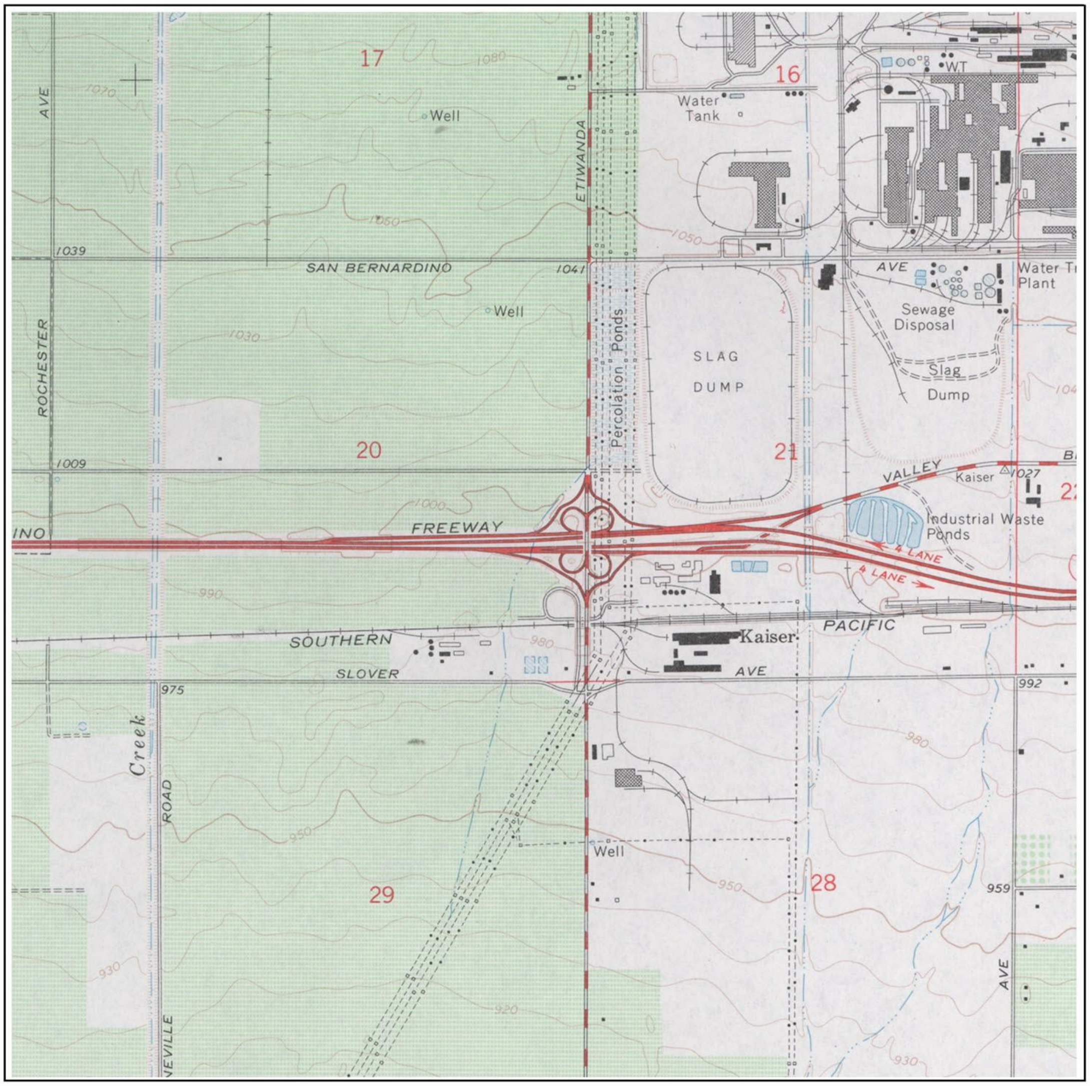
Quadrangle Name: Guasti, Ca

Track Info Services, LLC

Historical Topographic Map

Site: Ontario to Redlands, Ca 92324

Quadrangle Year: 1966 - Image 2



Building		Railroad	
Topo Contour	6000	Tanks	
Depression		Primary Highway	
Quarry or Open Pit Mine		Trail	

0 1/4 1/2 3/4 1 mile

Job Number: 646884

Original Scale of Full Topo: 1:24,000

Quadrangle Name: Guasti, Ca

Track Info Services, LLC

Historical Topographic Map

Site: Ontario to Redlands, Ca 92324

Quadrangle Year: 1967 - Image 3

Building		Railroad	
Topo Contour	6000	Tanks	
Depression		Primary Highway	
Quarry or Open Pit Mine		Trail	

0 1/4 1/2 3/4 1 mile

Job Number: 646884

Original Scale of Full Topo: 1:24,000

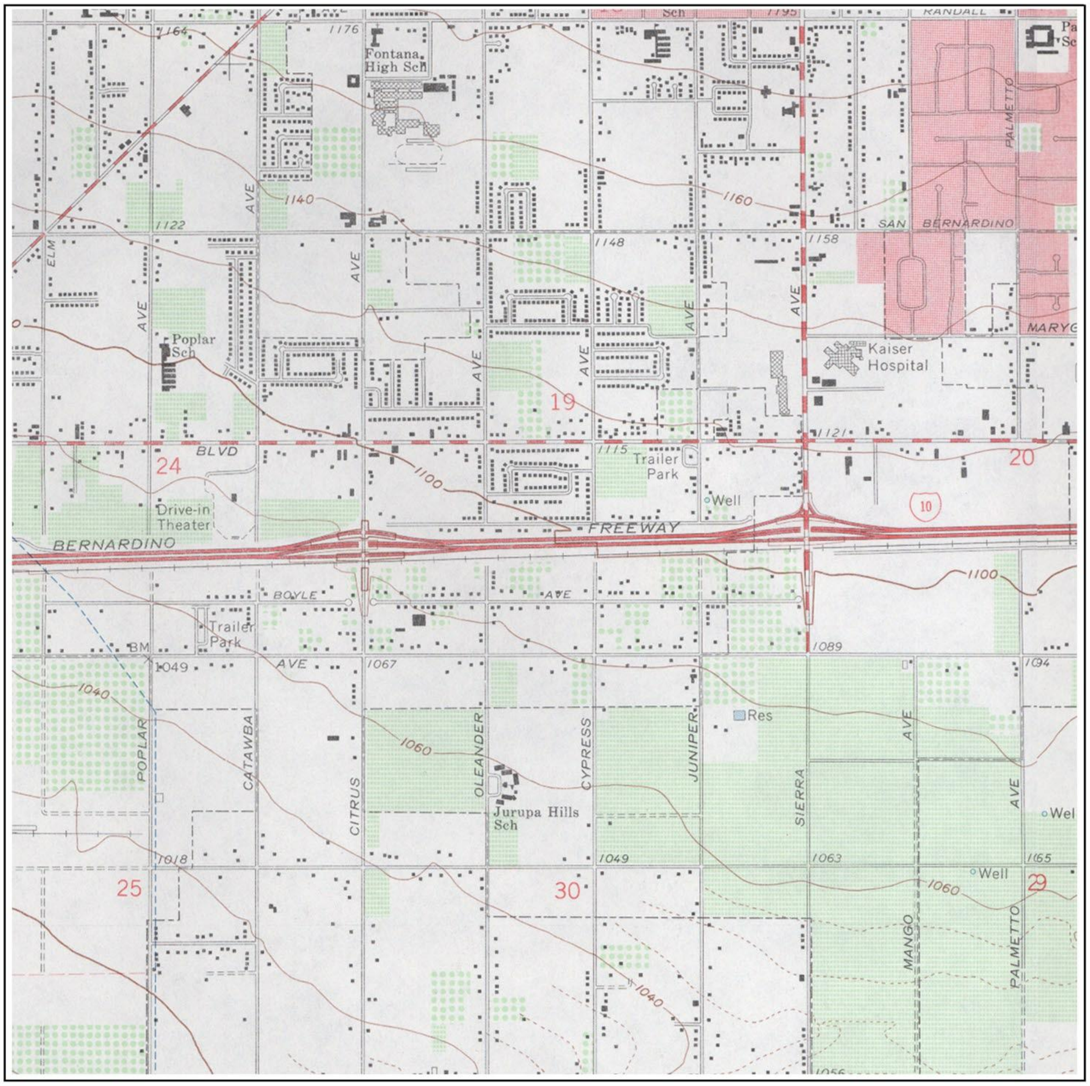
Quadrangle Name: Fontana, Ca
(West: Guasti, Ca 1966)

Track Info Services, LLC

Historical Topographic Map

Site: Ontario to Redlands, Ca 92324

Quadrangle Year: 1967 - Image 4



Building		Railroad	
Topo Contour	6000	Tanks	
Depression		Primary Highway	
Quarry or Open Pit Mine		Trail	

0 1/4 1/2 3/4 1 mile

Job Number: 646884

Original Scale of Full Topo: 1:24,000

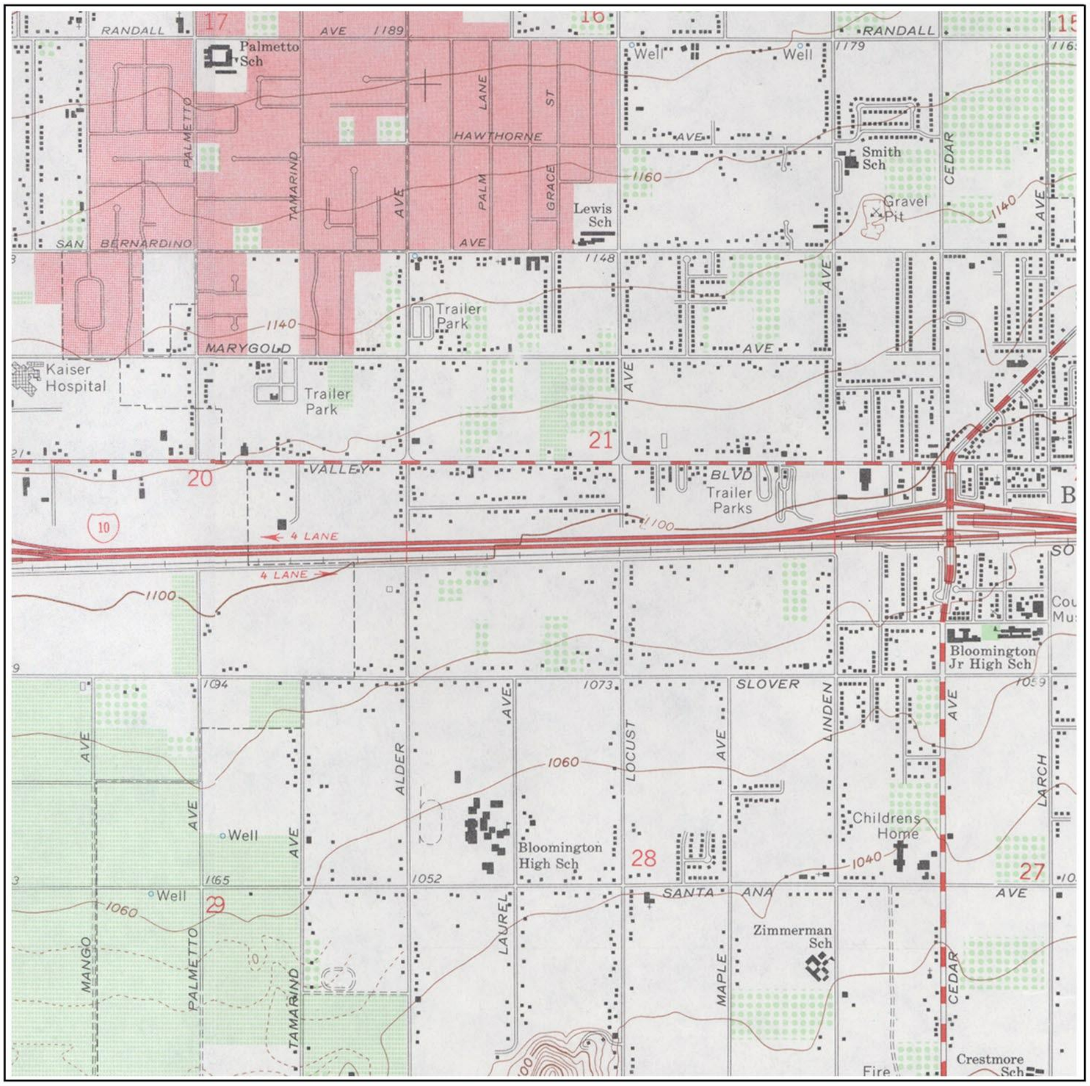
Quadrangle Name: Fontana, Ca

Track Info Services, LLC

Historical Topographic Map

Site: Ontario to Redlands, Ca 92324

Quadrangle Year: 1967 - Image 5



Building		Railroad	
Topo Contour	6000	Tanks	
Depression		Primary Highway	
Quarry or Open Pit Mine		Trail	

0 1/4 1/2 3/4 1 mile

Job Number: 646884

Original Scale of Full Topo: 1:24,000

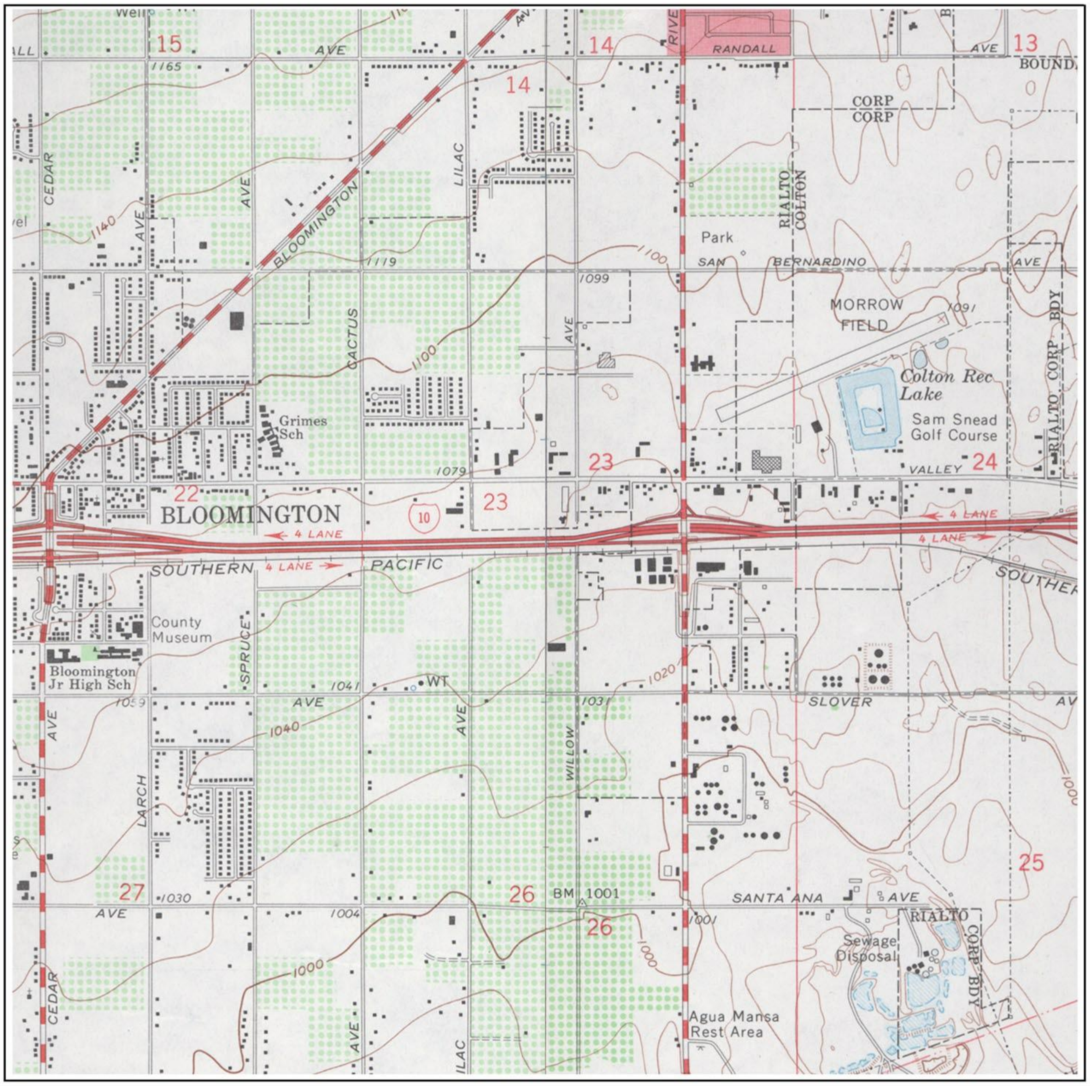
Quadrangle Name: Fontana, Ca

Track Info Services, LLC

Historical Topographic Map

Site: Ontario to Redlands, Ca 92324

Quadrangle Year: 1967 - Image 6



Building		Railroad	
Topo Contour	6000	Tanks	
Depression		Primary Highway	
Quarry or Open Pit Mine		Trail	

0 1/4 1/2 3/4 1 mile

Job Number: 646884

Original Scale of Full Topo: 1:24,000

Quadrangle Name: Fontana, Ca

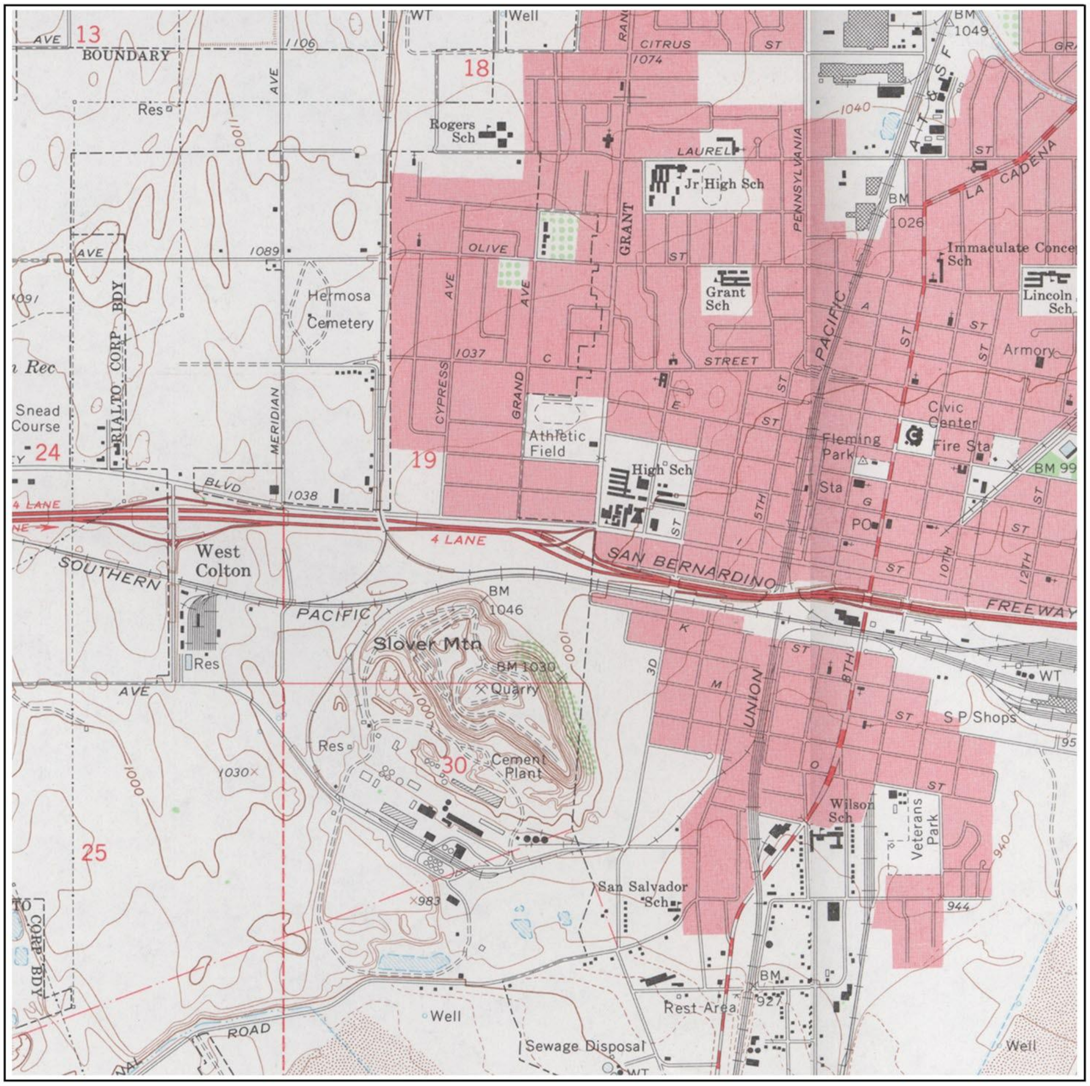
(East: San Bernardino South, Ca 1967)

Track Info Services, LLC

Historical Topographic Map

Site: Ontario to Redlands, Ca 92324

Quadrangle Year: 1967 - Image 7



Building		Railroad	
Topo Contour	6000	Tanks	
Depression		Primary Highway	
Quarry or Open Pit Mine		Trail	

0 1/4 1/2 3/4 1 mile

Job Number: 646884

Original Scale of Full Topo: 1:24,000

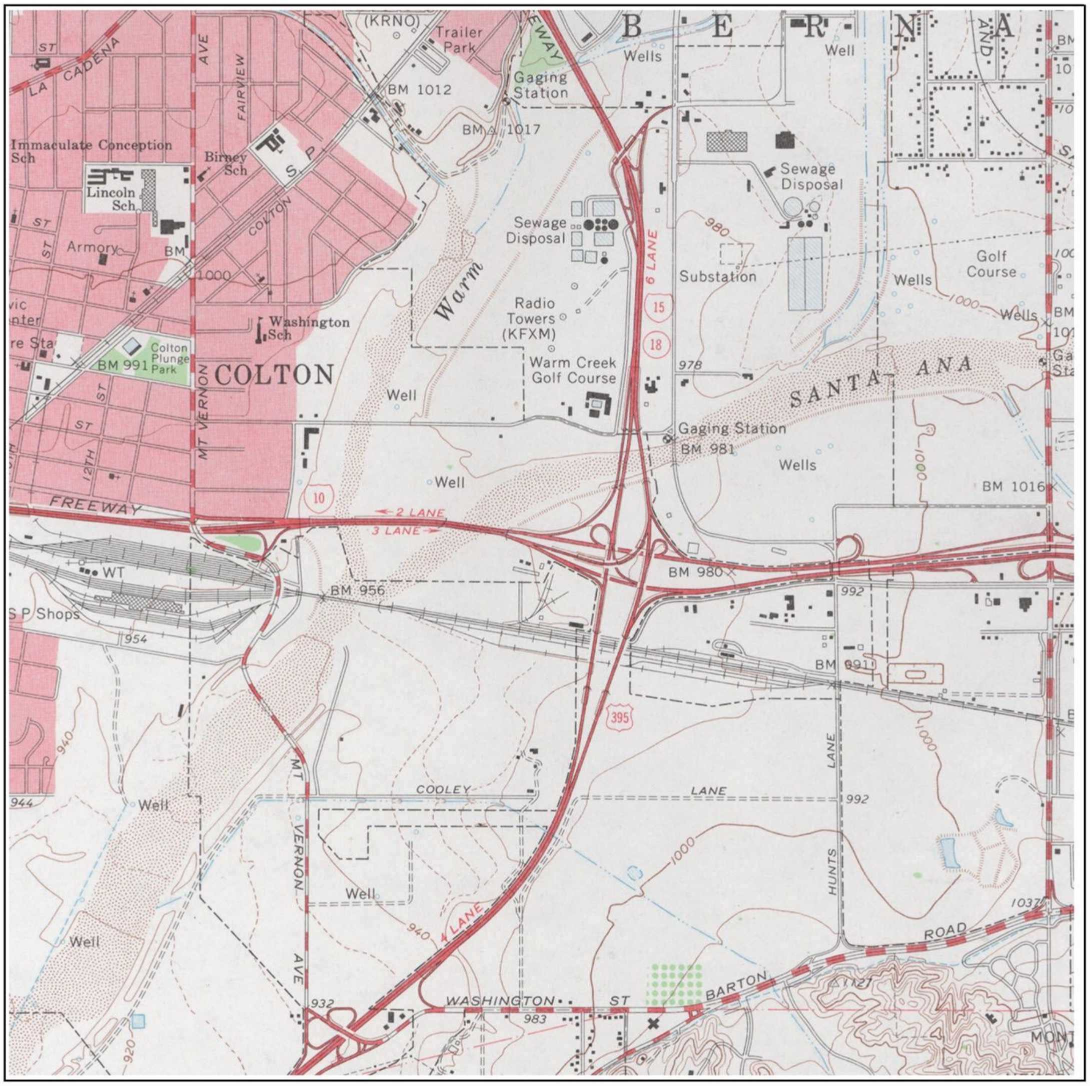
Quadrangle Name: San Bernardino South, Ca

Track Info Services, LLC

Historical Topographic Map

Site: Ontario to Redlands, Ca 92324

Quadrangle Year: 1967 - Image 8



Building		Railroad	
Topo Contour	6000	Tanks	
Depression		Primary Highway	
Quarry or Open Pit Mine		Trail	

0 1/4 1/2 3/4 1 mile

Job Number: 646884

Original Scale of Full Topo: 1:24,000

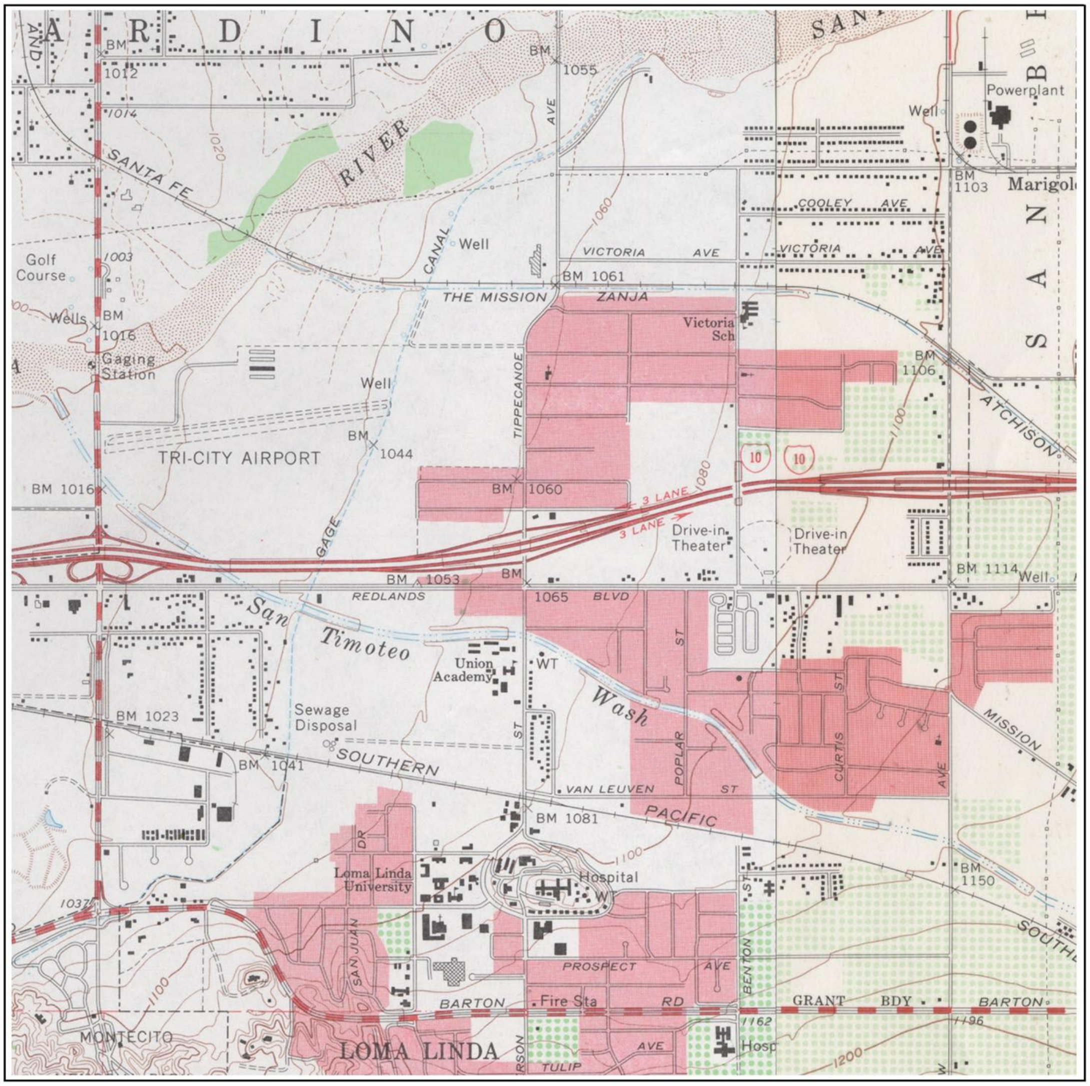
Quadrangle Name: San Bernardino South, Ca

Track Info Services, LLC

Historical Topographic Map

Site: Ontario to Redlands, Ca 92324

Quadrangle Year: 1967 - Image 9



Building		Railroad	
Topo Contour	6000	Tanks	
Depression		Primary Highway	
Quarry or Open Pit Mine		Trail	

0 1/4 1/2 3/4 1 mile

Job Number: 646884

Original Scale of Full Topo: 1:24,000

Quadrangle Name: San Bernardino South, Ca

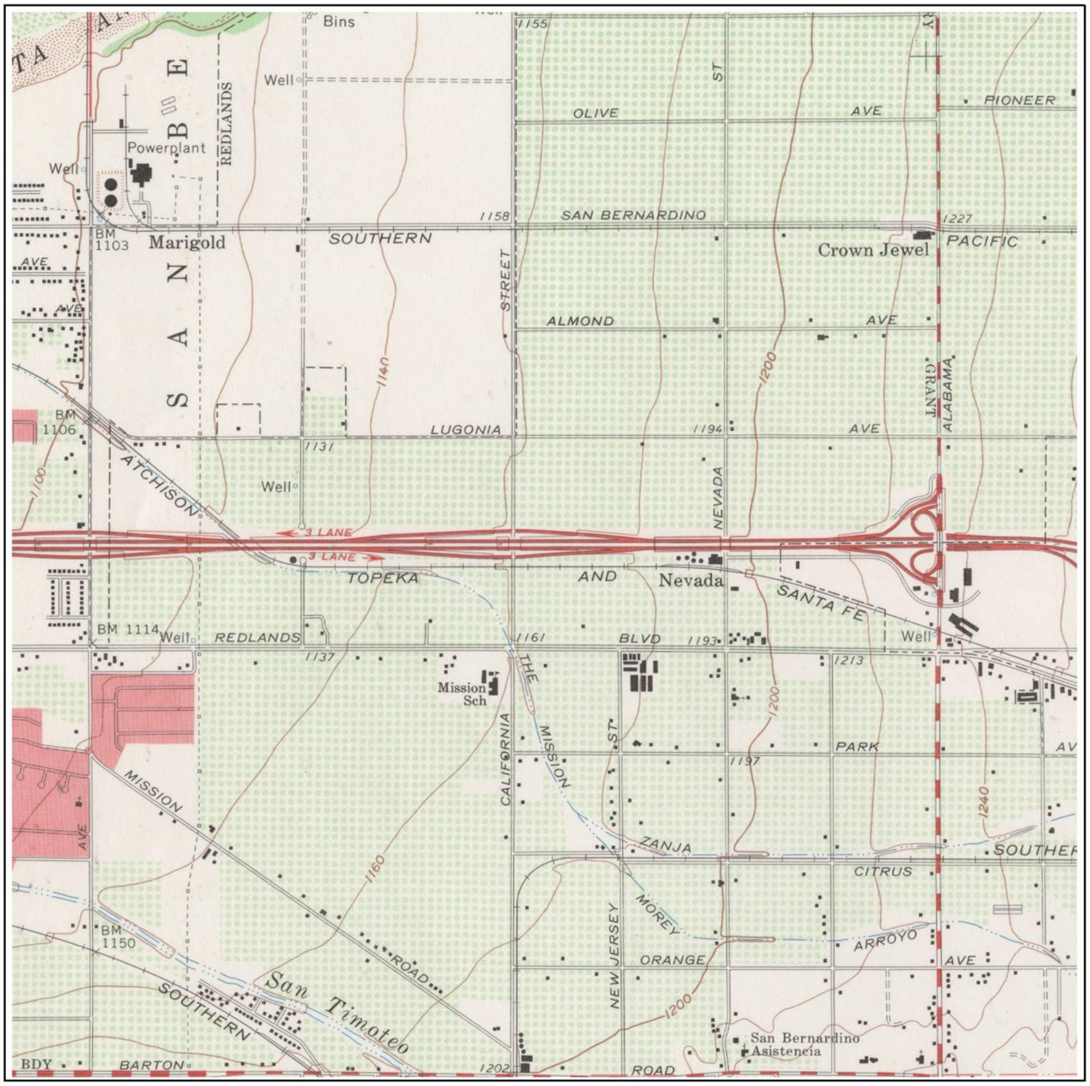
(East: Redlands, Ca 1967)

Track Info Services, LLC

Historical Topographic Map

Site: Ontario to Redlands, Ca 92324

Quadrangle Year: 1967 - Image 10



Building		Railroad	
Topo Contour	6000	Tanks	
Depression		Primary Highway	
Quarry or Open Pit Mine		Trail	

0 1/4 1/2 3/4 1 mile

Job Number: 646884

Original Scale of Full Topo: 1:24,000

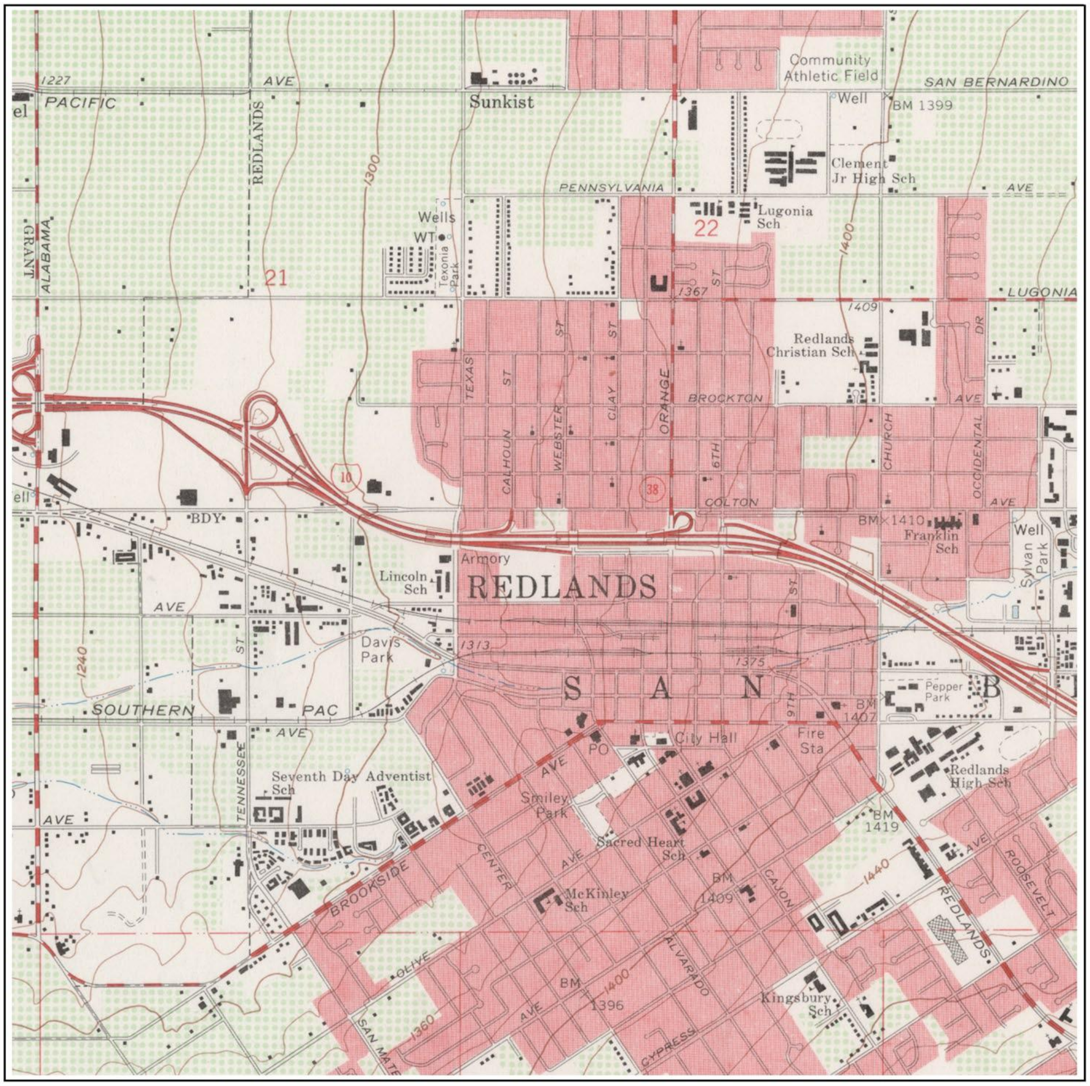
Quadrangle Name: Redlands, Ca

Track Info Services, LLC

Historical Topographic Map

Site: Ontario to Redlands, Ca 92324

Quadrangle Year: 1967 - Image 11



Building		Railroad	
Topo Contour	6000	Tanks	
Depression		Primary Highway	
Quarry or Open Pit Mine		Trail	

0 1/4 1/2 3/4 1 mile

Job Number: 646884

Original Scale of Full Topo: 1:24,000

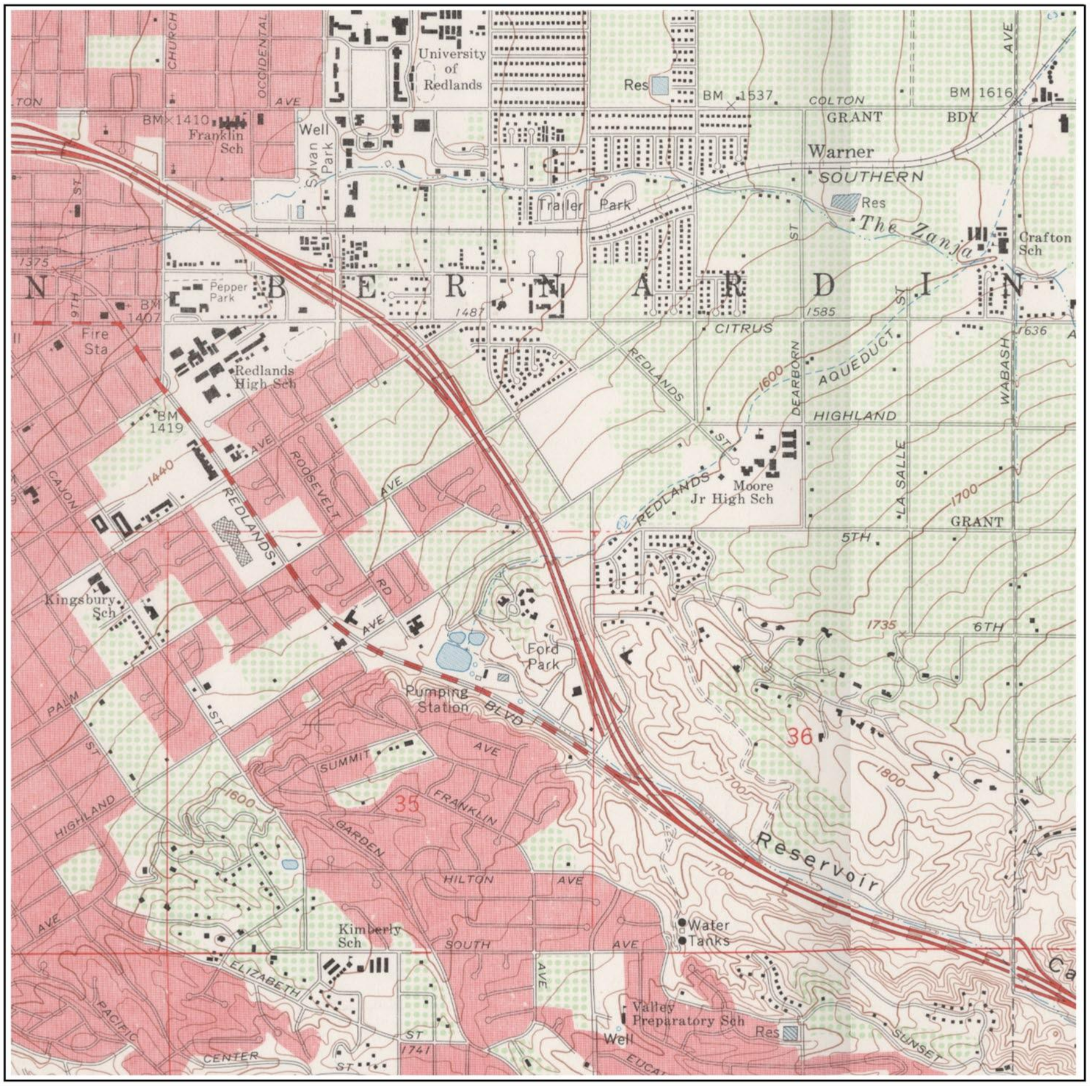
Quadrangle Name: Redlands, Ca

Track Info Services, LLC

Historical Topographic Map

Site: Ontario to Redlands, Ca 92324

Quadrangle Year: 1967 - Image 12



Building		Railroad	
Topo Contour	6000	Tanks	
Depression		Primary Highway	
Quarry or Open Pit Mine		Trail	

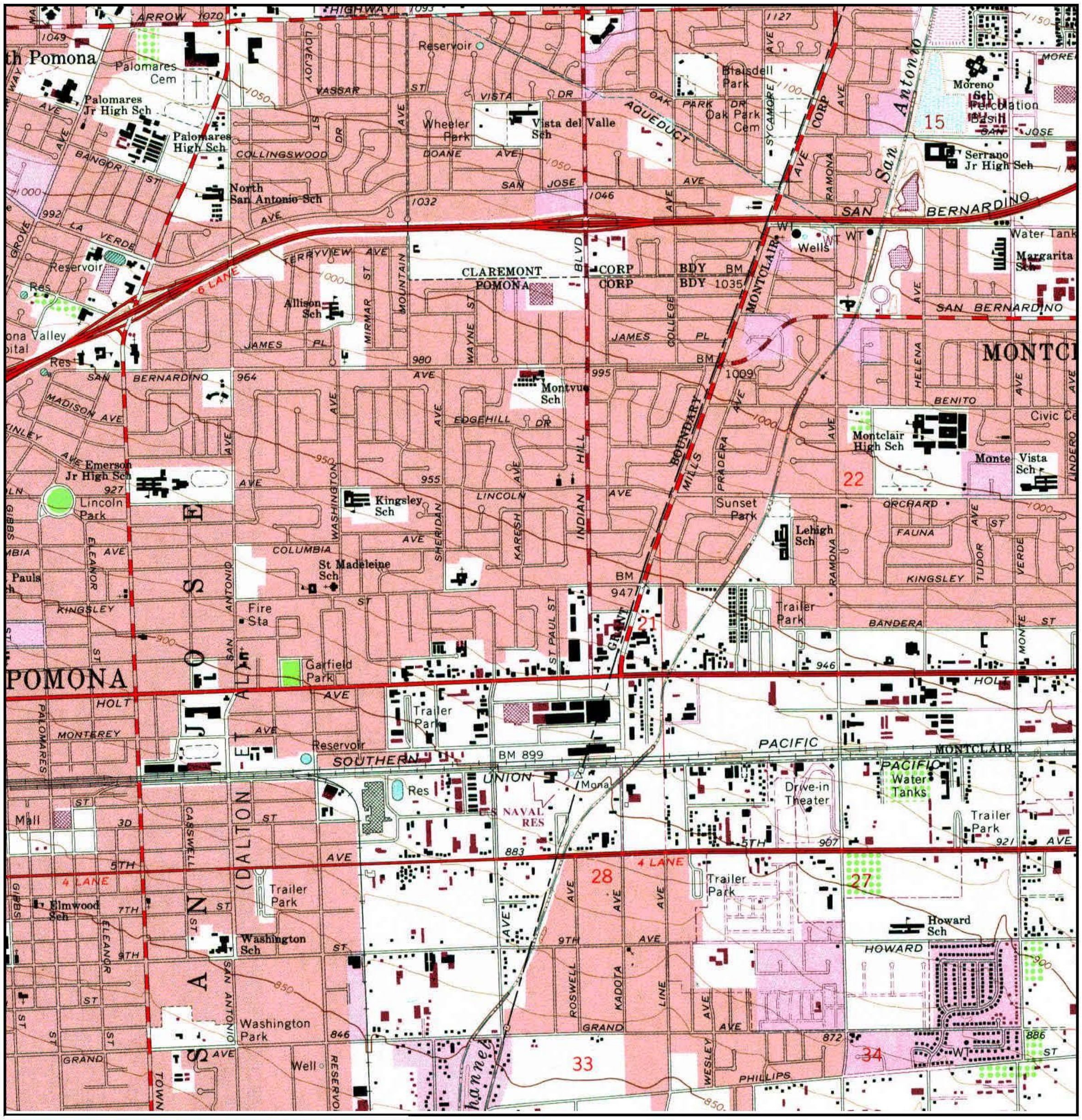
0 1/4 1/2 3/4 1 mile

Job Number: 646884

Original Scale of Full Topo: 1:24,000

Quadrangle Name: Redlands, Ca

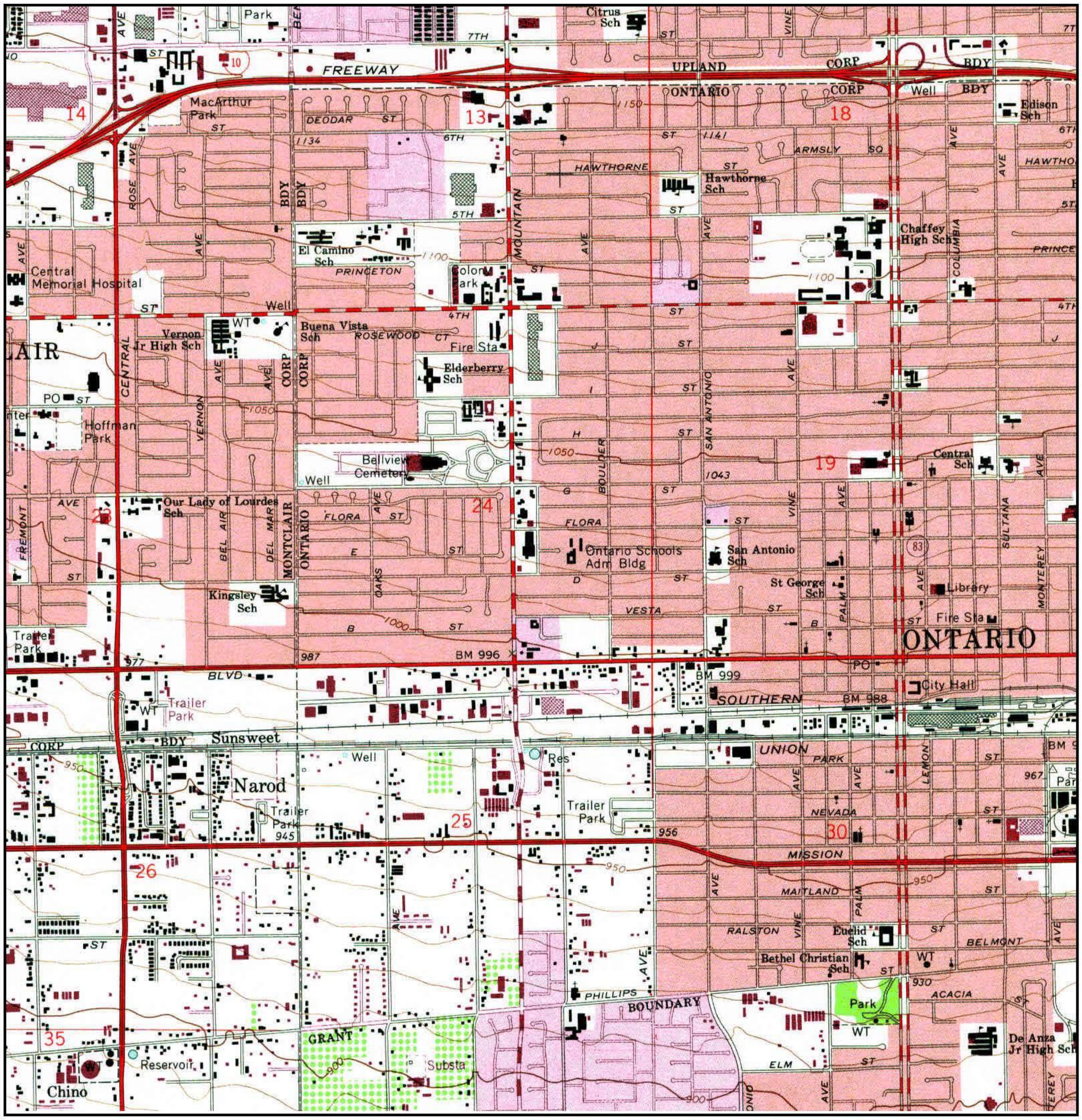
Historical Topographic Map



Feature #'s on this page: 1,2,3,4

N ↑	TARGET QUAD NAME: ONTARIO MAP YEAR: 1981 PHOTOREVISED FROM :1967 SERIES: 7.5 SCALE: 1:24000	SITE NAME: I-10 Corridor Project, Pomona To Redlands ADDRESS: Interstate 10, East of Garey Ave. and Ford St. Pomona, CA 97168 LAT/LONG: 34.0878 / -117.6502	CLIENT: Parsons CONTACT: Angela Schnapp INQUIRY#: 3751726.1 RESEARCH DATE: 10/08/2013 Page G-17

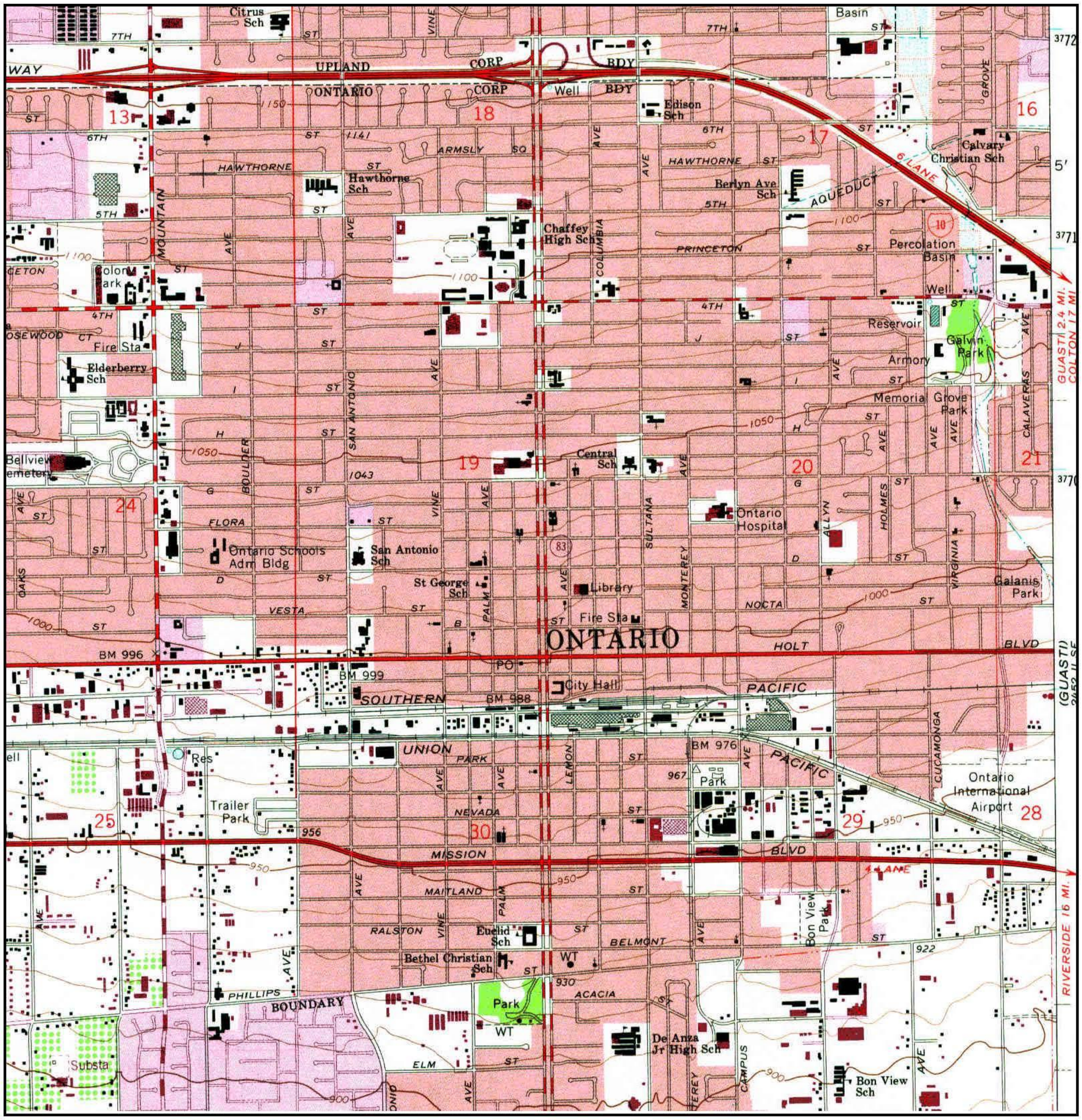
Historical Topographic Map



Feature #'s on this page: 4,5,6

N	TARGET QUAD NAME: ONTARIO MAP YEAR: 1981 PHOTOREVISED FROM :1967 SERIES: 7.5 SCALE: 1:24000	SITE NAME: I-10 Corridor Project, Pomona To Redlands ADDRESS: Interstate 10, East of Garey Ave. and Ford St. Pomona, CA 97168 LAT/LONG: 34.0878 / -117.6502	CLIENT: Parsons CONTACT: Angela Schnapp INQUIRY#: 3751726.1 RESEARCH DATE: 10/08/2013 Page G-18

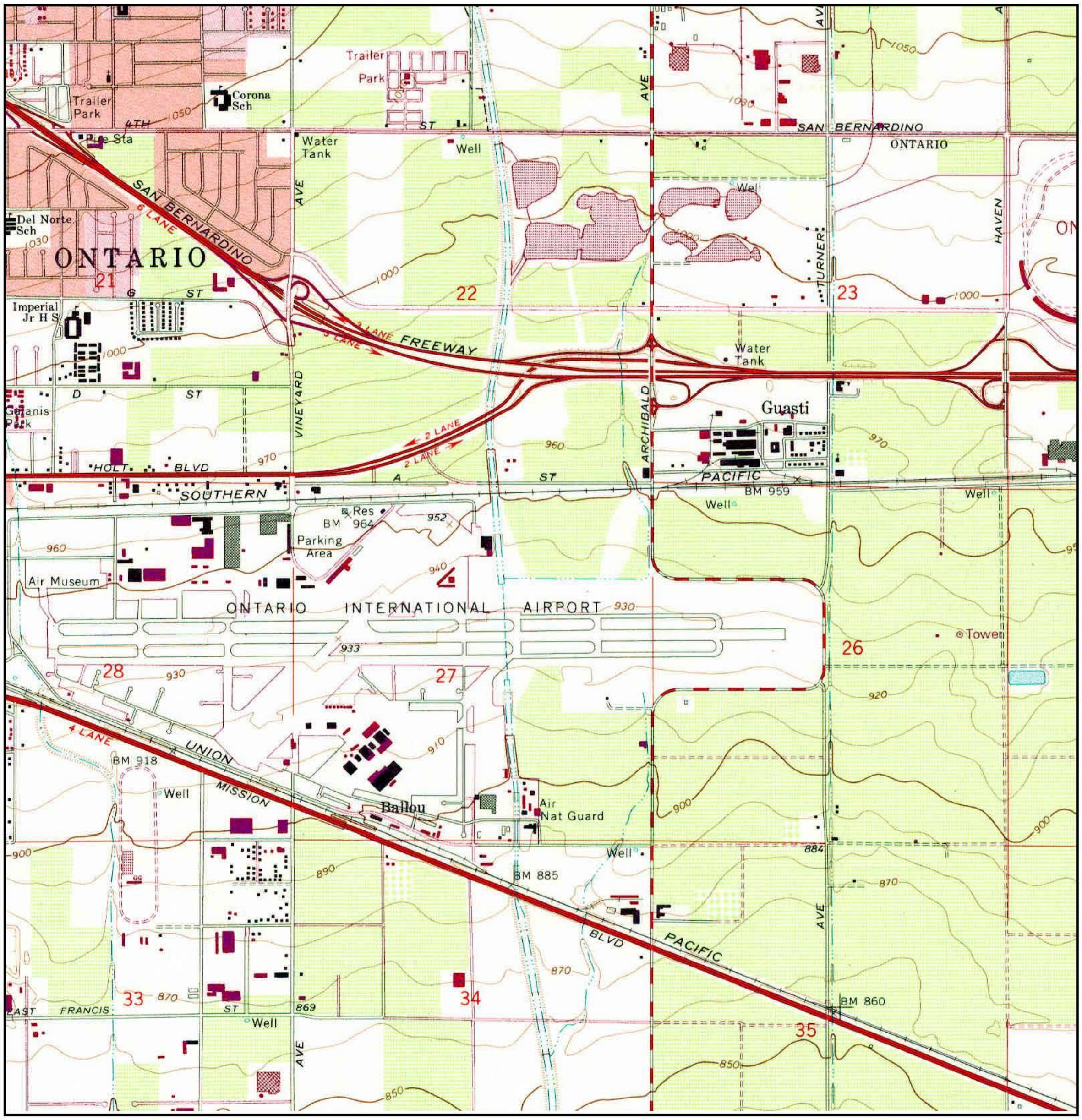
Historical Topographic Map



Feature #'s on this page: 6,7

N ↑	TARGET QUAD NAME: ONTARIO MAP YEAR: 1981 PHOTOREVISED FROM :1967 SERIES: 7.5 SCALE: 1:24000	SITE NAME: I-10 Corridor Project, Pomona To Redlands ADDRESS: Interstate 10, East of Garey Ave. and Ford St. Pomona, CA 97168 LAT/LONG: 34.0878 / -117.6502	CLIENT: Parsons CONTACT: Angela Schnapp INQUIRY#: 3751726.1 RESEARCH DATE: 10/08/2013 Page G-19

Historical Topographic Map



Feature #'s on this page: 8,9,10,11,12

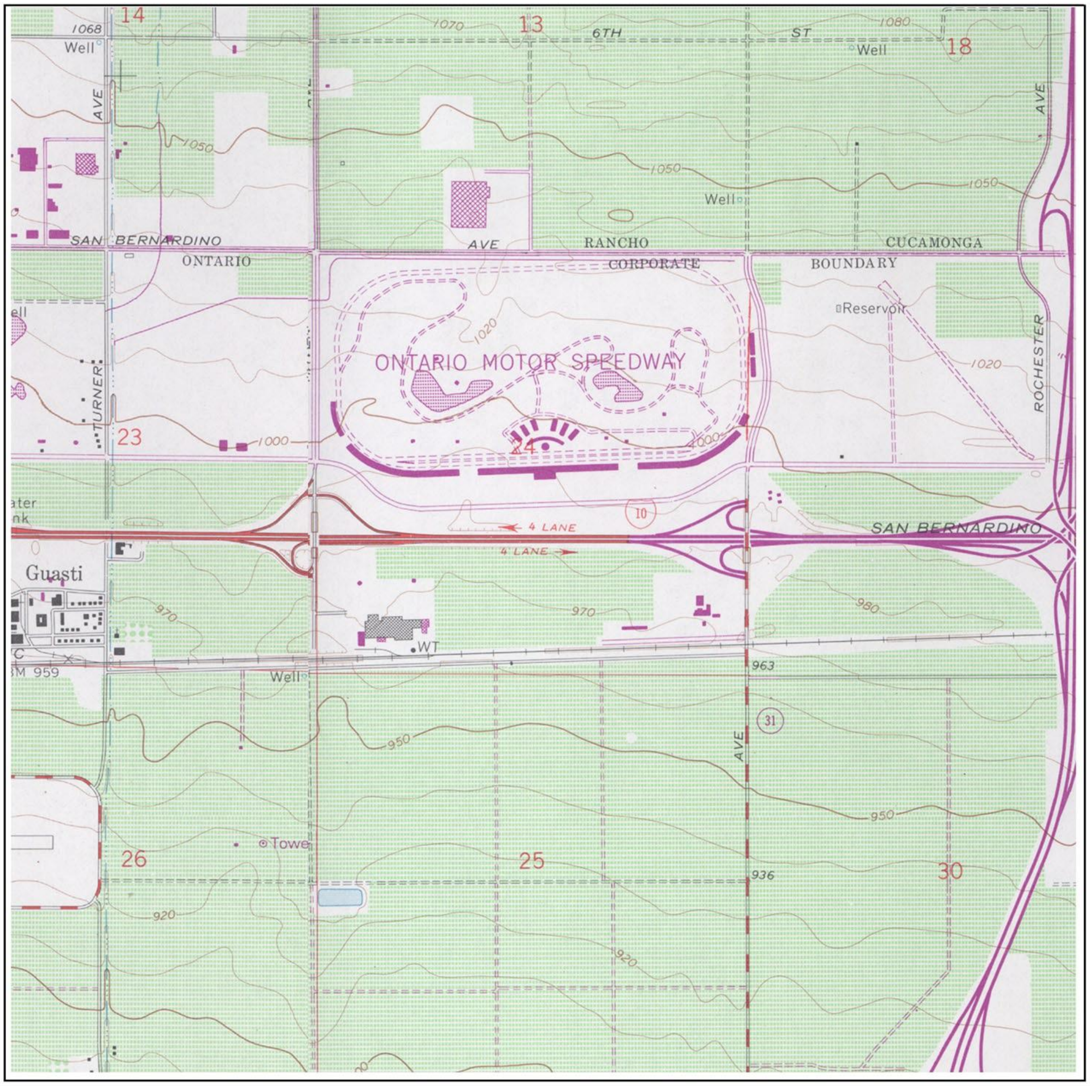
N	TARGET QUAD NAME: GUASTI MAP YEAR: 1981 PHOTOREVISED FROM :1966 SERIES: 7.5 SCALE: 1:24000	SITE NAME: I-10 Corridor Project, Pomona To Redlands ADDRESS: Interstate 10, East of Garey Ave. and Ford St. Pomona, CA 97168 LAT/LONG: 34.0878 / -117.6502	CLIENT: Parsons CONTACT: Angela Schnapp INQUIRY#: 3751726.1 RESEARCH DATE: 10/08/2013 Page G-20

Track Info Services, LLC

Historical Topographic Map

Site: Ontario to Redlands, Ca 92324

Quadrangle Year: 1981 - Image 1



Building	Railroad
Topo Contour	Tanks
Depression	Primary Highway
Quarry or Open Pit Mine	Trail

0 1/4 1/2 3/4 1 mile

Job Number: 646884

Original Scale of Full Topo: 1:24,000

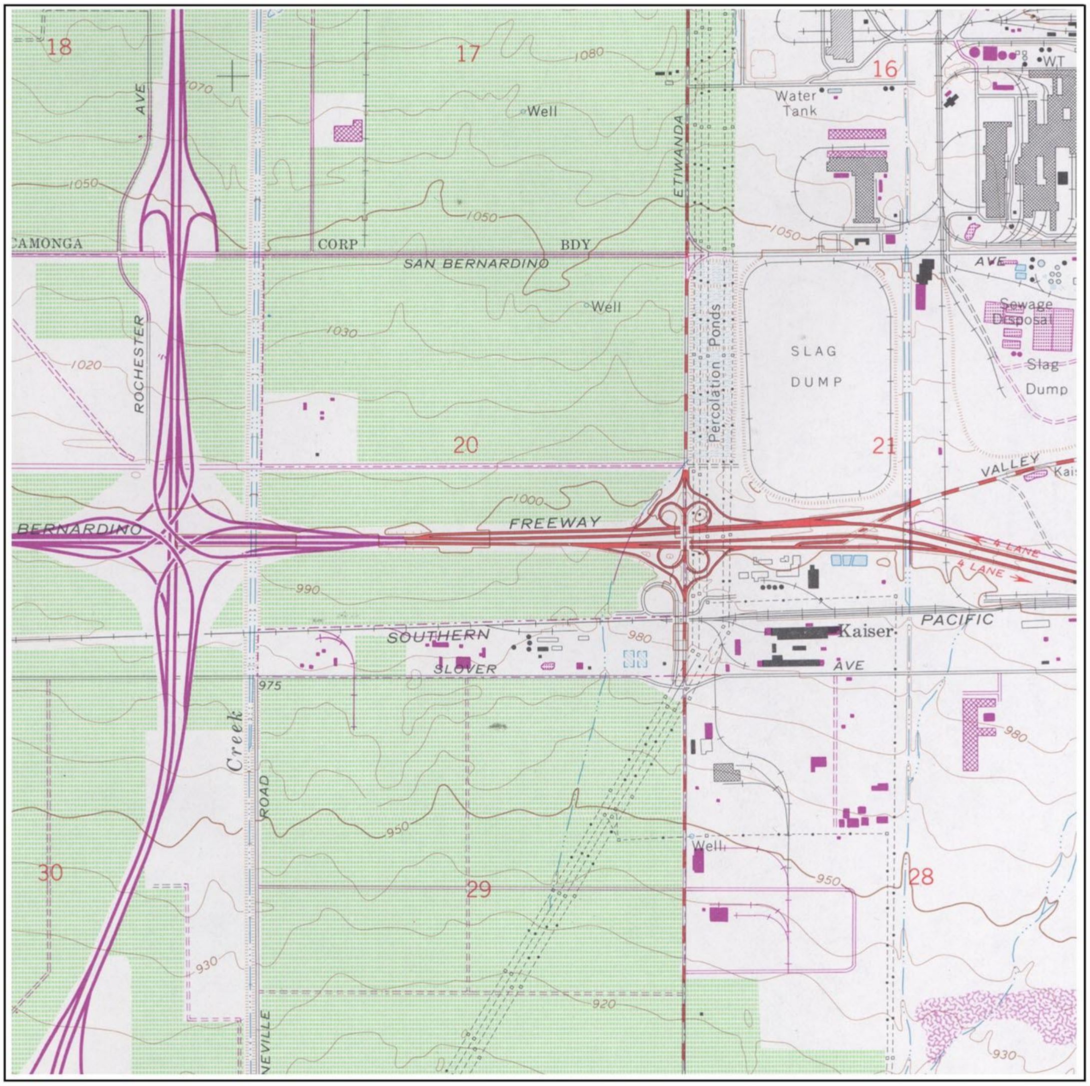
Quadrangle Name: Guasti, Ca

Track Info Services, LLC

Historical Topographic Map

Site: Ontario to Redlands, Ca 92324

Quadrangle Year: 1981 - Image 2



Building		Railroad	
Topo Contour	6000	Tanks	
Depression		Primary Highway	
Quarry or Open Pit Mine		Trail	

0 1/4 1/2 3/4 1 mile

Job Number: 646884

Original Scale of Full Topo: 1:24,000

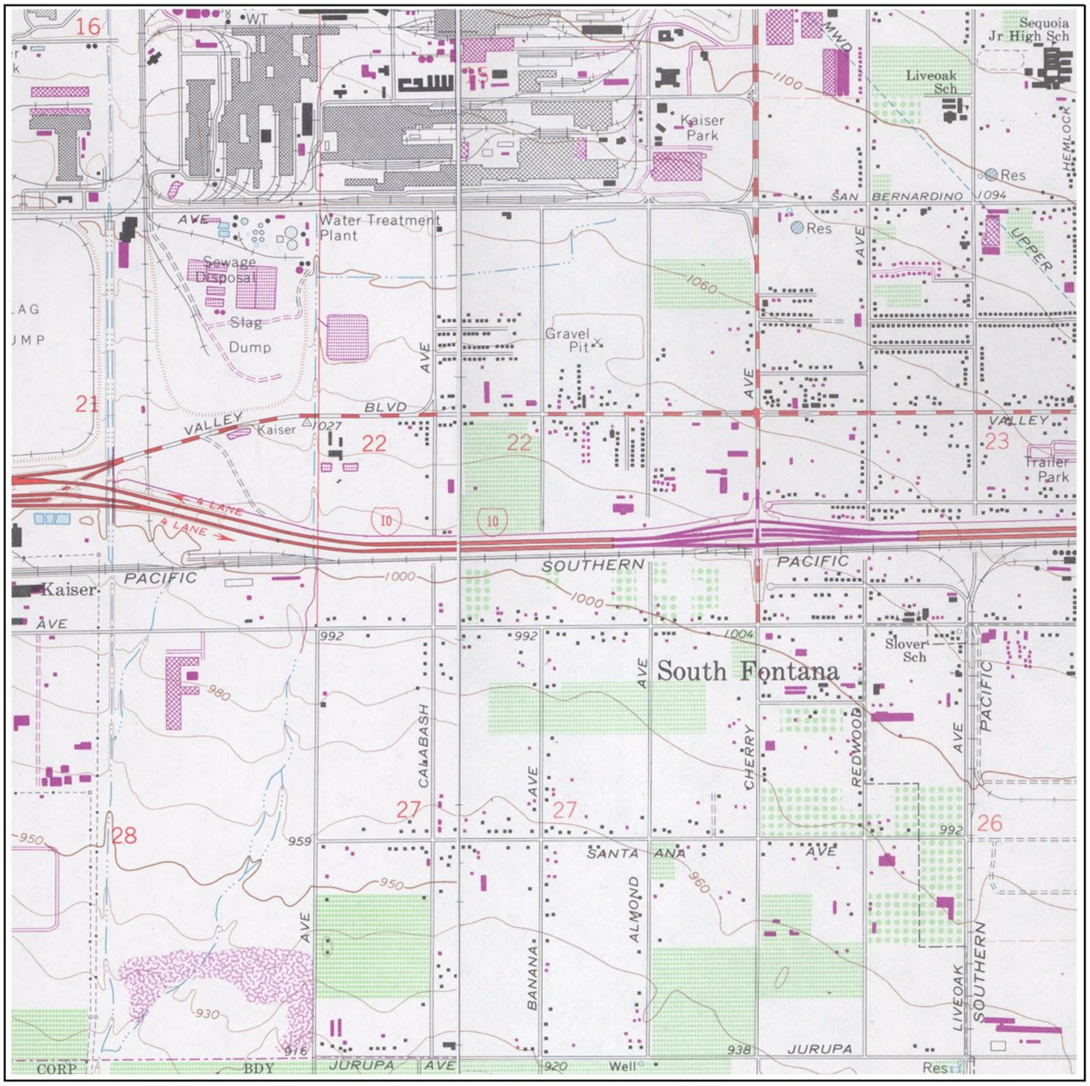
Quadrangle Name: Guasti, Ca

Track Info Services, LLC

Historical Topographic Map

Site: Ontario to Redlands, Ca 92324

Quadrangle Year: 1980 - Image 3



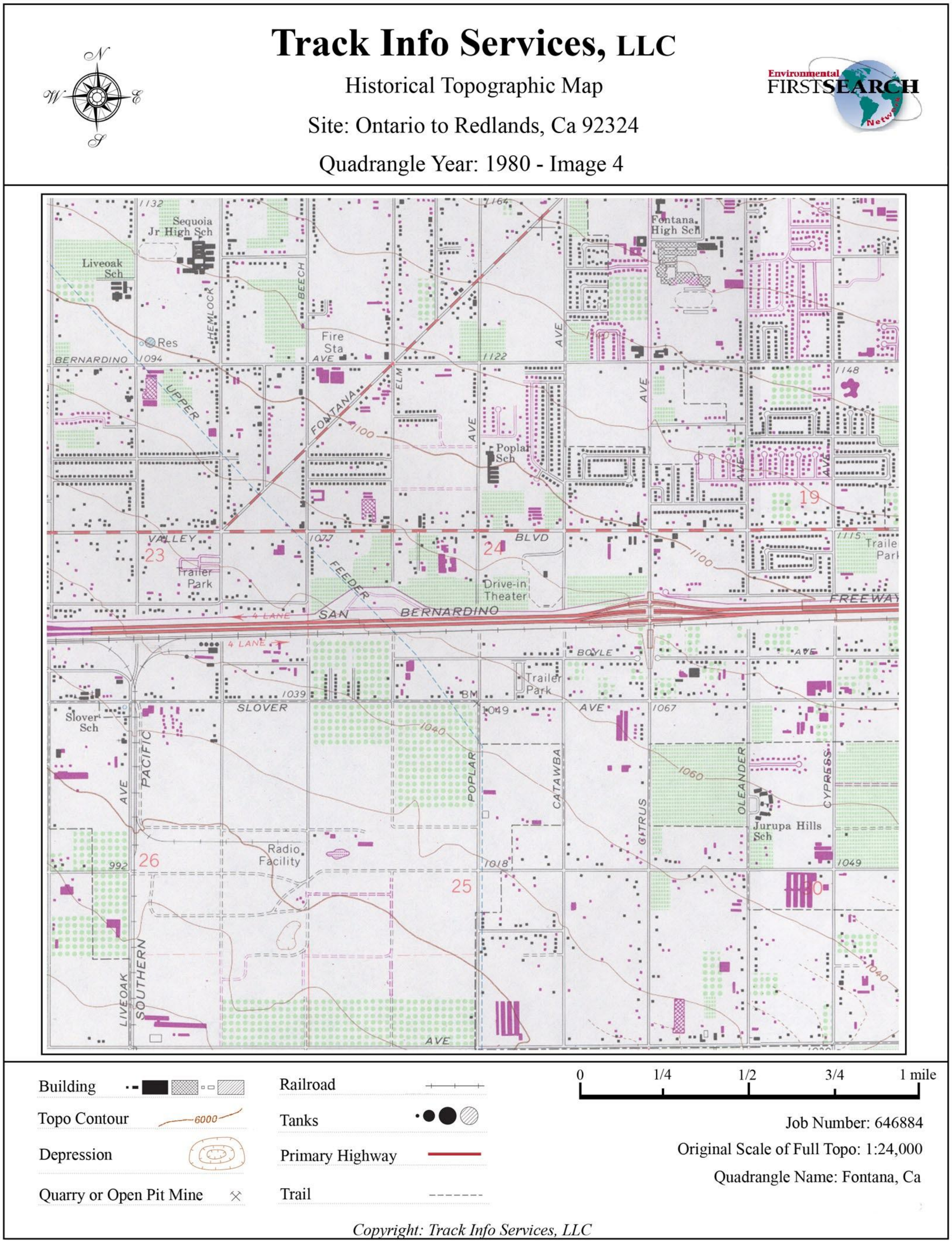
Building		Railroad	
Topo Contour	6000	Tanks	
Depression		Primary Highway	
Quarry or Open Pit Mine		Trail	

0 1/4 1/2 3/4 1 mile

Job Number: 646884

Original Scale of Full Topo: 1:24,000

Quadrangle Name: Fontana, Ca
(West: Guasti, Ca 1981)

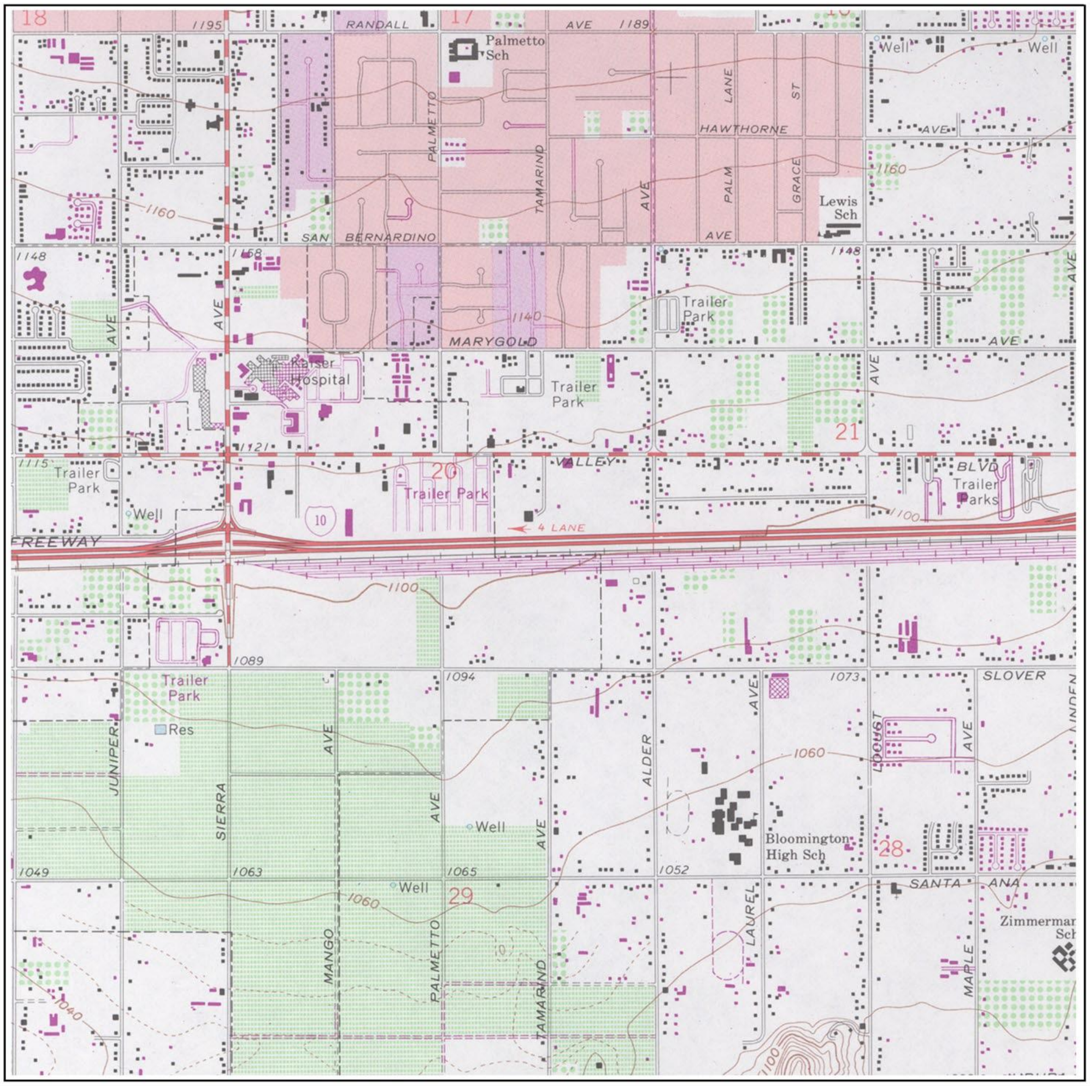

Track Info Services, LLC
Historical Topographic Map
Site: Ontario to Redlands, Ca 92324
Quadrangle Year: 1980 - Image 4
N
W
E
S
Environmental FIRSTSEARCH
Sequoia Jr High Sch
Liveoak Sch
Fontana High Sch
Fire Sta
Res
BERNARDINO
AVE
HEMLOCK
BEECH
UPPER
FONTANA
ELM
Poplar Sch
19
VALLEY
BLVD
23
24
Trailer Park
FEEDER
Drive-in Theater
SAN BERNARDINO
FREEWAY
4 LANE
BOYLE
SLOVER
Slover Sch
PACIFIC
POPLAR
CATAWBA
CITRUS
OLEANDER
CYPRESS
Jurupa Hills Sch
Radio Facility
26
25
LIVEOAK
SOUTHERN
Building
Topo Contour
6000
Depression
Quarry or Open Pit Mine
Railroad
Tanks
Primary Highway
Trail
0
1/4
1/2
3/4
1 mile
Job Number: 646884
Original Scale of Full Topo: 1:24,000
Quadrangle Name: Fontana, Ca
Copyright: Track Info Services, LLC

Track Info Services, LLC

Historical Topographic Map

Site: Ontario to Redlands, Ca 92324

Quadrangle Year: 1980 - Image 5



Building		Railroad	
Topo Contour	6000	Tanks	
Depression		Primary Highway	
Quarry or Open Pit Mine		Trail	

0 1/4 1/2 3/4 1 mile

Job Number: 646884

Original Scale of Full Topo: 1:24,000

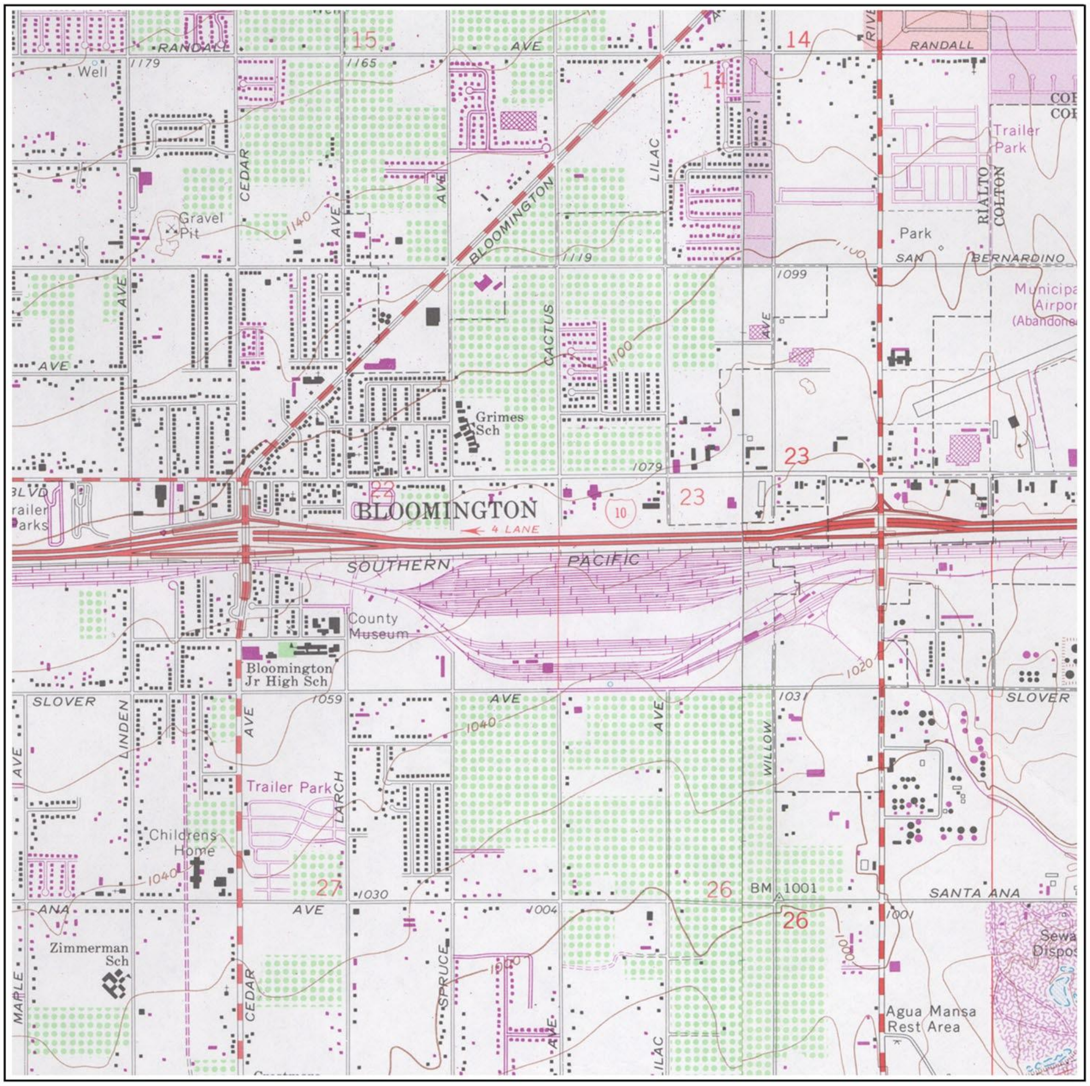
Quadrangle Name: Fontana, Ca

Track Info Services, LLC

Historical Topographic Map

Site: Ontario to Redlands, Ca 92324

Quadrangle Year: 1980 - Image 6



Building		Railroad	
Topo Contour	6000	Tanks	
Depression		Primary Highway	
Quarry or Open Pit Mine		Trail	

0 1/4 1/2 3/4 1 mile

Job Number: 646884

Original Scale of Full Topo: 1:24,000

Quadrangle Name: Fontana, Ca

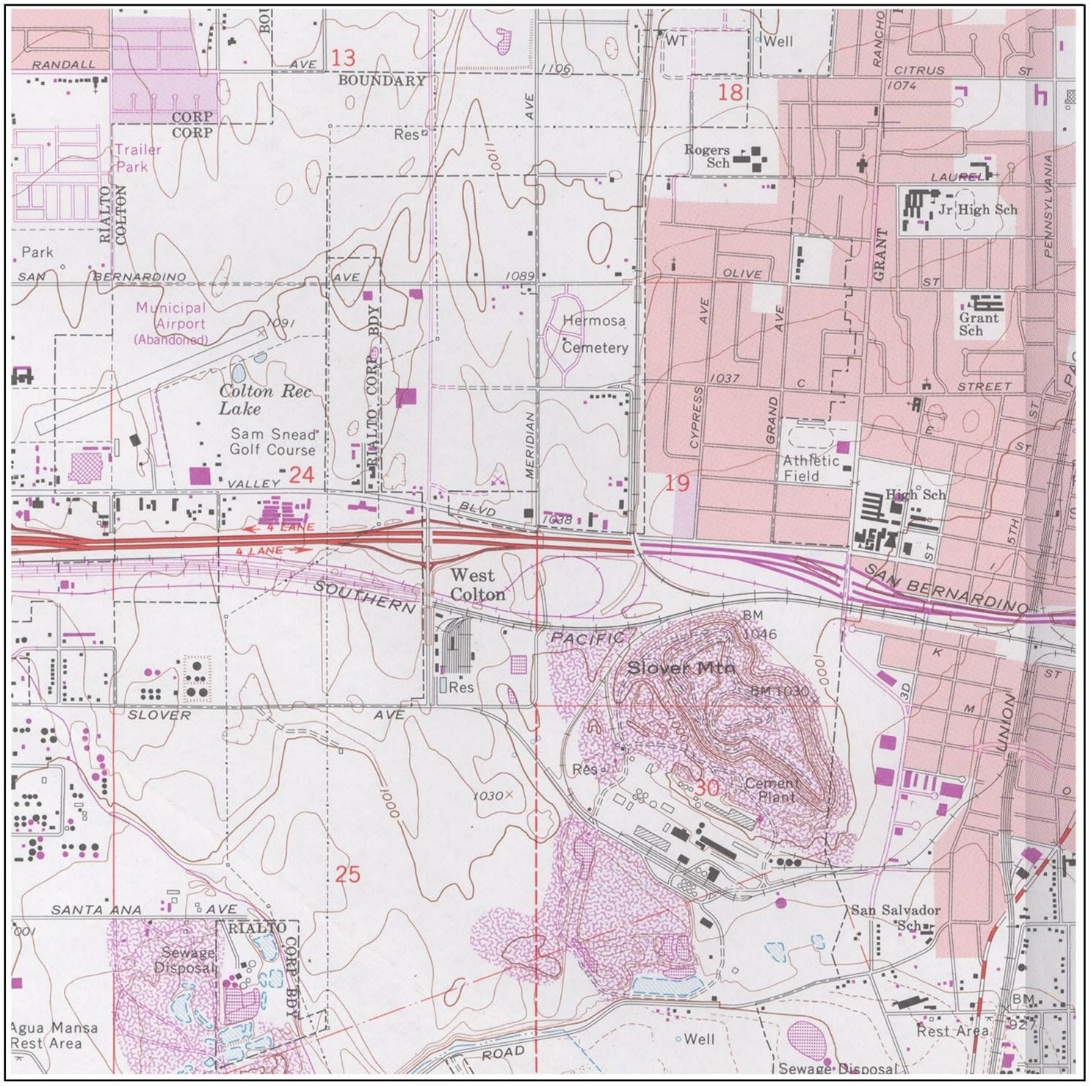
(East: San Bernardino South, Ca 1980)

Track Info Services, LLC

Historical Topographic Map

Site: Ontario to Redlands, Ca 92324

Quadrangle Year: 1980 - Image 7



Building		Railroad	
Topo Contour	6000	Tanks	
Depression		Primary Highway	
Quarry or Open Pit Mine		Trail	

0 1/4 1/2 3/4 1 mile

Job Number: 646884

Original Scale of Full Topo: 1:24,000

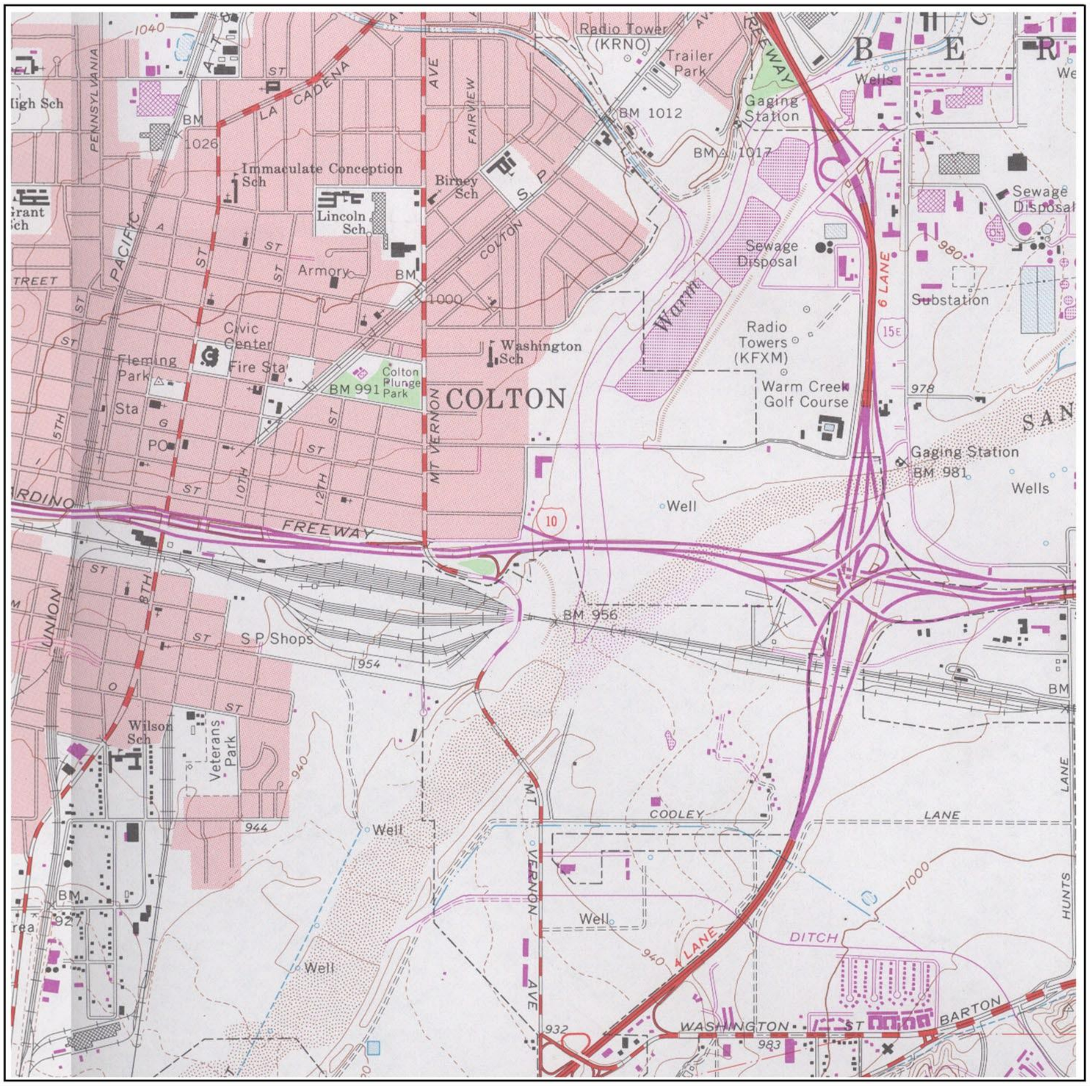
Quadrangle Name: San Bernardino South, Ca

Track Info Services, LLC

Historical Topographic Map

Site: Ontario to Redlands, Ca 92324

Quadrangle Year: 1980 - Image 8



Building		Railroad	
Topo Contour	6000	Tanks	
Depression		Primary Highway	
Quarry or Open Pit Mine		Trail	

0 1/4 1/2 3/4 1 mile

Job Number: 646884

Original Scale of Full Topo: 1:24,000

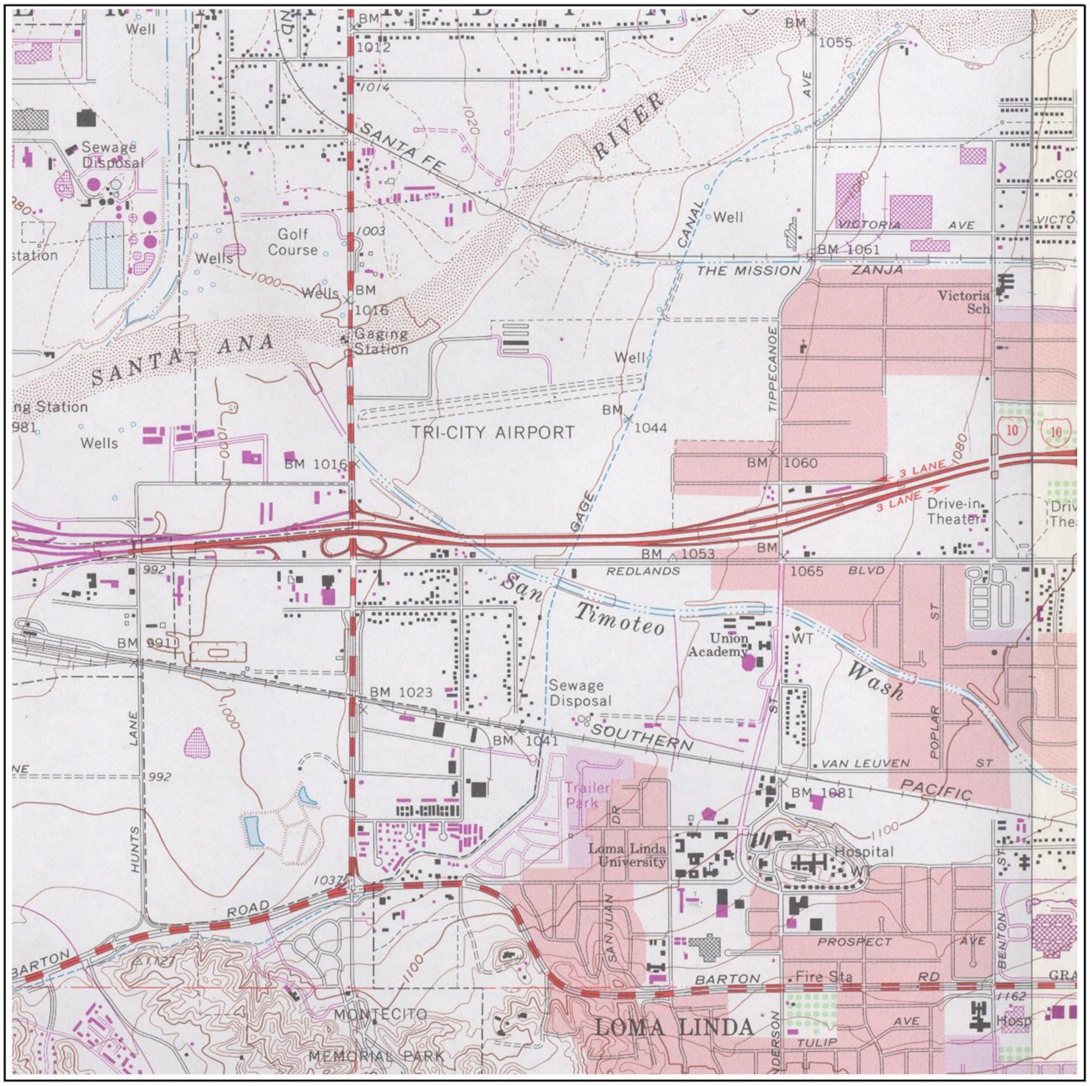
Quadrangle Name: San Bernardino South, Ca

Track Info Services, LLC

Historical Topographic Map

Site: Ontario to Redlands, Ca 92324

Quadrangle Year: 1980 - Image 9



Building		Railroad	
Topo Contour	6000	Tanks	
Depression		Primary Highway	
Quarry or Open Pit Mine		Trail	

0 1/4 1/2 3/4 1 mile

Job Number: 646884

Original Scale of Full Topo: 1:24,000

Quadrangle Name: San Bernardino South, Ca

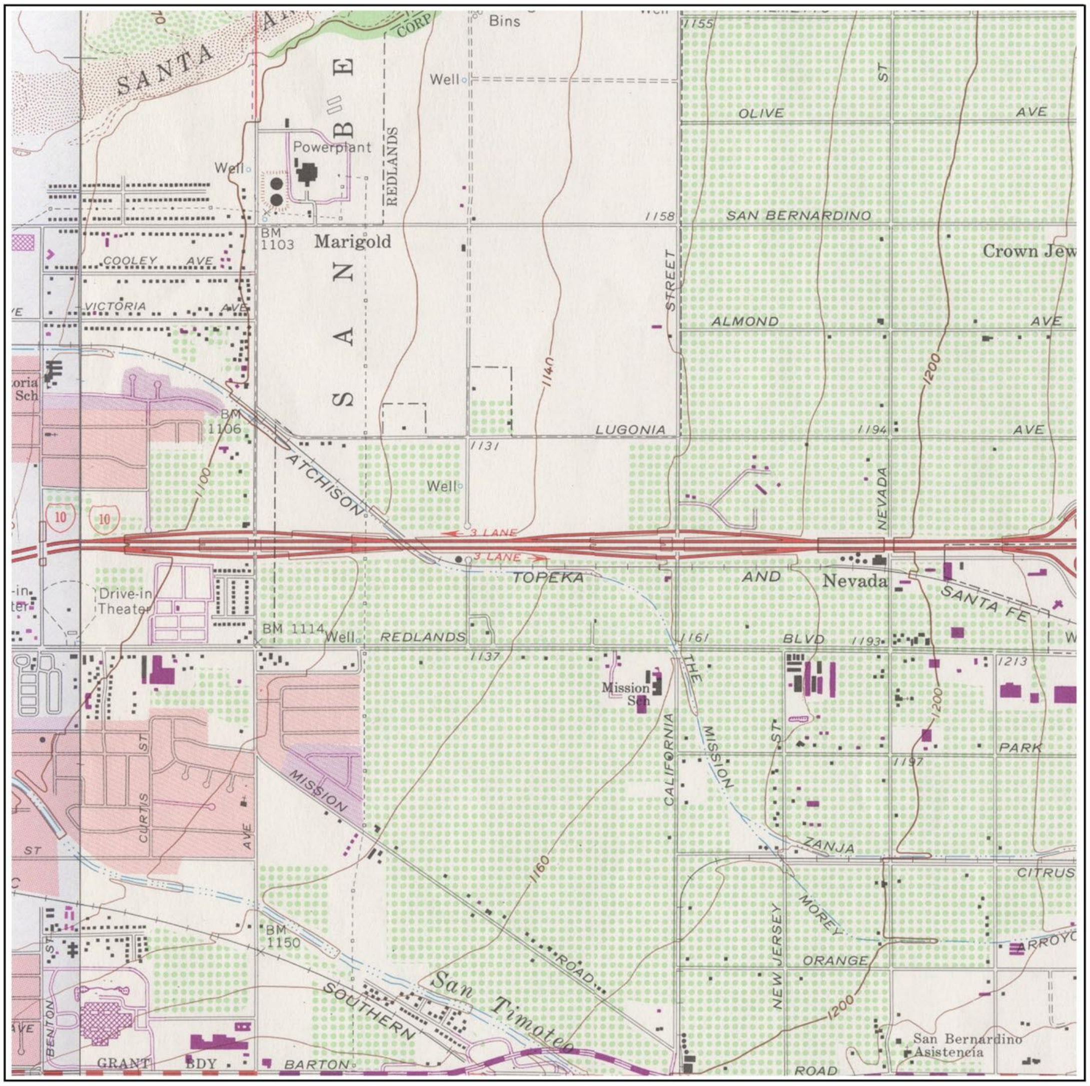
(East: Redlands, Ca 1980)

Track Info Services, LLC

Historical Topographic Map

Site: Ontario to Redlands, Ca 92324

Quadrangle Year: 1980 - Image 10



Building		Railroad	
Topo Contour	6000	Tanks	
Depression		Primary Highway	
Quarry or Open Pit Mine		Trail	

0 1/4 1/2 3/4 1 mile

Job Number: 646884

Original Scale of Full Topo: 1:24,000

Quadrangle Name: Redlands, Ca

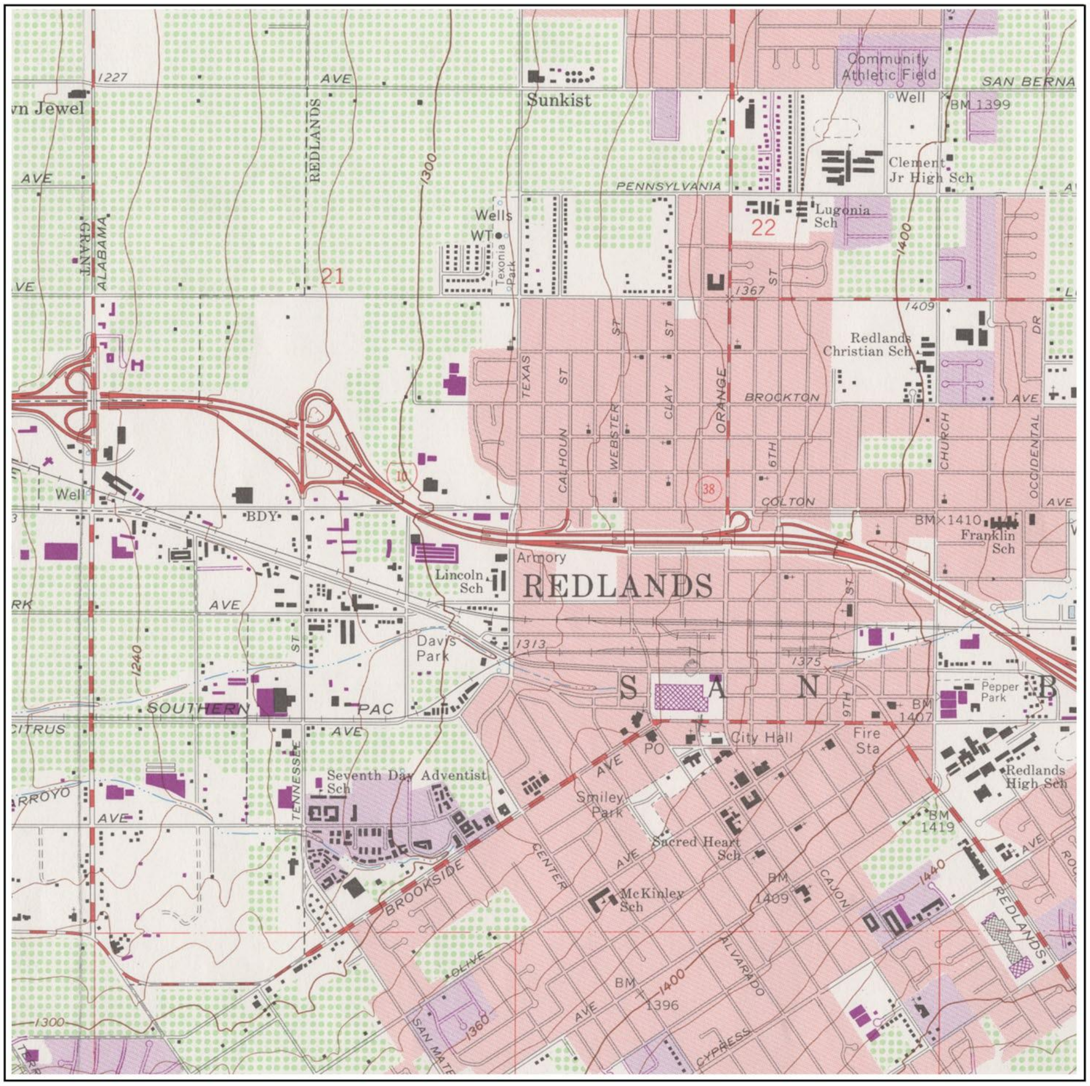
(West: San Bernardino South, Ca 1980)

Track Info Services, LLC

Historical Topographic Map

Site: Ontario to Redlands, Ca 92324

Quadrangle Year: 1980 - Image 11



Building	Railroad
Topo Contour 6000	Tanks
Depression	Primary Highway
Quarry or Open Pit Mine	Trail

0 1/4 1/2 3/4 1 mile

Job Number: 646884

Original Scale of Full Topo: 1:24,000

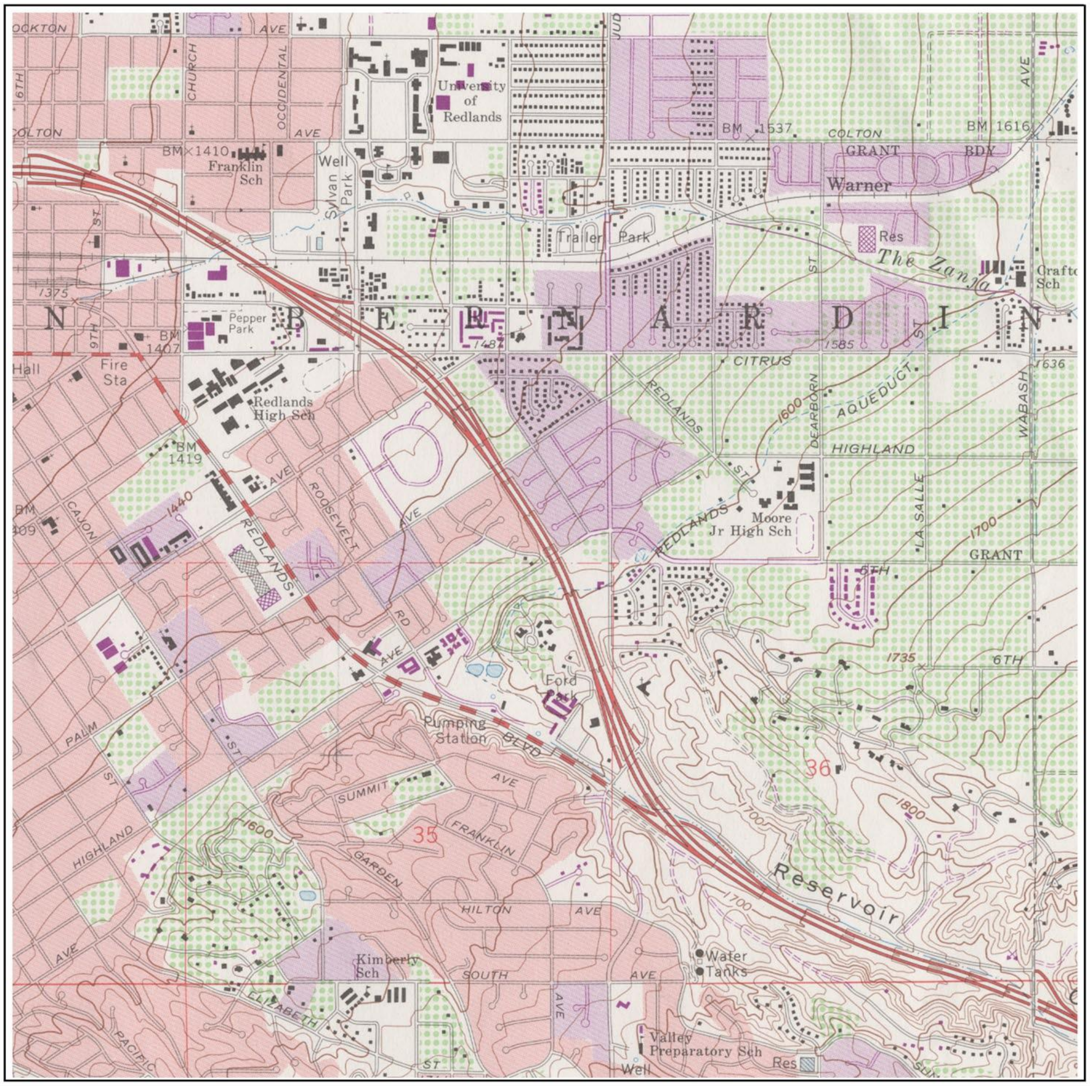
Quadrangle Name: Redlands, Ca

Track Info Services, LLC

Historical Topographic Map

Site: Ontario to Redlands, Ca 92324

Quadrangle Year: 1980 - Image 12



Building		Railroad	
Topo Contour	6000	Tanks	
Depression		Primary Highway	
Quarry or Open Pit Mine		Trail	

0 1/4 1/2 3/4 1 mile

Job Number: 646884

Original Scale of Full Topo: 1:24,000

Quadrangle Name: Redlands, Ca