RANCHO MIRAMONTE RIPARIAN HABITAT RESTORATION PROJECT

Biological Assessment

Prepared for
Trumark Homes

June 2018

ESA

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RANCHO MIRAMONTE RIPARIAN HABITAT RESTORATION PROJECT

Biological Assessment

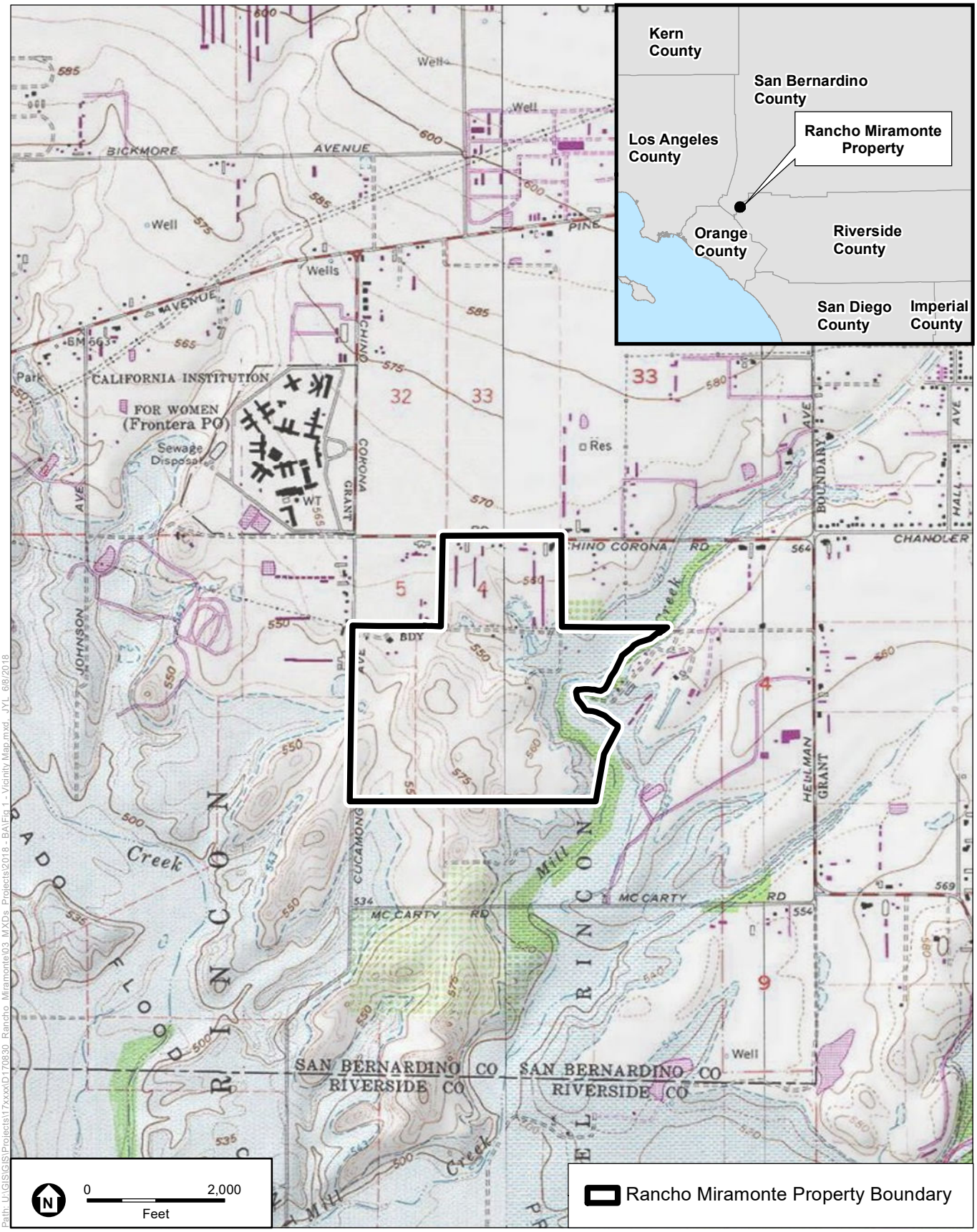
1 Introduction

Environmental Science Associates (ESA) has prepared this biological assessment (BA) to evaluate the potential effects of the Rancho Miramonte Riparian Habitat Restoration Project and related grading and staging activities (Proposed Action) on federally-listed or proposed threatened or endangered species, and/or designated or proposed critical habitat. The results of this evaluation are presented as effects determinations, indicating if any such species and/or habitats are likely to be adversely affected by the Proposed Action. This BA has been prepared pursuant to the final rules for interagency cooperation under the Endangered Species Act (50 CFR 402.12; June 3, 1986).

This BA considers and documents potential effects of the Proposed Action on federally-listed threatened and endangered (T&E) species that occur in this area of southwestern San Bernardino County. This BA also assesses potential effects to designated critical habitat that may result from implementation of the Proposed Action and, if applicable, any species which may be federally listed during the implementation of the Proposed Action. This BA was prepared for use by U.S. Army Corps of Engineers (USACE) to inform consultation with the U.S. Fish and Wildlife Service (USFWS) in accordance with Section 7(a)(2) of the federal Endangered Species Act (Act) of 1973, as amended (16 USC 1531-1543). The study focuses on the restoration activity that would fill or displace a small area of jurisdictional waters subject to USACE permit authority, but also considers whether related activities in or near suitable habitat may affect listed species outside the jurisdictional area of interest to USACE.

1.1 Project Description Summary

The Rancho Miramonte Riparian Habitat Restoration Project is situated on the east side of the 272-acre Rancho Miramonte property in the south part of City of Chino, California, at the north end of the Prado Basin (**Figure 1**, Vicinity Map). The riparian restoration project will involve restoration and creation of a total of approximately 5 acres of native riparian woodland and scrub vegetation within a designated conservation area within the Rancho Miramonte property adjacent to the west side of Mill Creek, a major tributary of the Santa Ana River. The segment of Mill Creek that crosses the property next to the proposed riparian habitat restoration site already supports a broad strip of riparian woodland and scrub vegetation known to be occupied by the least Bell's vireo (*Vireo bellii pusillus*), a migratory songbird, listed by both State and federal wildlife agencies as Endangered.



SOURCE: USGS Topographic Series (Prado Dam, Corona North, CA).

Rancho Miramonte Riparian Habitat Restoration Project – Biological Assessment

Figure 1
Vicinity Map

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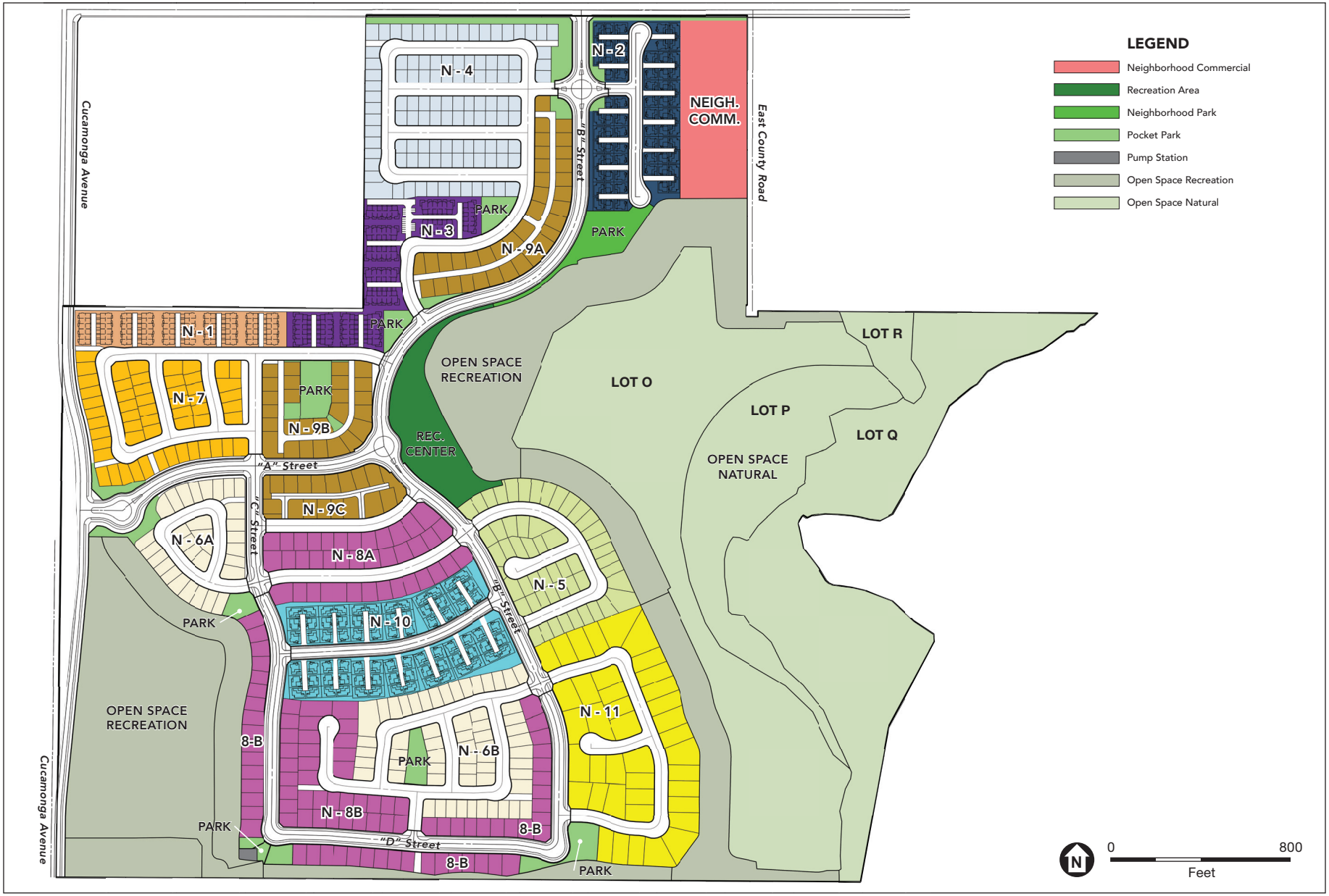
The east side of the Rancho Miramonte property is reserved for habitat conservation in three separate designated conservation Lots. Lot Q is for long-term preservation of existing riparian habitat in Mill Creek. Lot P will be used primarily for riparian habitat restoration, as described herein. Lot O is designated to be restored to provide suitable burrowing owl habitat. The Rancho Miramonte residential project will be constructed to the west of the conservation areas **(Figure 2**, Site Plan). Construction of the residential project involves raising the western side of the property above the maximum inundation limit associated with Prado Basin (e.g., 566' elevation contour). Material will be excavated from the eastern part of the property to raise up the western area, in some areas more than 40 feet. Excavation on the east side of the property along Mill Creek will lower the ground elevation within the designated conservation area of Lot P and provide an area suitable for riparian habitat establishment.

The proposed Rancho Miramonte Riparian Habitat Restoration Project is planned to establish or reestablish at least 5 acres of native riparian vegetation within the Lot P and will provide the opportunity for further restoration within this 12.19-acre Lot. The goals of the riparian restoration project are to restore, expand, and protect riparian habitat adjacent to the occupied segment of Mill Creek that is used by least Bell's vireo and other wildlife. Notably, the 30-acre burrowing owl habitat planned in Lot O, as well as the open space immediately west of Lot O, will provide a substantial buffer between the residential project and the riparian habitat in the conservation area lots. Furthermore, the planned residential development will be elevated approximately 40 feet or more above the riparian habitat in Lots P and Q, with the slope grading situated completely outside the conservation areas.

1.2 Study Area and Critical Habitat

The proposed riparian habitat restoration project will impact a small area subject to U.S. Army Corps of Engineers jurisdiction where a short backwater extends off Mill Creek to the west. USACE staff determined that, for the purpose of this BA, the "Action Area" should be defined to be the area of Waters of the U.S. subject to the discharge of dredge or fill material (i.e., the area within USACE jurisdiction to which Clean Water Act authorization applies) plus a 500-foot buffer surrounding that area. Therefore, this BA identifies an oval-shaped 404 Permit Action Area centered on the affected area subject to USACE jurisdiction plus a 500-foot buffer.

However, in order to fully address what the USFWS might consider to be its action area in connection with Section 7 of the Endangered Species Act, namely the potential direct and indirect effects of activities associated with the Riparian Habitat Restoration Project in any areas containing habitat that may be utilized by listed species, this BA also evaluates a larger area extending along the entire segment of Mill Creek wherever planned activities (e.g., grading, staging, contouring, planting, maintenance) would occur. Although the 404 Permit Action Area includes a significant section of these areas of interest, planned activities will also occur in close proximity to Mill Creek upstream and downstream from the 404 Permit Action Area. Therefore, this BA also evaluates a larger study area that contains the 404 Permit Action Area but also extends up and down the west side of Mill Creek wherever work will occur within or near riparian habitat that may be used by listed species plus a 500' buffer on site (**Figure 3**, Action Area, Study Area, and Critical Habitat). The study area also extends to include the areas within 300' outside the property boundary both upstream and downstream, with regard to potential effects.



SOURCE: Trumark Homes; Hunsaker & Associates, April 11, 2018

Rancho Miramonte Riparian Habitat Restoration Project - Biological Assessment

Figure 2
Rancho Miramonte Site Plan

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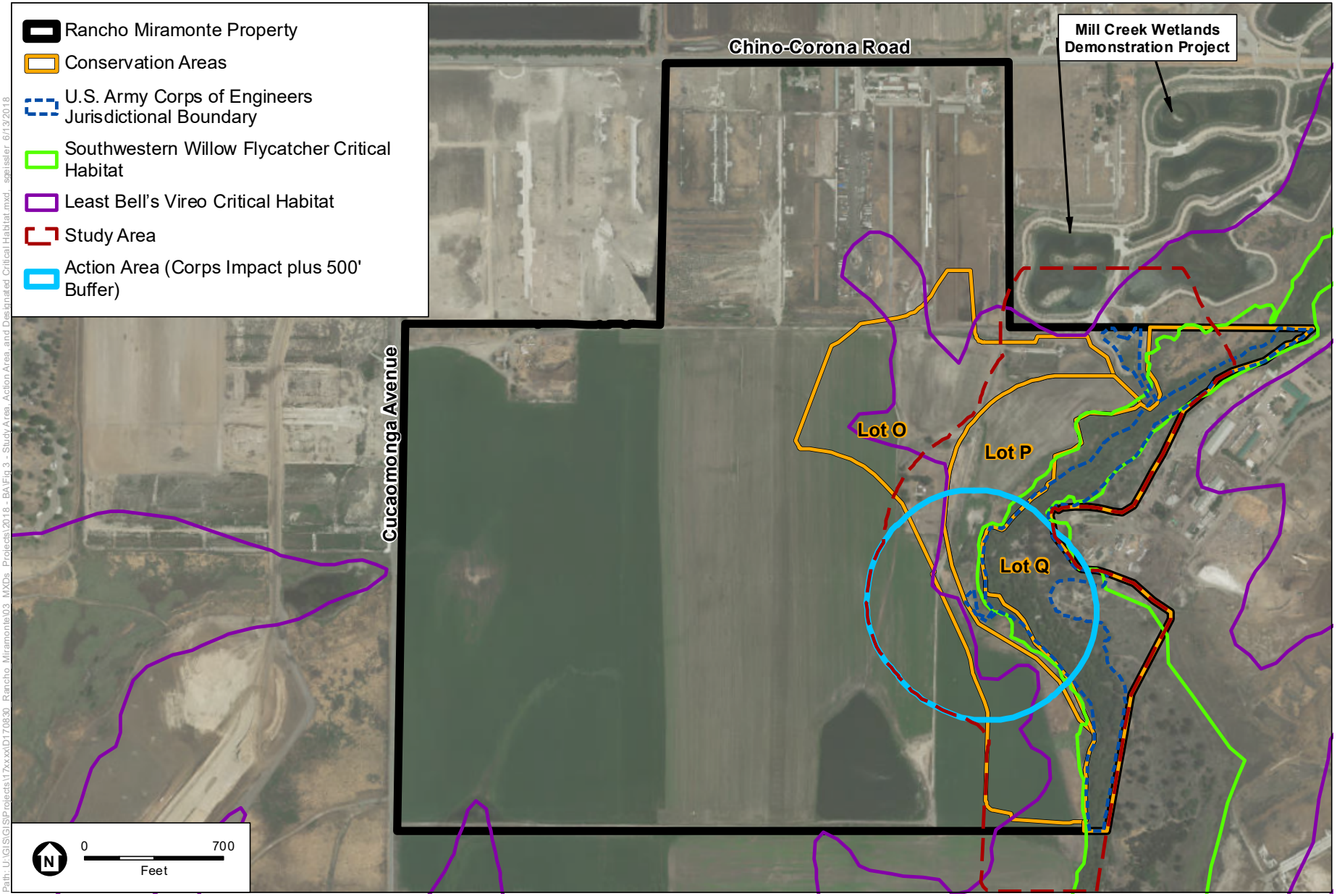

SOURCE: ESRI 2016

Rancho Miramonte Riparian Habitat Restoration Project – Biological Assessment

Figure 3
Study Area, Action Area, and Designated Critical Habitat

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1.3 Species and Critical Habitats Considered

Based on the known and expected distribution of federally-listed and candidate species in the vicinity of the property and Study Area, including a review of the USFWS Information for Planning and Consulting (IPaC) Resource List, the following species and designated critical habitats are considered in this BA:

- Coastal California gnatcatcher (*Polioptila californica californica*) – FT[1]
- Delhi sands flower-loving fly (*Rhaphiomidas terminatus abdominalis*) – FE
- Least Bell's vireo (LBVI) (*Vireo bellii pusillus*) and critical habitat (Figure 3) – FE
- San Diego ambrosia (*Ambrosia pumila*) – FE
- Santa Ana River woolly star (*Eriastrum densifolium* ssp. *sanctorum*) – FE
- Santa Ana sucker (*Catostomus santaanae*) – FT
- Southwestern willow flycatcher (SWFL) (*Empidonax traillii extimus*) and critical habitat (Figure 3) – FE
- Stephens' kangaroo rat (*Dipodomys stephensi*) – FE
- Thread-leaved brodiaea (*Brodiaea filifolia*) – FT

These species were considered for potential to occur within the Study Area and 404 Permit Action Area based on known distribution, habitat requirements and preferences, as presented in **Table 1** below.

Figure 3 depicts the extent of designated Critical Habitat for least Bell's vireo (LBVI) and southwestern willow flycatcher (SWFL) where these mapped designations overlap the Rancho Miramonte property. It is notable that much of the area mapped as Critical Habitat for the LBVI occurs on land that has been used for agriculture for decades and that the only areas that contain riparian habitat that may be used by LBVI occur along Mill Creek on the east side of the property.

The Critical Habitat designated for SWFL is mapped more accurately in that it overlays Mill Creek and associated riparian habitat and does not extend up into the farmland and historic dairy yard areas. It is apparent by comparing the LBVI Critical Habitat outline to the USGS topographic base map on Figure 1, that the blue dashed line on the topo map, representing the 543' elevation contour, was used as the outline for the Critical Habitat. Unfortunately, that contour line, which was originally drawn and then revised from aerials dating from the 1950's and 60's, is inherently inaccurate in depicting where riparian habitat actually occurs in this area.

[1] FT = federal threatened species; FE = federal endangered species

TABLE 1
FEDERALLY-LISTED AND CANDIDATE SPECIES REVIEWED FOR POTENTIAL TO OCCUR WITHIN THE STUDY AREA

Common Name *(Scientific Name)*	Federal Status	Habitat Preference/Requirements	Status Within Study Area
Plants			
San Diego ambrosia (*Ambrosia pumila*)	Endangered	Chaparral, coastal scrub, valley and foothill grassland. Sandy loam or clay soil; sometimes alkaline. In valleys; persists where disturbance has been superficial. 3-580 m.	Not expected to occur due to extensive historical disturbance and lack of suitable habitat in the Study Area and absence of records along Mill Creek.
Thread-leaved brodiaea (*Brodiaea filifolia*)	Threatened	Usually associated with annual grassland and vernal pools; often surrounded by shrubland habitats. Occurs in openings on clay soils. 15-1030 m.	Not expected to occur due to extensive historical disturbance of the Study Area, lack of optimal habitat, and absence of records in the vicinity of the Study Area.
Santa Ana River woolly star (*Eriastrum densifolium* ssp. *sanctorum*)	Endangered	Coastal scrub and chaparral in sandy soils on river floodplains or terraced fluvial deposits. 180-700 m.	Not expected to occur due to extensive historical disturbance of the Study Area with agricultural uses, lack of suitable habitat, and absence of records along Mill Creek or areas upstream of the Study Area.
Invertebrates			
Delhi sands flower-loving fly (*Rhaphiomidas terminatus abdominalis*)	Endangered	Found only in Delhi Sands formations in southwestern San Bernardino & northwestern Riverside counties. Requires fine, sandy soils, often with dunes & sparse vegetation.	Not expected to occur. The Study Area lies within the Ontario Recovery Unit for this species but there is no potentially suitable habitat, particularly the requisite Delhi Sands, in the Study Area.
Fish			
Santa Ana sucker (*Catostomus santaanae*)	Threatened	Habitat generalists, but prefer sand-rubble-boulder bottoms, cool, clear water, and algae.	Not expected to occur. Mill Creek is not known to support this species; but is a source of sediment for the occupied portion of the Santa Ana River that provides spawning and feeding substrates for the sucker. The Study Area contains no designated Critical Habitat for this species
Birds			
Least Bell's vireo (*Vireo bellii pusillus*)	Endangered	Riparian forest, woodland, and scrub habitat in the vicinity of water or in dry river bottoms; below 2000 ft.	Present within or adjacent to the Study Area. Critical Habitat also present within the Study Area.
Coastal California gnatcatcher (*Polioptila californica californica*)	Threatened	Obligate, permanent resident of coastal sage scrub below 2500 ft. in Southern California.	Not expected to occur due to lack of suitable coastal sage scrub habitat within or adjacent to the Study Area.
Southwestern willow flycatcher (*Empidonax traillii extimus*)	Endangered	Riparian woodlands in Southern California	Not found in the Study Area[2] although potentially suitable habitat is present. This subspecies occurs in Prado Basin in small numbers south of the property. Designated Critical Habitat is present within the Study Area along Mill Creek.
Mammals			
Stephens' kangaroo rat (*Dipodomys stephensi*)	Endangered	Primarily annual & perennial grasslands, but also occurs in coastal scrub & sagebrush with sparse canopy cover. Prefers buckwheat, chamise, brome grass and filaree. Will burrow into firm soil.	Absent. The species is presumed to be extirpated in San Bernardino County.

[2] No SWFL found in the Study Area during focused surveys in 2005. None identified in Study Area on OCWD maps (2015 – 2017). Current 2018 surveys noted WIFL (presumed migrant) on one visit in May but no SWFL observed thus far. Final report due in July 2018.

1.4 Project Sponsor

The project is sponsored by Trumark Homes. Trumark Homes is the applicant for regulatory permits required by the proposed project. The project contacts are as follows:

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1.5 Consultation History

No formal or informal consultation between any federal agency and the USFWS has occurred with respect to the proposed Rancho Miramonte Riparian Restoration Project, the Rancho Miramonte Project containing the restoration project, or earlier iterations (e.g., Edgewater Communities Project).

2 Description of the Proposed Action

2.1 Rancho Miramonte Conservation Areas

The east side of the Rancho Miramonte property is reserved for habitat conservation, while the Rancho Miramonte residential project involves construction of a new residential tract on the west side of the property (Figure 2, Site Plan). Most of the property has historically been used for dairy farming and agriculture. The south part of the property is still being cultivated but the old dairy works in the north end have been abandoned and are being demolished and removed. Excavation on the east side of the property along Mill Creek will lower the ground elevation within the designated conservation area of Lot P, providing an area suitable for riparian habitat establishment. The material that will be excavated from the eastern part of the property will not be exported, but instead will be moved to the western side of the Rancho Miramonte property and will raise the elevation of the western area of the property, in some areas more than 40 feet. Overall construction of the residential project involves raising the western side of the property above the maximum inundation limit associated with Prado Basin (e.g., 566’ elevation contour).

A total of 62 acres will be dedicated to habitat conservation on the east side of the Rancho Miramonte property along and adjacent to Mill Creek as required by conditions established for the Rancho Miramonte residential project by the City of Chino. Mill Creek flows from north to south within the designated conservation area identified as Lot Q on Figure 2. An existing conservation easement is already in place over the northernmost 4 acres within Lot Q and another conservation easement is required to be established over the remaining 19.8 acres of this 23.8-acre Lot. The Mill Creek Wetlands project is situated just north and adjacent to the eastern part of the property and outlets across the Rancho Miramonte property into Mill Creek (through Lot R). The conservation easement placed on Lot Q will permanently protect existing riparian habitat for least Bell’s vireo (*Vireo bellii pusillus*) in this segment of Mill Creek. The proposed Rancho

Miramonte Riparian Habitat Restoration Project is planned to establish at least 4.96 acres of native riparian vegetation within the 12.19-acre Lot P and will provide the opportunity for further restoration within this designated conservation Lot. In addition to protecting and expanding existing riparian habitat for the vireo, the Rancho Miramonte project will also involve establishment of just over 30 acres of habitat for burrowing owl in Lot O between the toe of the slope of the residential development to the west and the areas designated riparian habitat conservation areas to the east.

2.2 Riparian Habitat Restoration Concept

The Rancho Miramonte Riparian Habitat Restoration Project would be implemented in Lot P situated on the east side of the 272-acre Rancho Miramonte property in the south part of City of Chino, California (Figure 3). The riparian restoration project will involve restoration and creation of a total of at least 4.96 acres of native riparian woodland and riparian scrub vegetation within a designated conservation area (Lot P) on the west side of Mill Creek, a tributary to the Santa Ana River. The plan is depicted on **Figure 4**, Riparian Habitat Creation and Restoration Concept Plan. Please note that the concept plan identifies the potential to establish up to as much as 5.48 acres of riparian habitat strips along three new primary channels, including one that splits into two secondary channels. The 5.48 total acreage shown in Figure 4, indicates that the available area exceeds the minimum 4.96 acres of habitat restoration acreage that the plan is committed to establishing. The restoration project would, at minimum include restoration of the 2.48 acres temporarily impacted by excavation and would also create an additional 2.48 acres within Lot P.

Subsequent to excavation within Lot P, along the west side of Mill Creek, the area will be contoured to create multiple drainages to convey flows from north to south through that area. Surface flows coming from the Mill Creek Wetlands outlet would be captured before they reach Mill Creek. The flow would be captured by cutting into the outflow line and then directed through a flow splitting device or basin so that the flow will be split relatively evenly among the three main drainage courses. The bottom of each drainage channel will be approximately four feet across and approximately 2’ deep with 4:1 embankments gently sloped up to mean grade (about 8’ wide) on either side of the drainage. Each drainage will be aligned with gentle curves to imitate a naturally sinuous meandering stream. The drainage closest to the main channel of Mill Creek would be split again just past the southwest corner of the existing conservation easement so that some flow can be directed to wrap around the corner of the easement to supply the area where riparian vegetation temporarily impacted by excavation must be replaced. All the channels would rejoin before they reach the planned outlet to Mill Creek to the south.

In addition to connecting to surface flows from the Mill Creek Wetlands to create multiple streambeds in Lot P, the excavation in this Lot will lower the grade so that the surface elevation is much closer to groundwater. For example, borings encountered groundwater at approximately the same elevation as the proposed grade will be, although some reduction is expected to occur after the adjacent property is no longer in cultivation. In any case, once excavation is complete, the elevation across the full width of Lot P will be comparable to the ordinary high water line in the adjacent Mill Creek. Therefore, once riparian vegetation is well rooted, groundwater should be a primary source of irrigation, and the supply from surface flows should be less important. Also,

since groundwater is anticipated to be only a few feet below the surface, groundwater presence at that level should slow the loss of surface flow into the ground and improve local saturation from the available surface flow.

2.3 Conservation Measures

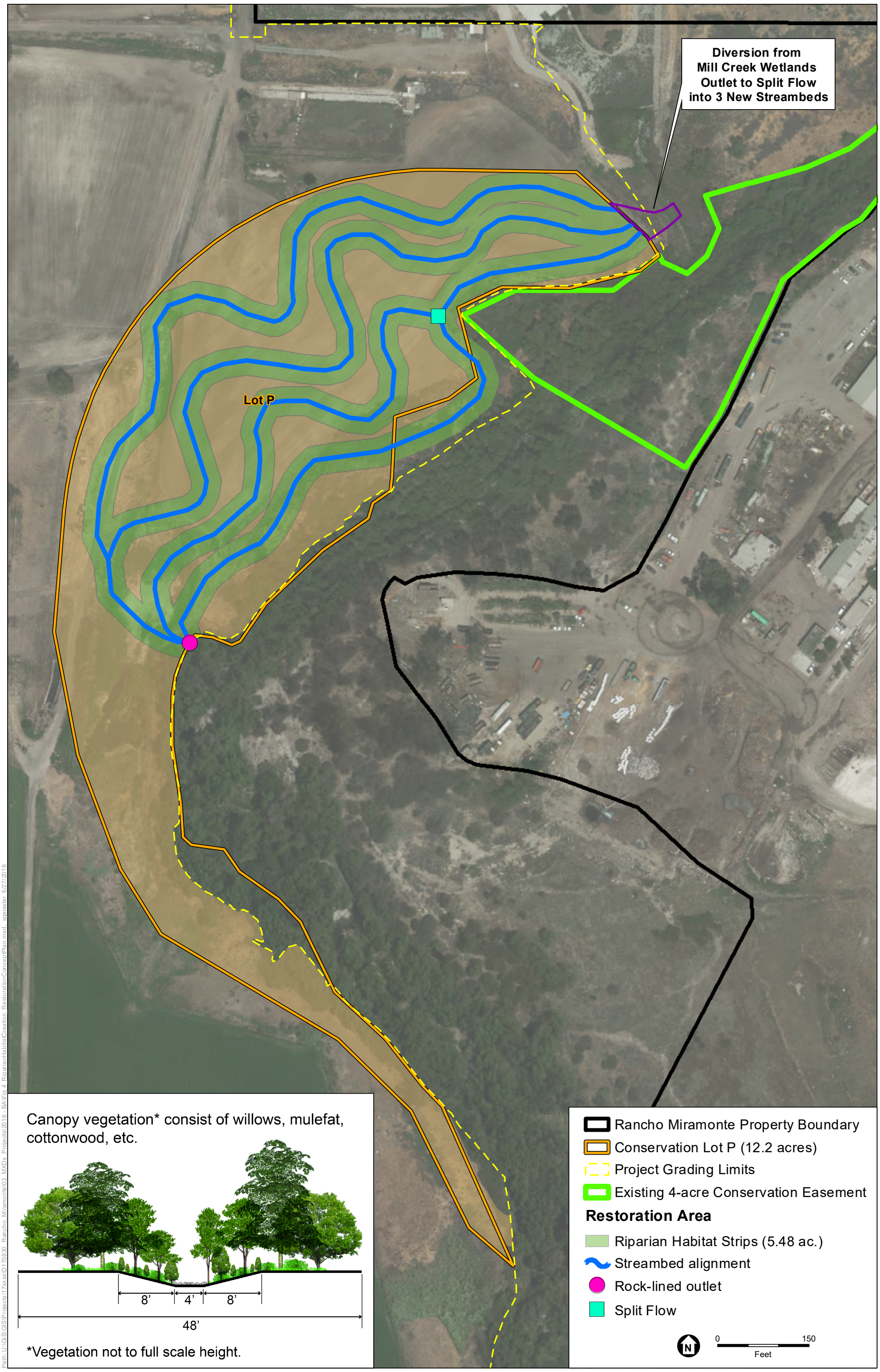
The riparian habitat restoration project will be executed in conjunction with the Rancho Miramonte residential development project; excavated soils will be placed on the western side of the residential project site, rather than transported off site, and the residential project's EIR provides conditions intended to protect the habitat restoration area and adjacent areas in the long term as functioning natural biological habitats. As such, it is appropriate to consider the Rancho Miramonte residential development project's conservation measures for the Study Area and Action Area.

The Rancho Miramonte residential project EIR (for Edgewater Communities, City of Chino 2009) and subsequent EIR Addendum (2016) acknowledged that construction and operational impacts to biological resources would occur and would require mitigation. Specific mitigation measures and project features were established to reduce biological resource impacts to the extent feasible. The relevant measures are included below, as appropriate and applicable to activities along Mill Creek and/or within the Riparian Habitat Restoration Project area.

2.3.1 Project Design Features

Some riparian vegetation will be temporarily displaced due to grubbing and grading for the riparian habitat restoration project. However, overall project implementation will provide a net increase of riparian habitat acreage subject to both USACE and CDFW jurisdiction. The proposed riparian habitat restoration will also increase the buffer along the west side of Mill Creek between existing riparian and riverine habitat and planned development which will reduce edge effects to Mill Creek.

The Rancho Miramonte residential project implementation will also result in restoration and preservation of burrowing owl habitat adjacent to the restored riparian habitat, thus further reducing edge effects to riparian habitat in the Study Area from the expected residential project.



SOURCE: ESRI 2015

Rancho Miramonte Riparian Habitat Restoration Project – Biological Assessment

Figure 4
Riparian Habitat Creation and Restoration Concept Plan

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2.3.2 CEQA Mitigation Measures (Rancho Miramonte Residential Project)

The following general measures will provide protection for biological resources in the Action Area and Study Area.

BR-3 Invasive Species - The [Proposed Action] shall avoid the use of invasive and non-native plant species identified by the California Invasive Plant. The final landscape plans will be reviewed and verified by the City of Chino to ensure that invasive species will not be used. Maintenance of the landscape areas will include the removal of invasive plants that may establish through natural dispersal mechanisms.

BR-4 Fertilizers and Pesticides - A Pest/Turf Management Plan for common areas within the project shall be prepared by the Applicant for review and approval by the City as part of required landscape plans to ensure that fertilizers and pesticides do no enter habitat areas.

BR-7 Dogs - All trails will be posted with signs that dogs must remain leashed.

BR-8 Cats - Project residents having pet cats shall be encouraged through distribution of an informational flyer to have them remain indoors.

BR-16 Nesting Bird Avoidance - Removal of vegetation or other potential nesting bird habitat shall be conducted outside of the avian nesting season (February through August). If removal of vegetation occurs during the avian nesting season, a preconstruction nesting bird survey shall be conducted no more than 7 days prior to this activity. If birds are found to be nesting within or near the impact area, a buffer where no construction activities would occur would need to be established by a qualified biologist. This biologist would also determine if the nest is not currently active or when the nest is no longer active, at which time construction could resume.

2.3.3 Species-Specific Conservation Measures (Rancho Miramonte Residential Project)

The following species-specific conservation measures will protect LBVI, LBVI critical habitat, SWFL critical habitat and any SWFL individuals in the Action Area and Study Area.

Least Bell's Vireo

BR-1 Conservation Easement – In conjunction with the 30 acres of restored grassland habitat and prior to the passive relocation of any burrowing owls within the project footprint, a conservation easement shall be established and deeded to an agency that provides land stewardship for the 22.9 acres that are to be avoided within Mill Creek to ensure this area is preserved in perpetuity for LBVI and other riparian species.

BR-2 Nesting LBVI Avoidance (Refined) – Construction activity within 500 feet of riparian habitat along Mill Creek should be restricted during the LBVI nesting season (April 1 through July 31) to the extent feasible. If construction activity is required within 500 feet of riparian habitat along Mill Creek during the LBVI nesting season, a temporary barrier for the purpose of visual obstruction and noise attenuation shall be installed between the construction area and the outer extent of riparian habitat prior to

April 1. This barrier shall consist of certified weed-free straw bales stacked at least 4' to 6' high (depending on site topography), or equivalent, with breaks every 100 meters to allow wildlife passage. During any grading or heavy equipment operation within 500' of LBVI suitable habitat, a qualified biologist must be on site to monitor nesting activity by LBVI or other avian species and determine whether particular activities could be disturbing or disrupting nesting behavior. The monitor shall have discretion and authority to curtail any equipment operation within 500' of nest sites. If no LBVI or nesting activity occurs, or if it can be clearly observed that nesting behavior is not being disturbed or disrupted or at risk then construction can continue.[3]

BR-5 Outdoor Lighting – No outdoor lighting within suitable LBVI habitat shall be permitted. In addition, adjacent night lighting shall be reduced to the greatest extent practicable and designed with hoods or shields that reduce the amount of light spilling into the habitat.

BR-6 Noise, Lighting, and Motion – No recreational sport fields or structures shall be permitted within 250 feet of riparian habitat suitable to LBVI. A plan for use of the Open Space Recreation designated areas on the project site shall be prepared demonstrating to the City that intrusive noise, lighting, and motion into the occupied LBVI habitat shall not occur. Intrusion into the Mill Creek habitat area by people and/or pets shall not be permitted. Signs shall be posted around the perimeter of the Mill Creek habitat area that people and their pets are not permitted entry.

BR-16 Nesting Bird Avoidance – See previous section, above.

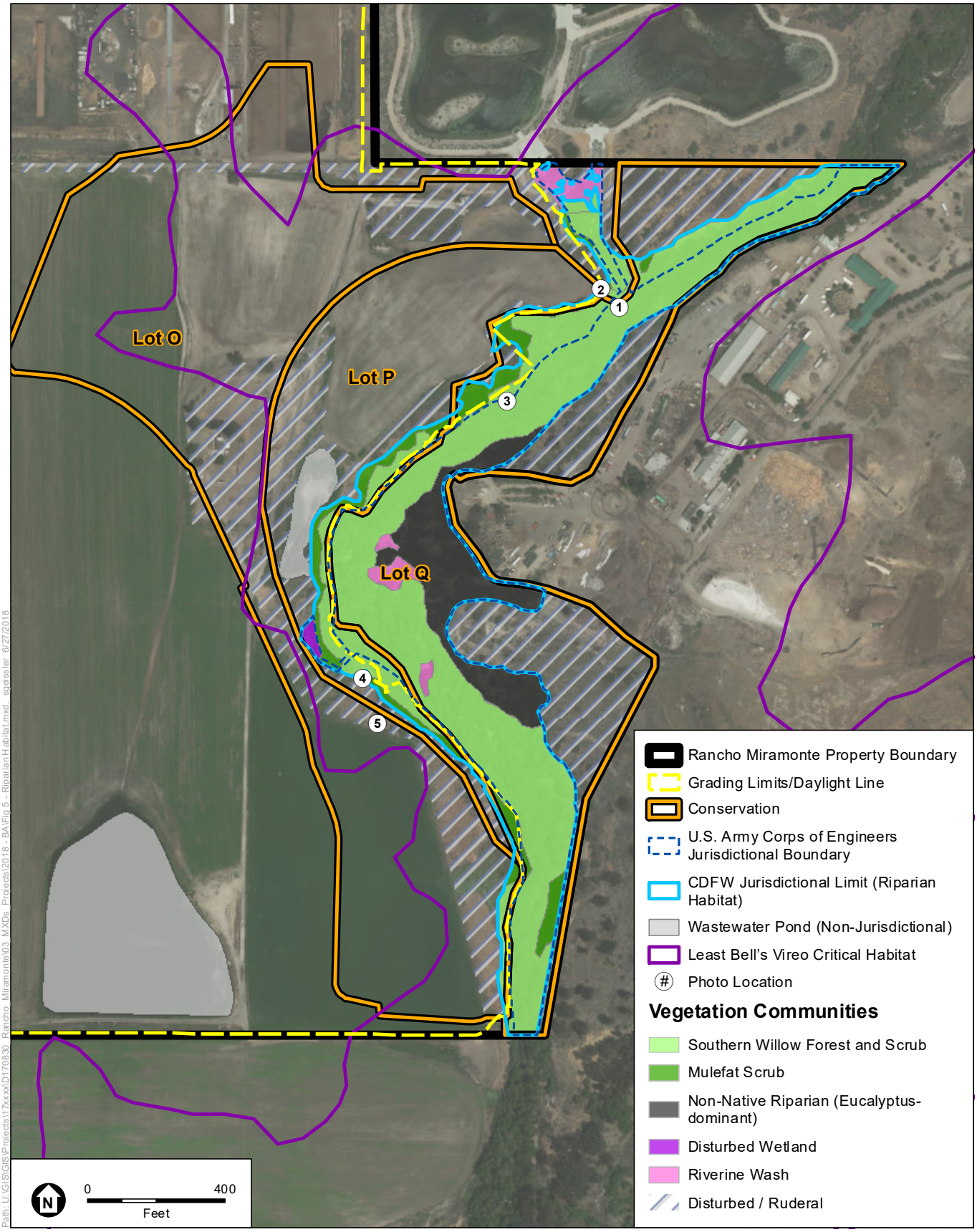
BR-17 Conservation Management Fees – Prior to the issuance of any grading permits, the project Applicant shall be required to pay impact fees for the perpetual management and maintenance of all biological resources protected by conservation easements. These resources include, but are not limited to, the 22.9 acres that are to be avoided within Mill Creek, as described in Edgewater Mitigation Measure BR-1, and the restored native grassland habitat, as described in Edgewater Mitigation Measure BR-9. A conservancy selected by the City shall, in collaboration with the City, determine the amount of these fees and manage the biological resources in these areas in perpetuity.

3 Environmental Baseline

3.1 Vegetation Communities and Other Habitat Types

The Action Area is centered on a small (0.13-acre) patch of disturbed wetland subject to USACE jurisdiction that would be affected by grading for the proposed Riparian Habitat Restoration Project, and extends out from that patch to encompass a 500-foot-wide buffer area around it. The west side of the Action Area contains agricultural and disturbed areas and a wastewater pond is located in the north end. The east side of the Action Area overlaps riparian habitat associated with Mill Creek. The various vegetation communities and other non-habitat areas cover a total of approximately 23.56 acres and are depicted on **Figure 5**, Riparian Habitat, and described below.

[3] BR-2 has been revised based on an understanding of LBVI response to construction noise and human presence and disturbance through Santa Ana River Watershed Monitoring. This approach involves potential installation of a temporary straw-bale barrier for noise attenuation and visual obstruction in case any grading activities occur when nesting LBVI are present within 500' of the activity. Sound "walls" are not recommended due to the frequent occurrence of high winds in the area.



SOURCE: ESRI 2015

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Figure 5
Riparian Habitat

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The aggregate acreage of each habitat type is noted below; first for the acreage within the Action Area and then for the total acreage in the Study Area. The Study Area extends to the north and south of the Action Area and covers a total of approximately 61.72 acres within the Rancho Miramonte property boundary.

3.1.1 Disturbed

Disturbed/developed areas include dirt roads, barren sites, and structures associated with the cattle corrals and rural residential structures. These areas are mostly devoid of vegetation, except for locally dense patches of non-native vegetation and/or ornamental trees and shrubs. Disturbed is also used to describe patches of upland habitat that are completely invaded with ruderal (weedy) vegetation. In such disturbed areas, ruderal vegetation may include black mustard (*Brassica nigra*), horseweed (*Conyza canadensis*), jimson weed (*Datura stramonium*), willow smartweed (*Polygonum lapathifolium*), Russian thistle (*Salsola tragus*), lamb's quarters (*Chenopodium album*), sunflower (*Helianthus annuus*), bull thistle (*Cirsium vulgare*), and five-hook bassia (*Bassia hyssopifolia*). Although entirely dominated by ruderal vegetation, several black willow trees (*Salix gooddingii*) and cottonwood trees (*Populus fremontii*) are interspersed within ruderal areas adjacent to Mill Creek. Disturbed and ruderal areas cover approximately 5.14 acres within the Action Area and about 17.68 acres in the entire Study Area.

3.1.2 Agriculture

Agriculture consists of planted and disced fields and former dairy yards. The area's agricultural fields are either planted with crops or are in a highly disturbed condition as the result of cutting, discing or tilling. The cultivated area either contains crops (e.g., alfalfa, corn) or ruderal (weedy) vegetation if the fields are left fallow. Species that occur within fallow areas and within the vacant former dairy yards are mostly non-native and include bull thistle (*Cirsium vulgare*), castor bean (*Ricinus communis*), ripgut brome (*Bromus diandrus*), horehound (*Marrubium vulgare*), fennel (*Foeniculum vulgare*), jimson weed (*Datura wrightii*), spiny cocklebur (*Xanthium spinosum*), sunflower (*Helianthus annuus*), hare barley (*Hordeum leporinum*) and Bermuda grass (*Cynodon dactylon*). The native alkaline-tolerant forb, alkali heliotrope (*Heliotropium curassavicum*), is also found occasionally within fallow areas on site. Agriculture use areas cover approximately 9.94 acres just within the Action Area and cover approximately 22.63 acres in the larger Study Area (including the Action Area).

3.1.3 Non-Native Riparian

Non-native riparian occurs along the outer portions of the riparian corridor and beneath the southern willow forest canopy along Mill Creek. In the Study Area, these areas consist of stands dominated by non-native eucalyptus (Eucalyptus sp.) trees, and patches of invasive exotic perennial pepperweed (*Lepidium latifolium*) mixed with another exotic, non-native poison hemlock (*Conium maculatum*) comprising greater than 50 percent of total vegetative cover, intermixed with native species such as willows (*Salix* spp.) and mulefat (*Baccharis salicifolia*). Non-native riparian vegetation, constitutes approximately 2.16 acres in the Action Area contained within a total of approximately 3.99 acres in the Study Area.

3.1.4 Southern Willow Forest and Willow Scrub

These habitat types are similar since they share dominant species and, as such, are lumped into one community type. Willow forest associated with Mill Creek occurs on the eastern edge of the Study Area. This association is dominated by mature black willow and arroyo willow (*Salix lasiolepis*), with an understory of mulefat, sweet clover (*Melilotus alba*) and horseweed. Other trees found within willow forest include California black walnut (*Juglans californica*) and cottonwood. Additional understory species include tree tobacco (*Nicotiana glauca*), giant reed (*Arundo donax*), sunflower, sandbur (*Ambrosia acanthicarpa*), and willow smartweed. Willow scrub associated with Mill Creek occurs on the eastern edge of the Study Area. Dominant vegetation includes small individuals of willow (black and arroyo) and mulefat. Understory species include dwarf nettle (*Urtica urens*), willow smartweed, giant reed, sandbur, and sunflower. Small patches of cattail (*Typha domingensis*) are found adjacent to Mill Creek within the willow scrub. The Action Area contains approximately 4.49 acres of willow forest only. The overall Study Area contains a total of 14.17 acres of willow forest and willow scrub combined.

3.1.5 Mulefat Scrub

Mulefat scrub associated with Mill Creek occurs in strips and patches, typically at the outer edge of the riparian habitat and mainly along the west side of the Creek. Dominant vegetation is primarily mulefat, often in relatively dense monotypic stands. Understory species occasionally present may include dwarf nettle (*Urtica urens*), willow smartweed, and sunflower. Approximately 0.56 acre of mulefat scrub is mapped within the Action Area. A total of 1.77 acres of this vegetation type occurs in the Study Area which form much of the west edge of the riparian habitat canopy.

3.1.6 Riverine Wash

Riverine wash occurs in small patches associated with scoured or otherwise sparsely vegetated areas in Mill Creek and on the floodplain terrace, mainly found on the east side of the Creek. These areas are mostly open with a sandy/cobbly substrate interspersed with small patches of mulefat and arroyo willow and sparse cover of various ruderal species. Patches of riverine wash in the Action Area amount to approximately 0.28 acre. The Study Area contains approximately 0.66 acre in the aggregate.

3.1.7 Wastewater Pond

An area that was formerly used as a wastewater pond occurs in the Action Area and covers approximately 0.73 acre. This pond contained little or no water in 2018, but formerly collected wastewater from dairy yards, both on site and from off-site dairy yards and pens. This wastewater used to be distributed in the irrigation system for the adjacent fields. The margin of the pond area is highly disturbed and dominated by non-native plant species.

3.1.8 Disturbed Wetland

A small patch of disturbed wetland occurs in a small backwater connected to the main trunk channel of Mill Creek. This low-lying area formerly provided an overflow connection to the pond situated to the north. It was predominantly barren at the time of mapping but contained some

ruderal vegetation such as cocklebur (*Xanthium strumarium*), poison hemlock, sunflower, and other common weedy herbs sparsely distributed. This disturbed wetland patch covers approximately 0.09 acre in the Action Area.

3.2 Jurisdictional Waters

Mill Creek is a perennial stream that conducts storm flows and nuisance runoff from urban and agricultural areas. Waters subject to the regulatory jurisdiction of both USACE and CDFW occur along Mill Creek. The Mill Creek channel has a substrate of cobbles and silt, and large areas of riparian vegetation and wetlands. The banks are steep and the creek is incised at least five to ten feet below the adjacent property just west of the Creek in the Action Area and the Study Area upstream and downstream. In areas where the riparian habitat canopy and associated riparian vegetation occurs above the ordinary high water mark (OHWM) in the Creek, these areas fall under CDFW jurisdiction but are not under USACE authority unless they meet the federal criteria for "wetlands". The total USACE jurisdictional area on the Rancho Miramonte property totals approximately 13.81 acres, including 13.53 acres of wetlands and 0.28 acre of non-wetland waters, including 3,061 linear feet of streambed (GLA, March 5, 2018). The total area subject to USACE jurisdiction in the Action Area amounts to approximately 5.95 acres of wetland waters.

The area potentially subject to CDFW jurisdiction in the Rancho Miramonte property within the Study Area totals approximately 18.52 acres, of which approximately 18.18 acres consist of vegetated riparian habitat and 0.34 acre is non-riparian streambed (GLA, March 5, 2018). Within the Action Area, potential CDFW jurisdictional area amounts to approximately 7.42 acres of vegetated riparian habitat.

Waters of the U.S., subject to USACE permit authority, that may be disturbed by the Proposed Action amount to 0.13 acre. Riparian habitat and waters of the State subject to CDFW jurisdiction, including USACE jurisdictional areas that would be directly impacted by project restoration activities along the west edge of Mill Creek in the Study Area would amount to 2.48 acres.

3.3 Hydrology

The Action Area and Study Area are located on the broad, gentle sloping alluvial plain of the Chino Basin. The Action Area and Study Area are located within and adjacent to the flood plain of Mill Creek, which is part of the lower Chino Basin and a tributary to the Santa Ana River, located south of the Project site within the Prado Flood Control Basin. The Action Area and Study Area are located in the Santa Ana River watershed, which encompasses 2,650 square miles, within which the Santa Ana River extends some 69 miles from its headwaters in the San Bernardino Mountains to its outlet at the Pacific Ocean. The Santa Ana River enters the Chino Basin at the Riverside Narrows and flows along the southern boundary to the Prado Basin where it is eventually discharged through the outlet at Prado Dam. Mill Creek and Chino Creek are two principal tributaries to the Santa Ana River. High flows during major storm events are conveyed to the Santa Ana River at Prado Basin via either Mill Creek or Chino Creek.

3.4 Wildlife Corridors

The area below the 566' elevation line within the Study Area accommodates wildlife movement, linking upstream habitat along Mill Creek in Chino and Ontario with the Santa Ana River watershed. Various terrestrial wildlife sand avian species may move back and forth between upstream areas along Mill Creek to and from Prado Basin and the surrounding area to breed and forage.

3.5 Disturbance

Substantial areas within the Study Area have been previously disturbed by agricultural use, rural occupation, and historic dairy yards. This is also true for most of the Rancho Miramonte property including the majority of the Action Area and the Study Area, westward from Mill Creek. Current agricultural uses also contribute to edge effects within the riparian habitat along Mill Creek, such as noise from discing of adjacent fields and the introduction of common weeds that colonize fallow fields and adjacent disturbed areas. The quality of riparian habitat within the Action Area and the Study Area is diminished by the presence of invasive plant species. Within the Southern Willow Forest and Disturbed Riparian communities, the herb layer is typically dominated by invasive species such as broadleaf pepperweed (*Lepidium latifolium*) and poison hemlock (*Conium maculatum*). These invasive species out-compete native plants and reduce biodiversity.

4 Threatened and Endangered Species and Critical Habitat in the Action Area and Study Area

4.1 Survey Dates and Methods

Field studies were conducted in previous years for the entire Rancho Miramonte property, including the riparian areas along Mill Creek including the Action Area and Study Area within the Rancho Miramonte property boundary. Surveys were conducted by Glenn Lukos Associates (GLA) between 2005 and 2007 and included (1) general reconnaissance surveys and vegetation mapping; (2) general floristic surveys; (3) general wildlife surveys; (4) habitat assessments for special-status plants; and (5) habitat assessment and focused surveys for special-status animals. In 2017/2018, an updated jurisdictional delineation was conducted by GLA for the entire Rancho Miramonte residential project property and an updated existing conditions survey and habitat suitability assessment survey was conducted by ESA. A summary of surveys, dates, and staff is provided in **Table 2**. ESA is currently conducting focused surveys for LBVI and SWFL as indicated in Table 2. Survey reports presenting the final results of focused surveys for LBVI and SWFL, as well as the results of a spring survey for burrowing owl, will be prepared in July 2018.

TABLE 2
SUMMARY OF BIOLOGICAL SURVEYS RELEVANT TO THE PROPOSED ACTION

Survey Date	Survey Type	Surveying Biologist (10(a)(1)(A) permit)
4/12/2005	General Biological Survey, LBVI Survey, Habitat Assessment for Western Burrowing Owl	J. Ahrens, D. Klepeis (GLA)
4/22/05	General Biological Survey, LBVI Survey	D. Klepeis, T. Bomkamp (GLA)
5/2/2005	General Biological Survey & Least Bell's Vireo Survey	D. Klepeis, J. Ahrens (GLA)
5/13/2005	General Biological Survey, LBVI Survey, Habitat Assessment for Western Burrowing Owl	E. Bomkamp, D. Klepeis (GLA)
5/23/2005	LBVI Survey & Burrowing Owl Survey	D. Klepeis (GLA)
5/31/2005	Southwestern Willow Flycatcher Survey	R. Hamilton (GLA)
6/6/2005	Burrowing Owl Survey	D. Klepeis (GLA)
6/14/2005	Southwestern Willow Flycatcher Survey	R. Hamilton (TE-799557) (GLA)
6/14/2005	Burrowing Owl Survey	J. Ahrens, D. Klepeis (GLA)
6/15/2005	LBVI Survey	E. Bomkamp, D. Klepeis (GLA)
7/2/2005	Southwestern Willow Flycatcher Survey	R. Hamilton (TE-799557) (GLA)
7/3/2005	LBVI Survey Burrowing Owl Survey	D. Klepeis, E. Bomkamp (GLA)
7/8/2005	Southwestern Willow Flycatcher Survey	R. Hamilton (TE-799557) (GLA)
7/17/2005	Southwestern Willow Flycatcher Survey	R. Hamilton (TE-799557) (GLA)
7/13/2005	LBVI Survey, Vegetation Mapping	D. Klepeis, P. Mcintyre (GLA)
10/20/2005	Vegetation Mapping	D. Klepeis, E. Bomkamp (GLA)
1/17/2006	Jurisdictional Delineation	D. Klepeis, E. Bomkamp (GLA)
1/25/07	Winter Raptor and Burrowing Owl Survey	J. Ahrens (GLA)
1/29/07	Winter Raptor and Burrowing Owl Survey	J. Ahrens, T. Bomkamp (GLA)
2/2/07	Winter Raptor and Burrowing Owl Survey	J. Ahrens (GLA)
2/24/07	Winter Raptor and Burrowing Owl Survey	J. Ahrens (GLA)
3/14/07	Winter Raptor and Burrowing Owl Survey	J. Ahrens (GLA)
3/24/07	Jurisdictional Delineation/Burrowing Owl Survey	T. Bomkamp (GLA)
3/30/07	Winter Raptor and Burrowing Owl Survey	J. Ahrens (GLA)
4/14/07	Burrowing Owl Survey	T. Bomkamp (GLA)
10/19/17	Jurisdictional Delineation	GLA
2/7/18	Jurisdictional Delineation	GLA
2/16/18	Spring Burrowing Owl Survey (1st of 4)	T. Molioo, K. Fairchild (ESA)
3/21/18	Existing Conditions and Habitat Suitability Assessment	J. Stout (ESA)
4/17/18	Spring Burrowing Owl Survey	K. Fairchild (ESA)
4/17/18	LBVI Survey (1st of 8)	K. Fairchild (ESA)
4/27/18	LBVI Survey (2nd of 8)	K. Fairchild (ESA)
5/09/18	LBVI Survey (3rd of 8)	K. Fairchild (ESA)
5/15/18	Spring Burrowing Owl Survey	K. Fairchild (ESA)
5/21/18	LBVI Survey (4th of 8) / SWFL (1st of 5)	K. Fairchild (ESA)
6/02/18	LBVI Survey (5th of 8) / SWFL (2nd of 5)	K. Fairchild (ESA)

Survey Date	Survey Type	Surveying Biologist (10(a)(1)(A) permit)
6/12/18	LBVI Survey (6th of 8) / SWFL (3rd of 5)	K. Fairchild (ESA)
6/29/18*	LBVI Survey (7th of 8) / SWFL (4th of 5) (*Planned)	K. Fairchild (ESA)
7/05/18*	Spring Burrowing Owl Survey (*Planned)	
7/12/18*	LBVI Survey (8th of 8) / SWFL (5th of 5) (*Planned)	

4.1.1 Vegetation Mapping

Vegetation communities within the Study Area were mapped according to Holland Classification System (Holland 1986). Where necessary, deviations were made when areas did not fit into exact habitat descriptions provided by Holland. Plant communities were mapped in the field directly on to a 200-scale (1" = 200') aerial photograph. ESA completed current vegetation mapping in 2018.

4.1.2 Focused Plant Surveys

The California Natural Diversity Database (CNDDB) and California Native Plant Society Inventory were consulted for occurrences of plants and habitats of special concern in the region. Based on this information, vegetation profiles and a list of target sensitive plants species and habitats that could occur within the property were developed and incorporated into a mapping and survey program to achieve the following goals: (1) characterize the vegetation associations and land use; (2) prepare a detailed floristic compendium; (3) implement general reconnaissance field work and focused surveys to document the distribution and abundance of the rare, endangered, and sensitive plant species within the larger property and Study Area; and (4) prepare a vegetation map and biological resource map showing the distribution of the sensitive botanical resources associated with the Study Area.

Special-status plants were evaluated regarding their potential to occur in the Study Area through habitat assessments and focused surveys (where suitable habitat was present). Species were evaluated based on a number of factors, including: (1) species identified by the CNDDB as occurring (either currently or historically) on or in the vicinity of the property; and (2) any other special- status plants that are known to occur within the vicinity of the property, or for which potentially suitable habitat occurs on site. No federally-listed plant species were detected in the Study Area and no federally-listed plant species are expected to occur on the overall property or in the Study Area due to the highly disturbed nature of the site (GLA 2007).

4.1.3 General Wildlife Surveys (2005 - 2007)

Wildlife species were evaluated based on a number of factors, including: (1) species identified by the CNDDB as occurring (either currently or historically) on or in the vicinity of the entire Rancho Miramonte property; and (2) any other special- status animals that are known to occur within the vicinity of the Rancho Miramonte property, or for which potentially suitable habitat occurs on site. Wildlife species were evaluated and detected during field surveys by sight, call, tracks, and scat. Site reconnaissance was conducted in such a manner as to allow inspection of the property by direct observation, including the use of binoculars. Observations of physical evidence and direct sightings of wildlife were recorded in field notes during each visit.

During general surveys of riparian habitat along Mill Creek within the Rancho Miramonte property, birds were identified incidentally during surveys within each habitat type. Birds were detected by both direct observation and by vocalizations, and were recorded in field notes. Mammals were identified incidentally during surveys within each habitat type. Mammals were detected both by direct observation and by the presence of diagnostic sign (i.e. tracks, burrows, scat, etc.). Reptiles and amphibians were identified incidentally during surveys within each habitat type. Habitats were examined for diagnostic reptile signs, which include shed skins, scat, tracks, snake prints, and lizard tail drag marks. All reptiles and amphibian species observed, as well as diagnostic sign, were recorded in field notes.

4.1.4 Southwestern Willow Flycatcher Surveys

A biologist (Robert Hamilton, TE-799557) holding a valid 10(a)(1)(A) permit from USFWS conducted a nesting season presence/absence survey for southwestern willow flycatcher. Surveys for SWFL were conducted on May 31, June 14, July 2, July 8, and July 17, 2005. A report entitled *Report on 2005 Southwestern Willow Flycatcher Surveys, Edgewater Lake Communities, Chino, San Bernardino County, CA, Glenn Lukos Associates Project No. 0697-1*, was filed with USFWS on July 21, 2005. Survey conditions, including survey lengths and weather conditions, are tabulated in the report. According to the report, no southwestern willow flycatchers were heard vocalizing or observed on site, nor were they expected to occur on site due what was noted as "marginally suitable nesting habitat" along Mill Creek within the Rancho Miramonte property boundary.

Currently (2018), surveys are being conducted by ESA biologist Karl Fairchild within the Action Area and Study Area. Mr. Fairchild (TE-92799B-1) is permitted to conduct presence/absence surveys for SWFL. A report will be prepared and submitted in July 2018 detailing results.

4.1.5 Least Bell's Vireo Surveys

Surveys for LBVI along Mill Creek within the Rancho Miramonte Property were conducted on April 12, April 22, May 2, May 13, May 23, June 15, July 3 and July 13, 2005. All surveys were conducted between dawn and 11:00 a.m. All suitable areas were covered on foot by walking slowly and methodically through the riparian habitat. The presence/absence of LBVI was determined by identifying all birds by sight and call, aided by the use of binoculars. No taped vocalizations were used to elicit response from LBVI or any other species potentially present.

Weather conditions during the surveys were conducive to a high level of bird activity. Surveys were conducted between sunrise and 11:00 a.m. Temperatures ranged from approximately 62 degrees Fahrenheit to 80 degrees Fahrenheit. Wind speeds ranged from 0-3 miles per hour during the surveys. Over the course of the eight surveys, three male LBVI were heard vocalizing along Mill Creek within the survey area on the Rancho Miramonte property. Mapping of suitable riparian habitat for LBVI, consisting mainly of willow forest and mulefat scrub but also including non-native riparian (eucalyptus) area and small patches of non-vegetated flood plain, is shown on Figure 5, Riparian Habitat along with the outline of the area designated as Critical Habitat by USFWS. Figure 6 also outlines the overall habitat area occupied by LBVI within the Action Area

and Study Area (blue-green dashed line), which coincides with the area subject to CDFW jurisdiction.

The Orange County Water District (OCWD) and the Santa Ana Watershed Authority (SAWA) also monitor and survey a much larger regional area for LBVI that includes the subject reach of Mill Creek on the Rancho Miramonte property. The "subject reach" of Mill Creek on the property is contained mostly within Lot Q but also overlaps much of the east edge of Lot P. Between 9 and 16 territories were identified in this particular reach of Mill Creek by OCWD surveys conducted in 2015, 2016, and 2017.

Surveys are also being conducted currently by ESA biologist Karl Fairchild who is also permitted to conduct presence/absence surveys for SWFL. A report will be prepared and submitted in July 2018 detailing results.

4.2 Species Accounts

4.2.1 Southwestern Willow Flycatcher

Listing Status

The southwestern willow flycatcher was designated as a federally endangered species on March 29, 1995, and listed as endangered by the State of California in 1991. Critical habitat for the species was designated on January 3, 2013.

Habitat Affinities

The southwestern willow flycatcher (*Empidonax traillii extimus*), one of four subspecies of the widespread willow flycatcher (*E. traillii*), both forages and breeds in dense riparian tree and shrub communities associated with rivers, swamps, lakes and wetlands throughout southern California. A perennial water source is not required for the species to persist; however, soil moisture must be high enough for the necessary riparian vegetation to persist (Sogge et al. 2010). Historic breeding habitat for this species ranged throughout Southern California, southern Nevada, southern Utah, New Mexico, western Texas, southwestern Colorado and extreme northwestern Mexico (USFWS 2002).

Life History

The southwestern willow flycatcher is a small Neotropical migratory bird, whose nesting habitat is restricted to relatively dense riparian tree and shrub communities. The flycatcher is approximately 15 centimeters long and weighs approximately 12 grams. It is grayish green along the back and wings with a light grey-olive breast and pale yellowish belly. Wing bars and a faint eye ring are visible, the upper mandible is dark and the lower mandible is light with a yellowish tone (USFWS 2002).

The southwestern willow flycatcher is present in breeding territories by mid-May. It builds nests and lays eggs in late May and early June (average clutch size is 2 to 5 eggs) and fledges young in early to mid-July. Second clutches only occur if the first clutch failed. Between August and September, the southwestern willow flycatcher migrates to wintering grounds in Mexico, Central America, and possibly northern South America. The southwestern willow flycatcher is an insectivore and forages within and above dense riparian vegetation. It catches insects while flying, hovers to glean them from foliage, and occasionally captures insects on the ground.

Status and Distribution

Much of the historic habitat for this species has since been removed or greatly impacted. The flycatcher occurs from near sea level to over 2,600 feet above mean sea level (amsl); however, is generally found at lower elevations. Throughout the range of the species, populations occur in isolated, widely dispersed patches, similar to that of its fragmented riparian habitat. In studies conducted in 2000, it was determined that 53% of southwestern willow flycatchers were in just 10 sites, while the other 47% were distributed among 99 small sites of ten or fewer territories (USFWS 2002).

The breeding range of the southwestern willow flycatcher includes southern California, Arizona, New Mexico, extreme southern portions of Nevada and Utah, far western Texas, perhaps southwestern Colorado, and extreme northwestern Mexico. Known territories occur within San Bernardino and Riverside counties.

Status and Distribution in the Vicinity of the Study Area

SWFL, a federally and state endangered species, was confirmed as absent from the riparian habitat that overlaps the Study Area during focused surveys conducted in 2005. The habitat within the Study Area is not ideally suited for southwestern willow flycatcher and they are not likely to occupy this portion of Mill Creek in the near future (City of Chino 2009).

Focused nesting season surveys were conducted for SWFL by Robert Hamilton (TE-799557) on May 31, June 14, July 2, July 8, and July 17, 2005. No SWFL were heard vocalizing or observed on site, nor are they expected to occur on site due the marginally suitable nesting habitat on site (Hamilton 2005). Patches of willow woodland in the Study Area are described as well-developed, but separated by expanses of willow scrub habitat, resulting in only marginal habitat suitability for SWFL (Hamilton 2005).

In addition to these surveys, SAWA monitors LBVI and SWFL within the Prado Basin, which includes the Study Area. No SWFL were apparently detected in the entire basin area during monitoring efforts in 2017. The most recent detections of SWFL within Prado Basin were in 2015, with one detection along Chino Creek just over 1 mile east of the Study Area and a second detection along the Santa Ana River approximately 1 mile southeast of the Study Area. In 2016, only 1 SWFL was detected, in approximately the same location along Chino Creek as 2015. These SWFL detections were unpaired males. Despite a peak of nine flycatcher territories within the Basin that was reached in 2003 (Pike et al. 2003 as cited in OCWD 2015), flycatcher numbers have been steadily declining ever since. Current surveys observed at least one willow flycatcher

(WIFL) on one date in May. However, it could not be determined to be SWFL, and unless it is observed again, as it was seen prior to June 15, it is considered to have been a migrant WIFL

For the remainder of the Santa Ana Watershed, excluding Prado Basin, SAWA conducts monitoring of LBVI and SWFL populations. Migrant willow flycatchers have been observed periodically throughout the rest of the watershed over the years; however, SAWA has not documented any breeding attempts at well-monitored or sampled sites since monitoring efforts began in 2000.

Threats to the Species

The greatest threat to the survival of the southwestern willow flycatcher is the extensive loss, fragmentation and modification of riparian breeding habitat. Largescale loss of southwestern wetlands, particularly the cottonwood-willow riparian habitats historically utilized for nesting, has been documented. In addition, brood-parasitism is known to negatively impact small, isolated populations (Sogge et al 2010).

Threats to the Species in the Vicinity of the Study Area

Threats to the species within the Study Area are the same as stated above, and include habitat loss and fragmentation along with brood-parasitism. Specific threats in the vicinity of the Study Area include the loss and degradation of riparian habitat due to invasive species, including polyphagous shot-hole borer which has been detected along the Santa Ana River and invasive plant species which have been detected within riparian habitat in the Study Area.

Southwestern willow Flycatcher Critical habitat

In 2013, approximately 1,227 stream miles or 208,973 acres were designated as critical habitat, spanning parts of Inyo, Kern, Los Angeles, Riverside, Santa Barbara, San Bernardino, San Diego and Ventura counties in California (USFWS 2013). The primary constituent elements for SWFL are identified in the final rule designating critical habitat (USFWS 2013) as follows:

1. Primary Constituent Element 1— Riparian vegetation. Riparian habitat along a dynamic river or lakeside, in a natural or manmade successional environment (for nesting, foraging, migration, dispersal, and shelter) that is comprised of trees and shrubs (that can include Goodding's willow, coyote willow, Geyer's willow, arroyo willow, red willow, yewleaf willow, pacific willow, boxelder, tamarisk, Russian olive, buttonbush, cottonwood, stinging nettle, alder, velvet ash, poison hemlock, blackberry, seep willow, oak, rose, sycamore, false indigo, Pacific poison ivy, grape, Virginia creeper, Siberian elm, and walnut) and some combination of: (a) Dense riparian vegetation with thickets of trees and shrubs that can range in height from about 6 to 98 feet. Lower-stature thickets (6 to 13 feet tall) are found at higher elevation riparian forests and tall-stature thickets are found at middle and lower-elevation riparian forests; (b) Areas of dense riparian foliage at least from the ground level up to approximately 13 feet above ground or dense foliage only at the shrub or tree level as a low, dense canopy; (c) Sites for nesting that contain a dense (about 50 percent to 100 percent) tree or shrub (or both) canopy (the amount of cover provided by tree and shrub branches measured from the ground); (d) Dense patches of riparian forests that are interspersed with small openings of open water or marsh or areas with shorter and sparser vegetation that creates a variety of habitat that is not uniformly dense. Patch size may be as small as 0.25 acres or as large as 175 acres.

2. Primary Constituent Element 2— Insect prey populations. A variety of insect prey populations found within or adjacent to riparian floodplains or moist environments, which can include: flying ants, wasps, and bees (*Hymenoptera*); dragonflies (*Odonata*); flies (*Diptera*); true bugs (*Hemiptera*); beetles (*Coleoptera*); butterflies, moths, and caterpillars (*Lepidoptera*); and spittlebugs (*Homoptera*)."

The approximately 22.9 acres of SWFL critical habitat within the Study Area (Figure 3) is within the Coastal California Recovery Unit and the Santa Ana Management Unit. The Santa Ana River Management Unit includes the Santa Ana River and tributary streams, including Mill Creek. Throughout the entire Management Unit, a high of 49 territories was detected in 2001 (Sogge and Durst 2008, as cited in USFWS 2013), but limited on-the-ground surveys only detected one territory in 2007 (Sogge and Durst 2008, as cited in USFWS 2013). The combination of these streams provides riparian habitat for breeding, migrating, dispersing, nonbreeding and territorial flycatchers, metapopulation stability, gene flow, connectivity, population growth, and prevention against catastrophic loss.

The Santa Ana River is the single largest river system in southern California with SWFL distributed throughout the stream from its headwaters and tributaries in the San Bernardino Mountains in San Bernardino County, downstream to Riverside County. The management unit includes three segments – an upper 26.4-mile segment in the San Bernardino National Forest, a middle 8.3-mile segment in San Bernardino County (just above the Riverside County line), and a lower 1.2-mile portion (consisting of about 4 separate parcels) located about 1.4 miles northeast of Prado Basin flood control dam – of the Santa Ana River in San Bernardino County and other segments with high connectivity near its headwaters. In San Bernardino County, Mill Creek includes 12 miles of critical habitat.

As described above, riparian habitat within the Study Area was determined to have marginal suitability for SWFL (Hamilton 2005).

4.2.2 Least Bell's Vireo

Listing Status

The LBVI was designated as a federally endangered species on May 2, 1986 and endangered within the state of California in 1980. Critical habitat for the species was designated on February 2, 1994.

Habitat Affinities

The LBVI is an obligate riparian species during the breeding season and has been characterized as preferring early successional habitat. The LBVI typically inhabits a variety of riparian vegetative communities including cottonwood-willow forests, oak woodlands and mulefat scrub. Although LBVI typically nest in willow-dominated vegetation, plant species composition does not appear to be as important a determinant of nesting site selection as habitat structure (USFWS 1998).

Life History

The LBVI is a small gray songbird with whitish underparts. It is a subtropical migrant, traveling 2,000 miles annually between breeding and wintering grounds. This species arrives in southern California breeding grounds in mid-March to early April, and are generally present until late September, although they begin departing by late July. Males establish and defend territories through counter-singing, chasing and sometimes physically confronting neighboring males. Territory size ranges from 0.5 to 7.5 acres.

Status and Distribution

Historically, breeding habitat for this species ranged throughout much of California, ranging from Tehama County in northern California, south to Baja, Mexico. The current known distribution of LBVI is from Sacramento to San Diego Counties, within California.

Status and Distribution in the Vicinity of the Study Area

Mill Creek in the Study Area is known to support LBVI. Presence/absence surveys following USFWS protocol were conducted to determine if LBVI occurs/breeds within suitable habitat associated with the section of Mill Creek within the Project site on April 12, April 22, May 2, May 13, May 23, June 15, July 3, and July 13, 2005. Over the course of the eight surveys, three male LBVI were heard vocalizing on site. In addition to these surveys, Orange County Water District conducts annual counts of LBVI within the Prado Basin, which includes the Study Area. Based on the results of these surveys, LBVI were regularly detected along the portion of Mill Creek in the Study Area in 2015, 2016, and 2017 with from nine to 16 territories noted along this reach of the Creek. Current surveys, although not yet complete, have identified at least 14 singing LBVI within the subject reach on each of several survey dates.

In Prado Basin on the Santa Ana River, the LBVI population has grown from 12 males in 1985 (U.S. Fish and Wildlife Service 1986b as cited in USFWS 1994) to 249 males in 1996 (Pike and Hays 1997 as cited in USFWS 1994) dramatic reductions in the rate of nest parasitism coincidental with implementation of cowbird control programs, and associated increases in productivity, have been documented at the San Luis Rey River, San Diego River, Sweetwater River, and Santa Ana River.

Threats to the Species

The greatest threat to the survival of the LBVI is habitat loss and degradation, and parasitism by the brown-headed cowbird (USFWS 1998). Historical habitat loss and degradation of riparian woodlands were primarily cleared for agricultural purposes, as well as industrial and domestic use. Development of highways and urban, commercial, and recreational uses continue to degrade, fragment, and remove remaining remnants of riparian habitats.

Threats to the Species in the Vicinity of the Study Area

Threats to the species within the Study Area are the same as stated above.

Least Bell's Vireo Critical Habitat

In 1994, approximately 36,000 acres at 10 localities in portions of 6 counties in southern California were designated as critical habitat (USFWS 1994). The PCEs for LBVI are identified in the final rule designating critical habitat (USFWS 1994) as follows:

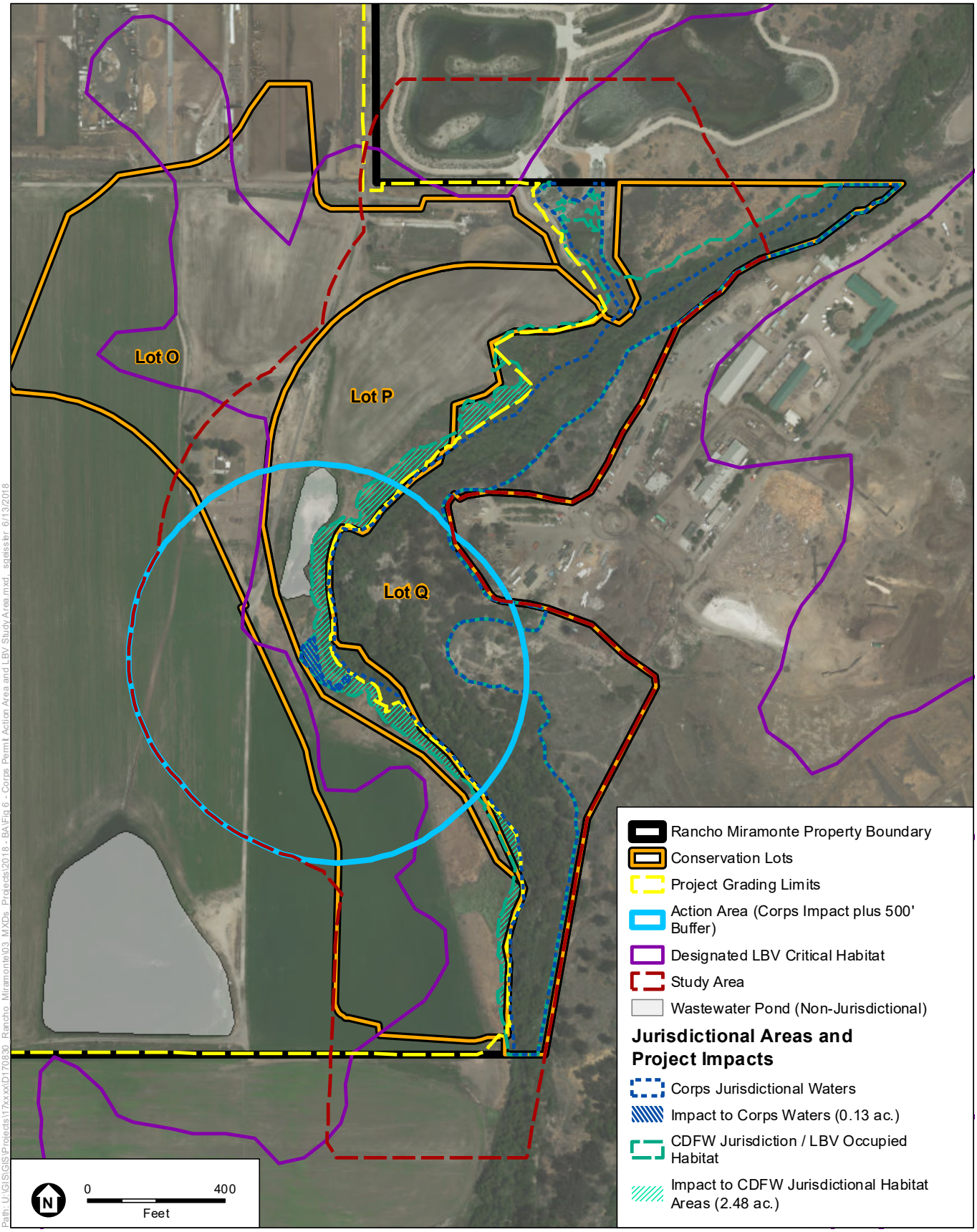
> *The riverine and floodplain habitats (particularly willow dominated riparian woodland with dense understory vegetation maintained, in part, in a non-climax stage by periodic floods or other agents) and adjacent coastal sage scrub, chaparral, or other upland plant communities.*

The extent of critical habitat within the Prado Flood Control Basin consists of "All lands below the 543-foot contour in partially surveyed T3S, R7W within the Prado Flood Control Basin 9".

Therefore, all portions of the Action Area located below the 543-foot elevation contour as mapped on the USGS topographic quad map, including Mill Creek, are within designated LBVI critical habitat (Figure 1). However, much of the 58 acres of critical habitat within the Rancho Miramonte property overlays upland areas containing agricultural fields, or disturbed and ruderal areas that have no potential to support breeding or foraging LBVI, and do not exhibit any of the primary constituent elements of suitable LBVI habitat, which can be described as "riparian woodland vegetation that generally contains both canopy and shrub layers, and includes some associated upland habitats" (Critical Habitat Designation, USFWS, FR Vol. 59, No 22, 2/2/1994).

5 Effects of the Action

This chapter describes effects to listed species and designated critical habitat that may result with implementation of the Proposed Action. Effects of the action refer to the direct and indirect effects of an action on the species, together with the effects of other activities that are interrelated and interdependent with that action, which would be added to the environmental baseline. **Figure 6**, Corps Permit Action Area and Study Area, presents an overview of the areas directly affected by grading associated with the Proposed Action within the Study Area which includes the USACE 404 Permit Action Area. In addition, cumulative effects refer to the effects of future unrelated or non-federal projects in the vicinity. Interrelated actions are those that are part of a larger action and depend on the larger action for their justification. Interdependent actions are those that have no independent utility apart from the action under consideration. Indirect effects are those caused by the Proposed Action, are later in time, and still reasonably certain to occur.



SOURCE: ESRI 2015

Rancho Miramonte Riparian Habitat Restoration Project – Biological Assessment

Figure 6
Corps Permit Action Area and Study Area

ESA

5.1 No Effect or Not Likely to Adversely Affect Determinations

The USACE requests concurrence that the Proposed Action would have no effect on the following federally-listed species: Coastal California gnatcatcher, Delhi sands flower-loving fly, San Diego ambrosia, Santa Ana River woolly star, Santa Ana sucker, Stephens' kangaroo rat, and thread-leaved brodiaea. These species are not expected to occur within the Study Area based on species' habitat requirements, lack of known occurrence records near the Study Area, lack of observations during surveys of the Study Area, and the history of disturbance within the Study Area, as summarized in Table 1. If new information becomes available suggesting that these, or other federally-listed species that were not previously considered, are present within the Study Area, consultation with USFWS would be reinitiated. The USACE requests concurrence that the Proposed Action may affect but is not likely to adversely affect the SWFL and LBVI and would not result in adverse modification of critical habitat for these species. The basis of these affects determinations is described below.

5.1.1 Southwestern Willow Flycatcher

Direct Effects

Habitat Loss

Grading associated with the Proposed Action will remove material from the area on the west side of Mill Creek and will lower the ground elevation through most of Lot P where the Riparian Habitat Restoration Project is proposed. Grading is designed to occur outside the main course of Mill Creek and avoids almost all areas subject to USACE jurisdiction as it is limited to areas above the ordinary high water mark. A small area, consisting of an approximately 0.13-acre backwater area extending off the main trunk of Mill Creek, would be directly impacted by grading. Although material removal avoids the main trunk of Mill Creek, grading would strip a narrow band of riparian vegetation along the west side of the Creek where that vegetative canopy and scrub extends beyond USACE jurisdictional limits. Although no SWFL have been identified in Mill Creek, this riparian vegetation could be marginally suitable to the species. Grading would temporarily impact 2.48 acres of riparian habitat (including approximately 1.5 acres within SWFL critical habitat) while avoiding the remaining 15.7 acres of riparian habitat within the Study Area.

Lowering the elevation within Lot P provides an opportunity to both restore the temporarily impacted riparian habitat and create additional riparian habitat between the upland habitat to be restored and conserved in Lot O for burrowing owl and the existing riparian habitat being conserved along Mill Creek in Lot Q. Conceptually, riparian habitat restoration and creation would be enabled by connecting inflow at the northwest corner from the Mill Creek Wetlands Project pond overflow to two new streambeds leading southwest from the inlets through Lot P, that would partially support riparian habitat restoration and creation.

This temporary habitat loss is not likely to adversely affect SWFL because SWFL are not known to currently occupy this reach of Mill Creek in the Study Area, and riparian habitat within the Study Area was determined to be only marginally suitable for nesting SWFL. Additionally, considerable areas of unoccupied riparian habitat with greater suitability for supporting SWFL occur within the Prado Flood Basin. Therefore, if population expansion requires the immediate availability of additional habitat, it would be expected that SWFL would occupy these higher suitability habitat areas before occupying habitat within the Action Area.

Grading of the 0.43 acre of designated SWFL critical habitat associated with riparian habitat restoration which would actually occur outside the limit of existing riparian habitat along Mill Creek would not result in net habitat loss because this habitat is not currently suitable for SWFL and this habitat area would be preserved as conservation land. In fact, since this area is proposed for riparian restoration/creation, this would accrue a net benefit in terms of potential habitat value.

In the long term, temporarily impacted riparian habitat within the Action Area would be restored. A minimum of 2.48 acres of riparian habitat would be restored and at least another 2.48 acres of additional riparian habitat would be created within Lot P associated with the Proposed Action. Additionally, the current land uses that negatively impact riparian habitat within the Action Area due to edge effects (agricultural activities and invasive species) would be reduced by establishment of burrowing owl conservation habitat provided within Lot O.

Critical habitat

As discussed above under Habitat Loss, grading would temporarily impact 2.48 acres of riparian habitat (including approximately 1.5 acres within SWFL critical habitat) while avoiding the remaining 15.7 acres of riparian habitat within the Action Area and the Study Area. Although no SWFL have been identified in the areas and thus it may not be considered occupied, it nonetheless provides habitat of at least marginal quality for this species. However, the area being temporarily affected will be restored at a 2:1 ratio, thus providing a net increase in riparian habitat acreage. Therefore, the temporary impact is not likely to adversely affect SFWL.

Approximately 0.43 acre of SWFL critical habitat occurs within the grading area but outside the limits of existing riparian habitat. These non-riparian areas are substantially disturbed and generally lack any native vegetation and thus have no potential to support breeding or foraging SWFL as they lack the primary constituent element of riparian vegetation. Therefore, impacts within these areas would not result in adverse modification of critical habitat. Additionally, these areas are within Lots O, P, and Q which are designated for conservation.

Death/Injury

No death or injury would occur to SWFL because this species is not known to currently occur within or adjacent to the Study Area. While this species is known to occur in the Prado Basin within the large contiguous habitat patches along the Santa Ana River and along Chino Creek, there are no recent records along Mill Creek. As discussed above, two occurrences of SWFL were reported about 1 mile from the site in 2015 and 1 SWFL occurrence was identified again along Chino Creek in 2016, but none were observed in 2017. Protocol surveys for southwestern willow flycatcher conducted on the subject segment of Mill Creek in 2005 were negative. Final results

for the focused surveys currently in progress will be provided in July 2018, but with only two surveys remaining, SWFL have not yet been positively identified, although an apparent migrant WIFL was observed during one visit.

Indirect Effects

Amount or Extent of Take

Grubbing of the existing riparian vegetation along the east side of Mill Creek and grading will be restricted to the non-breeding season to the extent feasible. The implementation of General Conservation Measures BR-3, BR-4, BR-5, BR-7, BR-8, and BR-16 identified above, along with specific measures provided to avoid impacts to LBVI (BR-1, BR-2, BR-5, BR-6, and BR-17) incidental take for SWFL is not anticipated. Placement of the grading limit line at the edge of the riparian area to be preserved, and creation of restored native grassland habitat adjacent to the riparian habitat are project features that will also reduce the potential for edge effects.

Effect on Recovery

SWFL is not known to occur along Mill Creek. The Proposed Action would temporarily reduce the total amount of habitat in the region but would ultimately result in a net benefit in terms of increasing the total acreage of riparian habitat available upon completion of the project. Conservation Measures would be implemented to reduce the potential for edge effects to diminish habitat suitability, and the ability of SWFL to colonize habitat within the Study Area in the future would not be reduced but could be improved. Therefore, no impact would occur to the recovery of the species.

5.1.2 Least Bell's Vireo

Direct Effects

Habitat Loss

As discussed above with regard to SWFL, grading associated with the Proposed Action will remove material from the area on the west side of Mill Creek and will lower the ground elevation through most of Lot P where the Riparian Habitat Restoration Project is proposed. Grading will avoid all USACE jurisdictional areas except an approximately 0.13-acre backwater area extending off the main trunk of Mill Creek. However, grading would remove a narrow band of riparian vegetation along the west side of the Creek outside USACE jurisdiction but within CDFW jurisdiction and which provides habitat for LBVI. Grading would temporarily impact 2.48 acres of riparian habitat (all within LBVI critical habitat) but will avoid the remaining 15.7 acres of riparian habitat within the Action Area and the Study Area.

In the long term, temporarily impacted riparian habitat within the Action Area would be restored. A minimum of 2.48 acres of riparian habitat would be restored and at least another 2.48 acres of additional riparian habitat would be created within Lot P to establish and conserve, at minimum, 4.96 acres of riparian vegetation associated with the Proposed Action. Additionally, the current land uses that negatively impact riparian habitat within the Action Area due to edge effects (agricultural activities and invasive species) would be reduced by establishment of burrowing owl conservation habitat provided within Lot O.

Direct effects related to habitat loss are not likely to adversely affect LBVI because the impacted portion of riparian habitat (2.48 acre) represents less than 14 percent of riparian habitat within the portion of the Study Area on the property and less than 0.0008 percent of the estimated 4,100 acres of riparian habitat within the Prado Flood Control Basin. Additionally, this temporary loss would be fully mitigated by the restoration and creation of riparian habitat within Lot P and conservation of additional riparian habitat within Lot Q and buffer habitat within Lot O.

Critical habitat

As discussed above under Habitat Loss, grading would impact 2.48 acres of riparian habitat within LBVI critical habitat while avoiding the remaining 15.7 acres of riparian habitat within the Action Area and the Study Area on the Rancho Miramonte property, but this is not likely to adversely affect LBVI. As noted above the temporary impact is a relatively small area as compared with preserved habitat in Mill Creek and the Prado Basin, and the Proposed Action will result in a net benefit by replacing the temporarily impacted habitat and creating additional habitat to compensate for the temporary reduction.

Grading of the designated LBVI critical habitat beyond the limits of riparian habitat would not result in habitat loss because this habitat is not currently suitable for LBVI. These areas mainly consist of upland agricultural fields, abandoned dairy facilities, and ruderal areas that have no potential to support breeding or foraging LBVI, and do not exhibit any of the primary constituent elements of suitable LBVI habitat (i.e. riparian woodland vegetation that generally includes both canopy and shrub layers, and some associated upland habitats). The Final Rule for the designation of critical habitat for LBVI states that: “In cases where areas designated as critical habitat do not contain the primary constituent elements, impacts occurring within this area will not result in a finding of adverse modification by the Service. Thus, designation of critical habitat will not affect those areas within the legal critical habitat boundaries that do not contain LBVI nesting or foraging habitat”.

The direct and indirect effects associated with the Proposed Action are not expected to result in an adverse modification of critical habitat containing PCE’s because the effects associated with the Proposed Action would not appreciably diminish the value or the capability of the relevant critical habitat unit to provide the functions identified for LBVI in the listing rule (USFWS 1994) (e.g., feeding, nesting, roosting and sheltering) for its survival or recovery.

Death/Injury

No death or injury to LBVI is expected to result from the Proposed Action. Due to the documented presence of LBVI within the riparian habitat along Mill Creek, direct impacts involving disturbance of nesting and/or foraging LBVI could occur as a result of construction-related disturbance and activity. Noise and/or human presence could result in nest abandonment or otherwise interfere with nesting and foraging activity resulting in take. However, these potential effects would be avoided first by avoiding grading to the extent feasible during the LBVI nesting season, and by implementing the refined version of Measure BR-2 which requires installing noise attenuation and visual screening and also mandates monitoring by a qualified biologist if any heavy equipment must be operated within 500 feet of active nesting, with the authority to curtail equipment operations that may disrupt nest behavior.

Indirect Effects

Hydrology and Water Quality

No hydrology and water quality effects were identified that would indirectly affect LBVI. Based on the Water Supply Assessment (Dudek 2007), the Proposed Action will not substantially deplete groundwater supplies or interfere substantially with groundwater recharge. Therefore, reduction of groundwater supply or recharge is not expected to affect riparian vegetation that relies on the existing water table.

Edge Effects

The Proposed Action could result in temporary edge effects due to construction activity and human presence adjacent to occupied LBVI habitat. Further, activities are anticipated to occur that include stockpiling material and soil, staging and parking equipment, and as noted below under Cumulative Effects, grading for the residential project to complete the manufactured slope, and construction and occupation of homes within and near the west edge of the Action Area and Study Area. These activities could result in edge effects including noise, motion, introduction/colonization of non-native species, and increased predation that could reduce habitat value or disturb nesting activity.

Residential lots for permanent residences will be located along the east side of the Rancho Miramonte development, including about 16 lots or partial lots within or partially within the west edge of the Action Area for the Riparian Restoration Project (Figure 6). These lots will be constructed at the top of a slope roughly 40 feet above the upper banks of Mill Creek and at least 330 to 400 feet or more away from the edge of riparian habitat. Moreover, the residential area lots would be enclosed by cinder-block walls on the side facing Mill Creek, and would thus be separated by both physical barriers, elevation, and distance, from the edge of LBVI habitat. The separation of the development from suitable habitat for LBVI by elevation, physical barrier (cinder-block wall), and the placement of a strip of preserved native grassland habitat adjacent to the riparian habitat are project features that will also reduce the potential for edge effects.

The implementation of General Conservation Measures BR-3, BR-4, BR-5, BR-7, BR-8, and BR-16, identified above in Section 2.3.2, along with measures provided specifically to avoid impacts to LBVI (BR-1, BR-2, BR-5, BR-6, and BR-17), noted in Section 2.3.3, will substantially reduce and avoid the potential for such edge effects to reduce habitat suitability for LBVI.

Amount or Extent of Take

Grading and site preparations for the Proposed Action (Riparian Habitat Restoration Project) will temporarily reduce the available riparian habitat for LBVI in the local area by approximately 2.48 acres but will replace that acreage and add at least 2.48 additional acres of native riparian vegetation that will be suitable for LBVI. The temporary reduction of habitat would amount to less than 14% of the available habitat in the Study Area within the Rancho Miramonte property boundary and would occur during the non-breeding season. Associated activities involving grading and equipment operation within the Action Area and Study Area would also occur when no nesting activity is occurring or would be required to implement measures to assure no disruption or disturbance of nesting LBVI within 500’ of activities. With implementation of the

General Conservation Measures listed above in Section 2.3.2, and those measures specific to LBVI listed in Section 2.3.3, incidental take for LBVI is not anticipated.

Effect on Recovery

The Proposed Action is not likely to adversely affect the recovery of the species. Population and habitat affects would be negligible, as discussed under direct and indirect effects. Additionally, the Proposed Action would not affect actions assisting in LBVI recovery such as a cow bird trapping program or annual monitoring of LBVI populations.

5.2 Cumulative Effects

Cumulative effects refer to the effects of future non-federal projects within the Action Area. Cumulative effects on species can result in both beneficial and detrimental effects.

Roughly 8 acres in the western portion of the Action Area are expected to be disturbed for grading and construction associated with the Rancho Miramonte residential project. This part of the Action Area will subsequently contain or partially contain about 16 residential homes and lots, and a short segment of a residential street, situated at the top of a landscaped slope which will elevate the residential lots at least 40 feet above the upper banks of Mill Creek. The slope will occupy an open space area between the residential homes and the designated conservation areas in Lot O and Lot P (see Figure 2) and provide a separating buffer between residential use and conserved areas. It should also be noted that within the Study Area north and south of the Action Area, the only land uses proposed or in place involve conservation of habitat for upland species (in Lot O) or riparian habitat and associated wildlife in Lots P, Q, and R. Only two narrow strips along the northern and southern Rancho Miramonte property borders would be graded for access to the conservation areas. No other known non-federal projects are planned elsewhere in the Study Area. The Mill Creek Wetlands Project was constructed in 2013 in the northern extension of the Study Area, north of the Rancho Miramonte property, to improve water quality and provide wetland and riparian habitat. South of the property lies the Prado Basin which provides flood control, water storage and several thousand acres of riparian and wetland habitat and open space.

Planned grading and construction and subsequent residential occupation in the western third of the Action Area will be subject to the Conservation Measures noted herein, as established in the certified CEQA documents for the Rancho Miramonte residential project. The construction activity will be restricted to the non-breeding season or would be subject to strict monitoring and avoidance requirements within 500’ of active nest sites. The ultimate land uses, which include a sliver of residential housing along with a much larger area of open space, most of which is designated for restoration and conservation, will have minimal potential to adversely affect LBVI, SWFL, or critical habitat but will incrementally benefit LBVI and its critical habitat (as well as SWFL, if individuals may use the area in future). Overall the cumulative effect of the planned Rancho Miramonte residential project, considered along with the Proposed Action, will provide a substantial net benefit by protecting the existing riparian habitat and planned habitat restoration areas by placing them all in conservation easements, and by providing for long-term management

of restored areas through endowments to an approved land management entity (e.g., Inland Empire Resource Conservation District).

Therefore, the cumulative effects of the residential project, taken together with the Proposed Action, with recognition of the requisite Conservation Measures applicable to both projects, are not expected to adversely affect the LBVI or SWFL, nor adversely modify their designated critical habitat on a cumulative basis.

5.3 Conclusion

Based on the analysis herein the USACE has determined that the Proposed Action would have no effect on the Coastal California gnatcatcher, Delhi sands flower-loving fly, San Diego ambrosia, Santa Ana River woolly star, Santa Ana sucker, Stephens' kangaroo rat, and thread-leaved brodiaea and is not likely to adversely affect SWFL and LBVI. In addition, critical habitat for SWFL and LBVI would likely not be adversely modified.

USACE is requesting concurrence on the effects determinations for these species and critical habitats.

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Appendix A
Site Photographs

1a – Facing southwest (downstream). Riparian habitat along creek.

1b – Facing northeast (upstream). Riparian habitat along creek with invasive perennial pepperweed (*Lepidium latifolium*) in the herb stratum.

2 – Facing southeast (downstream). Riparian habitat with dominance of invasive perennial pepperweed in understory herb layer.

3 – Facing southwest. Riparian habitat with dominance of invasive perennial pepperweed in understory herb layer.

4 – Facing north. Riparian habitat with invasive species dominating in herb layer.

5 – Facing east (across channel). Riparian forest and scrub habitats.