4.4 BIOLOGICAL RESOURCES

This section provides a discussion of the existing biological resources within the boundaries of the proposed Project site and provides an analysis of potential impacts to biological resources from implementation of the proposed Project. Where impacts are identified, mitigation measures pursuant to the California Environmental Quality Act (CEQA), the State and Federal Endangered Species Act (CESA and FESA, respectively), and other pertinent regulations are recommended. This Biological Resources section is based on the information and findings of the *Biological Technical Report* (GLA 2019) and the *Biological Regulatory Overview for the Approximately 121-Acre Lake Forest Nursery Site* (GLA 2017), which are included in Appendix D.

It should be noted that the *Biological Technical Report* (GLA 2019) provides the results of general biological surveys and focused biological surveys for the 121.8-acre (ac) Project site and an additional 2.75 ac of adjacent road and slope improvements, totaling 124.55 ac.

4.4.1 Scoping Process

The City of Lake Forest (City) received 28 comment letters during the public review period of the Initial Study/Notice of Preparation (IS/NOP). For copies of the IS/NOP comment letters, refer to Appendix A of this EIR. Four comment letters included comments related to biological resources.

The letter from the California Department of Fish and Wildlife (CDFW) (August 14, 2018) expressed concern about potential impacts to coastal sage scrub and associated species, specifically coastal California gnatcatcher. The CDFW also outlined the procedure for payment of in-lieu fees to mitigate impacts to occupied coastal sage scrub and clarified that impacts to unoccupied coastal sage scrub also constitute impacts. The CDFW suggested mitigation measures to compensate for potential impacts to riparian corridors and wetlands and noted that completion of a jurisdictional delineation is required. They also noted that the Applicant is required to enter into a Lake and Streambed Alteration Agreement (LSAA) and requested that impacts to stream or riparian resources be identified in the Environmental Impact Report (EIR). CDFW also suggested that an assessment of floral and faunal species be conducted on the Project site and adjacent areas, and states that the EIR should also evaluate potential impacts related to lighting, noise, human activity, exotic species, and drainage on biological resources.

The EIR should also satisfy the CESA Incidental Take Permit requirements. The CDFW suggested mitigation for avoidance or protection of Rare Natural Communities; for any adverse Project-related impacts to sensitive plants, animals, or habitats; for proposed preservation and/or restoration areas; and for avoidance of nesting and migratory birds. Additionally, CDFW expressed concern with the expertise of the persons preparing the plans for restoration and revegetation, and the inclusion of certain elements in those plans. Finally, CDFW expressed concern with relocation, salvage, or transplantation of rare, threatened, or endangered species and with invasive shot hole borer (ISHB) beetles and their impact on trees, for which they suggested potential mitigation measures.

The letter from the Santa Ana Regional Water Quality Control Board (RWQCB) (August 15, 2018) suggested that a jurisdictional wetland delineation be performed. The RWQCB also commented that if the proposed Project would result in impacts to jurisdictional waters, then a Clean Water Act

(CWA) Section 401 permit from the RWQCB, a CWA Section 404 permit from the United States Army Corps of Engineers (ACOE), and a Streambed Alteration Agreement (SAA) from the CDFW would be required.

The letter from Southern California Edison (August 14, 2018) suggests analysis of the biological impacts associated with Project-related utility work. The letter from Judy Esposito (August 6, 2018) expressed concern about animals coming closer to residential areas to scavenge garbage.

4.4.2 Existing Environmental Setting

Agricultural land uses consisting of an active nursery operation occupy the vast majority of the Project site. Nursery activities have remained active since 1979, causing a general lack of native vegetation communities on the Project site, with the exception of a small patch of remnant coastal sage scrub occurring within the southeastern corner of the site and riparian forest located immediately adjacent to Serrano Creek along the southeastern boundary of the Project site. A water quality treatment ditch designed to infiltrate flows from nursery operations prior to leaving the Project site bisects the site and is routinely maintained free of vegetation. Developed areas consisting of equipment maintenance buildings and nursery offices were also observed at the Project site.

4.4.2.1 Vegetation

During vegetation mapping of the Project site, four different habitat (vegetation) types were identified. Table 4.4.A provides a summary of vegetation types/land uses and the corresponding acreage. Detailed descriptions of each vegetation type follow the table. Figure 4.4.1 is a vegetation map showing the location of each habitat type on the Project site.

Table 4.4.A: Summary of Vegetation/Land Use Types for the Project Site

Orange County Habitat Types	Acreage
Maritime Succulent Scrub/Southern Cactus Scrub	0.28
Southern Black Willow Forest	2.17
Active Agriculture	118.66
Bare Ground/Developed	3.44
Habitat Total	**124.55**

Source: *Biological Technical Report* (GLA 2019).
GLA = Glenn Lukos Associates, Inc.

Maritime Succulent Scrub/Southern Cactus Scrub (Coastal Sage Scrub). The 0.28 ac of maritime succulent scrub occurs along the southwestern boundary of the Project site. It appears to be a remnant patch from when lands in the vicinity were covered with natural vegetation including this form of sage scrub. This patch is vegetated with coast prickly pear (*Opuntia littoralis*), lemonade berry (*Rhus integrifolia*), California sagebrush (*Artemisia californica*), and telegraph weed (*Heterotheca grandiflora*).

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FIGURE 4.4.1

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SOURCE: Glenn Lukos Associates

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Nakase Nursery/Toll Brothers
Vegetation Map

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This native scrub is highly degraded at this location due to invasive weedy garden escapees from the nursery operation and is not expected to support wildlife associated with larger stands of sage scrub. A focused survey for coastal California gnatcatcher (*Polioptila californica californica*), an obligate sage scrub species that is federally listed as Threatened, was performed only due to the proximity of this patch to Serrano Creek, which could result in a California gnatcatcher visiting this area while moving up or downstream to reach existing open space well north and south of the Project site. Maritime succulent scrub is considered a special-status vegetation community.

The maritime succulent scrub/southern cactus scrub (coastal sage scrub) located on the Project site is not within federally designated Critical Habitat because it is a small (0.28 ac) remnant patch of this community and highly disturbed in nature. There is no federally designated Critical Habitat mapped within or adjacent to the Project site. The nearest Critical Habitat (for a California gnatcatcher) is located approximately 1 mile (mi) west and approximately 1.5 mi east of the Project site.

Southern Black Willow Forest. Approximately 2.17 ac of riparian forest, best characterized as southern black willow forest, was mapped during the survey of the Project site. As shown on Figure 4.4.1, the southern black willow forest is located on the Project site adjacent to Serrano Creek. This vegetation type consists of a mix of native riparian and nonnative plant species and includes eucalyptus (*Eucalyptus* sp.), coast live oak (*Quercus agrifolia*), western sycamore (*Platanus racemosa*), Fremont cottonwood (*Populus fremontii*), black willow (*Salix gooddingii*), mule fat (*Baccharis salicifolia*), toyon (*Heteromeles arbutifolia*), Spanish dagger (*Yucca gloriosa*), and mission prickly-pear (*Opuntia ficus-indica*). Southern black willow forest is considered a special-status vegetation community.

Active Agriculture. The Project site is primarily characterized as active agriculture (nursery stock), totaling 118.66 ac. The agricultural land use, consisting of the active nursery operation, contains a variety of nonnative ornamental plant species that are grown in containers for commercial resale.

Bare Ground/Developed. Approximately 3.44 ac of bare ground/developed land occurs between Rancho Parkway and the existing nursery and between Bake Parkway and the existing nursery. This land is outside the nursery property but is proposed for improvements. This area is bare ground, portions of which have been planted with ornamental trees, including Peruvian pepper tree (*Schinus molle*) and coast live oak.

4.4.2.2 Special-Status Plants

Eight species of special-status plants were initially judged to have potential to occur on the Project site, based on a preliminary review of habitat needs and site conditions. A focused plant survey was performed, and special-status plant species were confirmed absent from the Project site.

4.4.2.3 Wildlife

Animal species observed consisted of common avian species, and included common raven (*Corvus corax*), western kingbird (*Tyrannus verticalis*), northern mockingbird (*Mimus polyglottos*), mourning dove (*Zenaida macroura*), California towhee (*Melozone crissalis*), house finch (*Haemorhous mexicanus*), Bewick's wren (*Thryomanes bewickii*), and Say's phoebe (*Sayornis saya*).

4.4.2.4 Special-Status Animals

The Project site contains trees, shrubs, and ground cover that provide suitable habitat for nesting migratory birds. Two special-status species of wildlife were detected during the 2017 field studies: willow flycatcher (*Empidonax traillii*) and yellow warbler (*Setophaga petechia*). The Project site also provides suitable foraging habitat for several raptor species, including, but not limited to Cooper's hawk (*Accipiter cooperii*), red-tailed hawk (*Buteo jamaicensis*), red-shouldered hawk (*Buteo lineatus*), great horned owl (*Bubo virginianus*), barn owl (*Tyto alba*), and the white-tailed kite (*Elanus leucurus*). Cooper's hawk and red-tailed hawk nest in Serrano Creek with no other species nesting on the Project site during the field studies.

In addition, two special-status bats have potential to occur in Serrano Creek: western mastiff bat (*Eumops perotis californicus*) and western red bat (*Lasiurus blossevillii*). Neither species is State or federally listed but both are State Species of Special Concern. These bats, along with several non-special-status bats, have potential to roost and possibly breed in proximity to Serrano Creek.

Willow Flycatcher. During the focused surveys for southwestern willow flycatcher (*Empidonax traillii extimus*), a willow flycatcher was detected. The subspecies of willow flycatcher detected was confirmed to not be the southwestern willow flycatcher subspecies based on when the individual was observed. The subspecies detected was likely the subspecies *E. t. brewsteri*, which does not breed in southern California but migrates through the area in spring and fall. While only southwestern willow flycatcher is federally listed, all subspecies of willow flycatcher are State listed. The State does not protect habitat used by willow flycatchers migrating through and all non-extimus willow flycatchers are habitat generalists during migration.

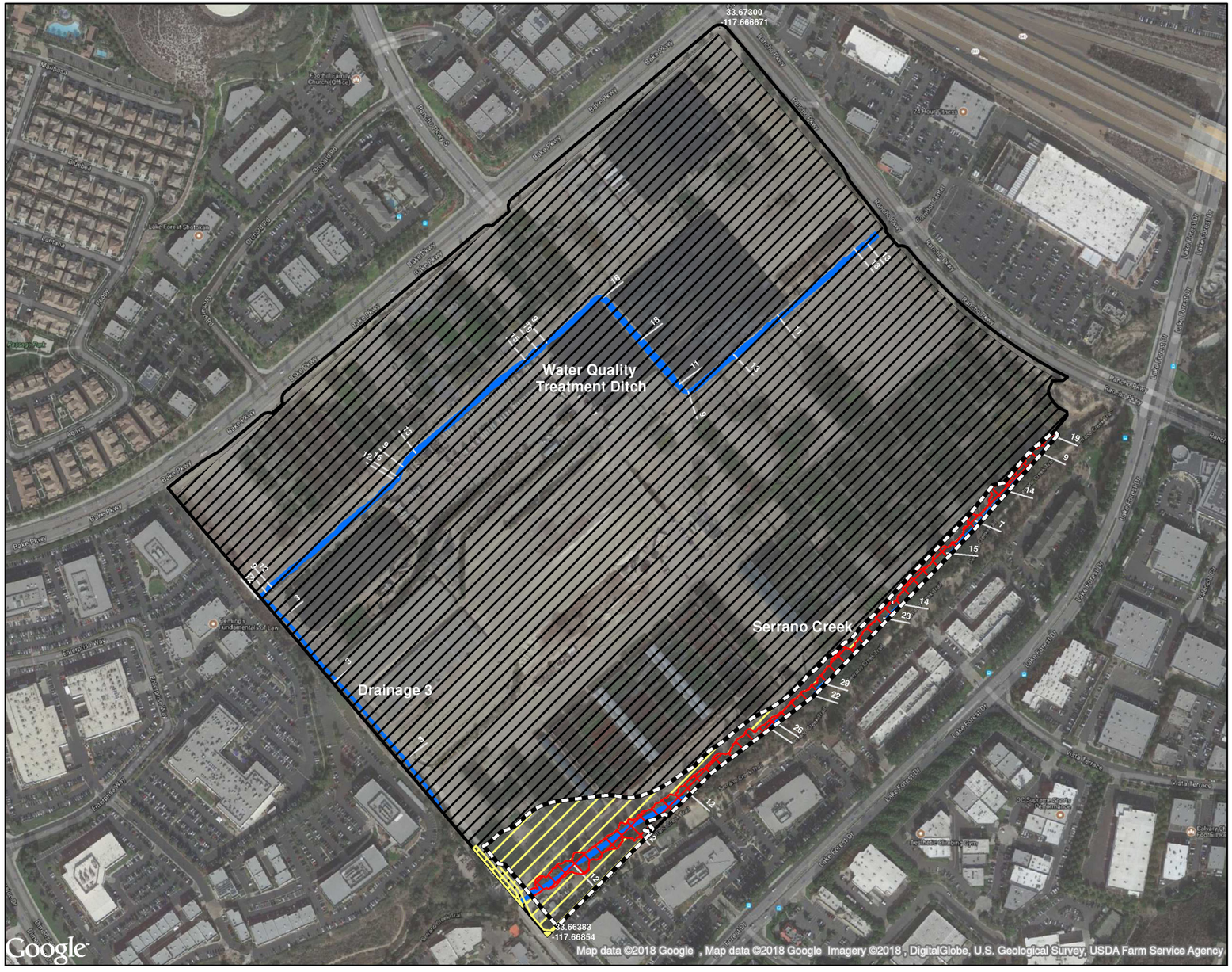
Yellow Warbler. This species of warbler is an obligate of riparian vegetation for nesting and was detected in Serrano Creek during the field studies. Yellow warbler is a state Species of Special Concern and may breed in proximity to Serrano Creek.

4.4.2.5 Delineation of Jurisdictional Waters

The Project site is within the San Diego Creek Watershed Special Area Management Plan (SAMP), and contains three drainage features: (1) the Water Quality Treatment Ditch, (2) Serrano Creek, and (3) unvegetated ephemeral Drainage 3. These drainages are ultimately tributary to San Diego Creek, which is tributary to Upper Newport Bay, which is tributary to the Pacific Ocean.

Potential ACOE jurisdiction associated with the Project site totals 1.28 ac, none of which consists of jurisdictional wetlands, and a total of 4,971 linear feet of streambed is present. The boundaries of potential ACOE jurisdiction are depicted on Figure 4.4.2.

Potential RWQCB jurisdiction associated with the Project site totals 1.28 ac, none of which consists of jurisdictional wetlands (refer to Figure 4.4.2, ACOE/RWQCB Jurisdictional Areas). A total of 4,971 linear feet of streambed is present. As noted above, the Water Quality Treatment Ditch, Serrano Creek, and Drainage 3 have been determined to be potential ACOE jurisdictional waters, subject to regulation pursuant to Section 404 of the CWA and subject to regulation by the RWQCB pursuant to Section 401 of the CWA.



- Project Boundary
- Permanent Impact Limits
- Temporary Impact Limits
- Conservation Area
- Avoidance Area
- Corps/RWQCB Non-Wetland Waters
- Width in Feet

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FIGURE 4.4.2

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SOURCE: Glenn Lukos Associates

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Nakase Nursery/Toll Brothers
ACOE/RWQCB Jurisdictional Areas

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Potential CDFW jurisdiction associated with the Project site totals 4.11 ac, of which 1.94 ac consist of non-riparian streambed and 2.17 ac consists of vegetated riparian habitat. The boundaries of potential CDFW jurisdiction within the Project site are depicted on the enclosed jurisdictional delineation map provided as Figure 4.4.3.

Table 4.4.B provides a summary of the total area of potential ACOE, RWQCB, and CDFW jurisdiction within the Project site.

The Water Quality Treatment Ditch is an intermittent drainage feature that generally bisects the Project site from northeast to southwest. This Water Quality Treatment Ditch is regularly maintained in order to remain free of vegetation and sediment for maximum capacity, on-site retention, and treatment of flows.

Serrano Creek is an intermittent drainage that extends along the southeastern boundary of the Project site. Serrano Creek supports a riparian forest consisting of both native and nonnative species, including eucalyptus, coast live oak, western sycamore, Fremont cottonwood, Goodding's black willow (*Salix gooddingii*), mule fat, toyon, Spanish dagger, and mission prickly-pear.

Drainage 3 is an unvegetated ephemeral drainage feature that is located along the southwestern boundary of the Project site. Drainage 3 drains into the Water Quality Treatment Ditch that drains into an off-site portion of Serrano Creek.

4.4.3 Regulatory Setting

4.4.3.1 Federal Regulations

Federal Endangered Species Act of 1973. The FESA defines an endangered species as "any species that is in danger of extinction throughout all or a significant portion of its range." A threatened species is defined as "any species that is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range." Under provisions of Section 9(a)(1)(B) of the FESA, it is unlawful to "take" any listed species.

"Take" is defined in Section 3(18) of FESA: "...harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct." Further, the USFWS, through regulation, has interpreted the terms "harm" and "harass" to include certain types of habitat modification that result in injury to, or death of species, as forms of "take." These interpretations, however, are generally considered and applied on a case-by-case basis and often vary from species to species. In a case where a property owner seeks permission from a federal agency for an action that could affect a federally listed plant and animal species, the property owner and agency are required to consult with the USFWS to ensure the action is not likely to jeopardize the continued existence of the listed species or result in destruction or adverse modification of designated critical habitat. Section 9(a)(2)(b) of the FESA addresses the protections afforded to listed plants.

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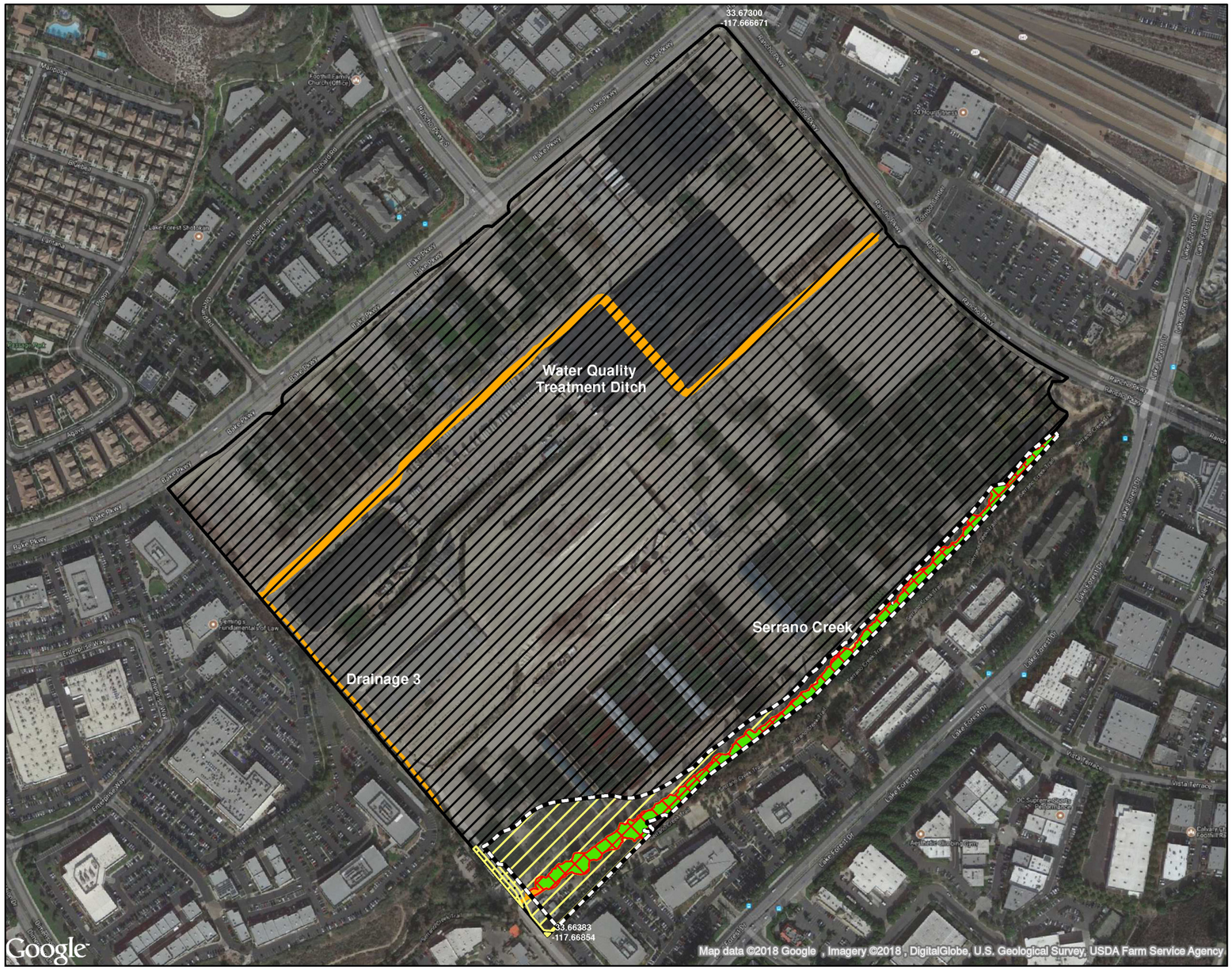

Property Boundary
Permanent Impact Limits
Temporary Impact Limits
Conservation Area
Avoidance Area
CDFW Riparian
CDFW Unvegetated

LSA

FIGURE 4.4.3

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SOURCE: Glenn Lukos Associates

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Nakase Nursery/Toll Brothers
CDFW Jurisdictional Areas

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Table 4.4.B: Summary of ACOE, CDFW, and RWQCB Jurisdiction on the Project Site

Drainage Feature	Resource Type	ACOE			CDFW			Total RWQCB Acreage	Total Length (linear feet))
		Wetland (acres)	Nonwetland Waters (acres)	Total (acres)	Vegetated Streambed (acres)	Unvegetated Streambed (acres)	Total (acres)		
Water Quality Treatment Ditch	Intermittent	0.0	0.92	0.92	0.0	1.84	1.84	0.92	3,032
Serrano Creek	Intermittent	0.0	0.29	0.29	2.17	0.03	2.20	0.29	928
Drainage 3	Ephemeral	0.0	0.07	0.07	0.0	0.07	0.07	0.07	1,011
Totals		**0.0**	**1.28**	**1.28**	**2.17**	**1.94**	**4.11**	**1.28**	**4,971**

Source: *Biological Technical Report* (GLA 2019).
ACOE = United States Army Corps of Engineers
CDFS = California Department of Fish and Wildlife
GLA = Glenn Lukos Associates, Inc.
RWQCB = Regional Water Quality Control Board

The take of federally listed species can be authorized under Section 10(a) of the FESA, with development of a Habitat Conservation Plan (HCP) or as part of a Section 7 consultation between the USFWS and another federal agency if the Project is subject to federal action (e.g., a Section 404 Permit). Upon development of an HCP, the USFWS can issue incidental take permits for listed species where the HCP specifies at minimum, the following: (1) the level of impact that will result from the taking, (2) steps that will minimize and mitigate the impacts, (3) funding necessary to implement the plan, (4) alternative actions to the taking that were considered by the applicant and the reasons why such alternatives were not chosen, and (5) such other measures that the Secretary of the Interior may require as being necessary or appropriate for the plan. In certain instances, such as for the California gnatcatcher, take of a Threatened species can be authorized by special rule (i.e., 4[d]). In the case of the California gnatcatcher, the 4(d) rule applies in jurisdictions that are participating in the State's Natural Communities Conservation Plan (NCCP) program dealing with coastal sage scrub plant communities.

Migratory Bird Treaty Act. The federal Migratory Bird Treaty Act (MBTA) governs take, possession, import, export, transport, selling, purchasing, or bartering of migratory birds and their eggs, parts, and nests, except as authorized under a valid permit. Section 704 of the MBTA states that the Secretary of the Interior is authorized and directed to determine if, and by what means, the take of migratory birds should be allowed and to adopt suitable regulations permitting and governing take while ensuring that take is compatible with protection of the species. Most bird species are protected under the MBTA.

In addition, under the California Fish and Game Code, it is unlawful to take, possess, or needlessly destroy any bird or the nests or eggs of any bird species except as otherwise provided in the California Fish and Game Code and regulations. This code also specifically protects raptors, including owls, and the CDFW considers a disturbance that results in nest abandonment or loss of reproductive effort as take. Disturbances of active nesting territories should be avoided during the nesting season.

Section 404 of the Clean Water Act. The ACOE regulates discharges of dredged or fill material into waters of the United States. These waters include wetlands and non-wetland bodies of water that meet specific criteria. The ACOE regulatory jurisdiction pursuant to Section 404 of the federal CWA is founded on a connection, or nexus, between the water body in question and interstate commerce. This connection may be direct, through a tributary system linking a stream channel with traditional navigable waters used in interstate or foreign commerce, or may be indirect, through a nexus identified in the ACOE regulations. The following definition of waters of the United States is taken from the discussion provided in 33 Code of Federal Regulations (CFR) 328.3:

> The term waters of the United States means:
>
> (1) All waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce . . . ;
>
> (2) All interstate waters including interstate wetlands;

(3) All other waters such as intrastate lakes, rivers, streams (including intermittent streams) . . . the use, degradation or destruction of which could affect interstate or foreign commerce . . . ;

(4) All impoundments of waters otherwise defined as waters of the United States under the definition; and

(5) Tributaries of waters defined in paragraphs (a) (1)–(4) of this section."

The ACOE typically regulates as waters of the United States any body of water displaying an ordinary high water mark (OHWM). The landward limits of ACOE jurisdiction in tidal waters of the United States extend to the high tide line, and ACOE jurisdiction over nontidal waters of the United States extends laterally to the OHWM or beyond the OHWM to the limit of any adjacent wetlands, if present (33 CFR 328.4). The OHWM is defined as "that line on the shore established by the fluctuations of water and indicated by physical characteristics such as a clear natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding area" (33 CFR 328.3). Jurisdiction typically extends upstream to the point where the OHWM is no longer perceptible.

The ACOE and the United States Environmental Protection Agency (EPA) define wetlands as follows:

> Those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted to life in saturated soil conditions.

In order to be considered a jurisdictional wetland under Section 404, an area must possess three wetland characteristics: hydrophytic vegetation, hydric soils, and wetland hydrology. Each characteristic has a specific set of mandatory wetland criteria that must be satisfied in order for that particular wetland characteristic to be met. Several parameters may be analyzed to determine whether the criteria are satisfied.

4.4.3.2 State Regulations

California Endangered Species Act. The CDFW, via policies formulated by the California Fish and Game Commission (Commission), regulates species of plants and animals that are in danger of, or threatened with, extinction. The Commission has established a list of Endangered, Threatened, and candidate species that are regulated by the CDFW. Endangered species are native species or subspecies of plants and animals that are in serious danger of becoming extinct throughout all or a significant portion of their range. Threatened species are those species that, although not presently threatened with extinction, are likely to become Endangered species in the foreseeable future in the absence of special protection and management efforts. Candidate species are those species the Commission has formally noticed as being under review for addition to either the list of Endangered or Threatened species or a species proposed for listing.

California Environmental Quality Act. CEQA requires evaluation of a project's impacts on biological resources and provides guidelines and thresholds for use by lead agencies for evaluating the significance of proposed impacts. Furthermore, pursuant to *State CEQA Guidelines* Section 15380, CEQA provides protection for non-listed species that could potentially meet the criteria for State listing. For plants, CDFW recognizes that plants on Lists 1A, 1B, or 2 of the CNPS Inventory of Rare and Endangered Plants in California may meet the criteria for listing and should be considered under CEQA. CDFW also recommends protection of plants, which are regionally important, such as locally rare species, disjunct populations of more common plants, or plants on CNPS List 3 or 4.

California Natural Diversity Database. The CDFW administers the California Natural Diversity Database (CNDDB), which maintains lists of special-interest plants, animals, and natural communities that occur within California. These particular natural communities, or habitat types, are designated as sensitive because of their rarity (e.g., very localized distribution, few scattered occurrences) and/or because of some threat (e.g., development, off-road vehicles) to this specific habitat type. The purpose of these listings is solely informational; there is no regulatory protection of these communities afforded by the CNDDB listings.

Sections 1600-1603 of the California Fish and Game Code. Pursuant to Division 2, Chapter 6, Sections 1600-1603 of the California Fish and Game Code, the CDFW regulates all diversions, obstructions, or changes to the natural flow or bed, channel, or bank of any river, stream, or lake, which supports fish or wildlife.

CDFW defines a stream (including creeks and rivers) as "a body of water that flows at least periodically or intermittently through a bed or channel having banks and supports fish or other aquatic life. This includes watercourses having surface or subsurface flow that supports or has supported riparian vegetation." CDFW's definition of "lake" includes "natural lakes or manmade reservoirs." CDFW also defines a stream as "a body of water that flows, or has flowed, over a given course during the historic hydrologic regime, and where the width of its course can reasonably be identified by physical or biological indicators."

It is important to note that the California Fish and Game Code defines fish and wildlife to include all wild animals, birds, plants, fish, amphibians, invertebrates, reptiles, and related ecological communities, including the habitat upon which they depend for continued viability (FGC Division 5, Chapter 1, section 45, and Division 2, Chapter 1, section 711.2(a), respectively).

Furthermore, Division 2, Chapter 5, Article 6, Section 1600 et seq. of the California Fish and Game Code does not limit jurisdiction to areas defined by specific flow events, seasonal changes in water flow, or presence/absence of vegetation types or communities.

Fish and Game Code Section 3503. Sections 3503, 3503.5, and 3513 protect native birds. Mitigation for avoidance of impacts to nesting birds are typically necessary to comply with these sections of the California Fish and Game Code in CEQA and other permitting documents. Specifically, Sections 3503, 3503.5, and 3513 of the California Fish and Game Code prohibit the take, possession, or destruction of birds, their nests, or eggs.

California Native Plant Society. The CNPS is a nonprofit organization whose purpose is to promote the preservation of native California plants. The CNPS has compiled an inventory comprised of the information focusing on geographic distribution and qualitative characterization of Rare, Threatened, or Endangered vascular plant species of California. The list serves as the candidate list for listing as Threatened and Endangered by the CDFW.

Section 401 of the Clean Water Act. Section 401 of the CWA requires any applicant for a Section 404 permit to obtain certification from the State that the discharge (and the operation of the facility being constructed) will comply with the applicable effluent limitation and water quality standards. In California, this 401 certification is obtained from the RWQCB. The ACOE, by law, cannot issue a Section 404 permit until a 401 certification is issued or waived. Areas subject to RWQCB jurisdiction typically coincide with those of the ACOE (i.e., waters of the United States, including any wetlands). The RWQCB also asserts authority over waters of the State under waste discharge requirements pursuant to the California Porter-Cologne Water Quality Control Act (Porter-Cologne Act), but this mechanism is typically not invoked in cases where the ACOE asserts permitting authority pursuant to the CWA.

4.4.3.3 Regional Regulations

Central/Coastal Subregion Natural Communities Conservation Program/Habitat Conservation Plan. The California Fish and Game Commission voted in favor of pursuing preparation of an NCCP, as proposed by pursuing preparation of an NCCP program, as proposed by Assembly Bill (AB) 2172 (California Fish and Game Code, Sections 2800 et seq.). AB 2172 authorizes the CDFW to enter agreements with any person or local, State, or federal agencies for preparing and implementing NCCPs and for preparing guidelines for developing and implementing NCCPs.

The purpose of the NCCP program is to provide regional or area wide protection and to promote perpetuation of natural wildlife diversity while allowing compatible and appropriate development and growth. The focus of the NCCP program represents a dramatic shift from “individual species” to “habitat” preservation. This NCCP/HCP is intended to ensure the long-term survival of the coastal California gnatcatcher and other special-status, coastal-sage-scrub-dependent plant and wildlife species, in accordance with State-sanctioned NCCP program guidelines.

The County of Orange (in conjunction with State and federal resource agencies, local jurisdictions/ municipalities, utility companies, the Transportation Corridor Agencies [TCA], and major private landowners) prepared the NCCP/HCP for the Central/Coastal Subregion (approved on July 10, 1996). The City of Lake Forest is a signatory to the NCCP/HCP. The Project site is located within the Central/Coastal Subregion of Orange County, California, but the Project Applicant is a non-participating landowner. As such, there are no specific requirements of the NCCP/HCP that applies to this Project.

Regional General Permit 74 and Special Area Management Plan. Regional General Permit 74 is one part of the permitting frameworks developed for the ACOE’s two SAMPs in Orange County, California (i.e., the San Diego Creek Watershed SAMP and the San Juan Creek/Western San Mateo Creek Watershed SAMP).

The SAMP permitting frameworks replace the pre-SAMP permitting procedures available in these watersheds prior to the ACOE formulation and adoption of the SAMPs. The SAMP permitting framework involves the establishment of abbreviated permit processing procedures in the form of Regional General Permit 74 and new CWA Section 404 letter of permission procedures in combination with the use of selected nationwide permits and standard individual permits.

Watershed-specific mitigation policies are also being implemented under both the SAMPs. The SAMP permitting frameworks consider the type of regulated activity, permanency of impacts, and location of proposed activity within the SAMP watersheds (i.e., whether the activity would affect sensitive aquatic resources also identified as aquatic resource integrity areas).

For the San Diego Creek Watershed SAMP, CDFW established a Watershed Streambed Alteration Agreement (WSAA) process that will augment Streambed Alteration Agreement (California Fish and Game Code Section 1600) processing procedures within the San Diego Creek Watershed in Orange County, California.

4.4.3.4 Local Regulations

City of Lake Forest General Plan. According to the Recreation and Resources Element of the City's General Plan, Lake Forest contains many important natural resources and features, including its eucalyptus forest and other trees, lakes, creeks, canyons, hillsides, mineral resource areas, and other open lands. These resources add to the value of property, provide visual changes in an urban environment that create interest, and offer important landmarks that communicate a sense of place and location within the community. These important resources can be preserved or enhanced to maintain the natural physical and visual quality of Lake Forest. Goals and policies applicable to the proposed Project include:

> **Goal 2.0:** Preservation and enhancement of important natural resources and features.
>
> **Policy 2.1:** Conserve and protect important natural plant and animal communities, such as areas supporting rare and endangered species, riparian areas, wildlife movement corridors, wetlands, and significant tree stands through appropriate site planning and grading techniques, re-vegetation and soil management practices, and other resource management techniques.

City of Lake Forest Municipal Code. From April 1st through October 31st of each year, the City of Lake Forest Municipal Code (Section 6.20.025) prohibits any person from pruning, cutting branches from, topping, or cutting down any eucalyptus tree on public property within Lake Forest or to transport on its streets or highways any logs, branches, or trunk of any eucalyptus tree, unless a eucalyptus tree cutting permit has been obtained from the City of Lake Forest (City).

4.4.4 Methodology

To adequately identify biological resources in accordance with the requirements of CEQA, Glenn Lukos Associates, Inc. (GLA) assembled biological data consisting of the following main components:

- Literature review and database searches;
- Delineation of aquatic resources (including wetlands and riparian habitat) subject to the jurisdiction of the ACOE, RWQCB, and CDFW;
- Performance of vegetation mapping for the Project site; and
- Performance of habitat assessments and site-specific biological surveys (focused surveys) to evaluate the presence/absence of special-status species in accordance with the requirements of CEQA.

The focus of the biological surveys was determined through initial site reconnaissance, a review of the CNDDB, CNPS 8th edition online inventory, Natural Resource Conservation Service (NRCS) soil data, other pertinent literature, and knowledge of the region. Site-specific general surveys within the Project site were conducted on foot in the proposed development areas for each target plant or animal. Vegetation was mapped directly onto a 200 ft scale (1 inch = 200 ft) aerial photograph following the Habitat Classification System Natural Resources Geographic Information System (GIS) Project. All flora and fauna identified on the Project site during vegetation mapping were included in a floral and faunal compendia prepared for the Project (refer to Appendices A and B of the *Biological Technical Report* which is Appendix D of this EIR). Vegetation communities not listed under the above-mentioned vegetation classification systems were named based on the dominant plant species present. All vegetation mapping was imported into ArcGIS for acreage analysis.

GLA senior biologist Zack West and regulatory specialist April Nakagawa visited the Project site on July 27 and 28, 2016, to conduct a general site review. Additional follow-up visits were made by Zack West and senior regulatory specialist Thienan Pfeiffer on October 6 and November 17, 2016, and at various times during March and April 2017. Site reconnaissance was conducted in such a manner as to allow inspection of the entire site by direct observation, including the use of binoculars. The Project site was inspected to determine whether any special-status species, habitats, or potential jurisdictional areas are present on site.

In addition to site reconnaissance, evaluation of the Project site included a review of the CNDDB for the El Toro quadrangle and surrounding quadrangles, a review of the CNPS on-line Inventory, a soil map review, and review of various documents provided by Toll Brothers, Inc.

4.4.4.1 Summary of Surveys

GLA conducted biological studies to identify and analyze actual or potential impacts to biological resources associated with development of the Project site. Observations of all plant and wildlife species were recorded during each of the above-mentioned survey efforts. The studies conducted include the following:

- Performance of vegetation mapping

- Performance of site-specific habitat assessments and biological surveys to evaluate the potential presence/absence of special-status species (or potentially suitable habitat) to the satisfaction of CEQA and federal and State regulations

- Focused surveys for:

    - Rare plants
    - Burrowing owl
    - Coastal California gnatcatcher
    - Least Bell's vireo
    - Southwestern willow flycatcher

- Delineation of aquatic resources (including wetlands and riparian habitat) potentially subject to the jurisdiction of the ACOE, RWQCB, and CDFW

Individual plants and wildlife species are evaluated in this report based on their "special status." For the purpose of this report, plants were considered "special status" based on one or more of the following criteria:

- Listing through FESA and/or CESA, and/or
- Occurrence in the CNPS Rare Plant Inventory (Ranks 1A/1B, 2A/2B, 3, or 4)

Wildlife species were considered "special-status" based on one or more of the following criteria:

- Listing through FESA and/or CESA, and
- Designation by the State as a Species of Special Concern (SSC) or California Fully Protected (CFP) species

Vegetation communities and habitats were considered "special status" based on their occurrence in the CNDDB inventory.

4.4.4.2 Botanical Resources

A site-specific survey program was designed to accurately document the botanical resources within the Project site, and consisted of five components: (1) a literature search; (2) preparation of a list of target special-status plant species and sensitive vegetation communities that could occur within the Project site; (3) general field reconnaissance surveys; (4) vegetation mapping; and (5) habitat assessments and focused surveys for special-status plants.

- **Literature Search:** Prior to conducting fieldwork, pertinent literature on the flora of the region was examined. A thorough archival review was conducted using available literature and other historical records. These resources included the following:

- CNPS Inventory of Rare and Endangered Plants for the United States Geological Survey (USGS) 7.5-minute quadrangles: *Black Star Canyon*, *Canada Gobernadora*, *Corona South*, *El Toro*, *Laguna Beach*, *Orange*, *San Juan Capistrano*, *Santiago Peak*, and *Tustin, California* (online edition, v8-02) (CNPS 2017); and

- CNDDB for the USGS 7.5-minute quadrangles: *Black Star Canyon*, *Canada Gobernadora*, *Corona South*, *El Toro*, *Laguna Beach*, *Orange*, *San Juan Capistrano*, *Santiago Peak*, and *Tustin, California*.

- **Vegetation Mapping:** Vegetation communities within the Project site were mapped according to the Habitat Classification System Natural Resources GIS Project.

- **Special-Status Plant Species and Habitats Evaluated for the Project Site:** As described above, a literature search was conducted to obtain a list of special-status plants with the potential to occur within the Project site. The CNDDB was initially consulted to determine well-known occurrences of plants and habitats of special concern in the region. Other sources used to develop a list of target species for the survey program included the CNPS online inventory.

  Based on this information, vegetation profiles and a list of target sensitive-plant species and habitats that could occur within the Project site 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) identify the potential for any special-status plants that may occur within the Project site; and (4) prepare a map showing the distribution of any sensitive botanical resources associated with the Project site, if applicable.

- **Botanical Surveys:** GLA biologist Zack West visited the site on April 19 and May 22, 2017, to conduct general and focused plant surveys. Surveys were conducted in accordance with accepted botanical survey guidelines. As applicable, surveys were conducted at appropriate times based on precipitation and flowering periods. An aerial photograph, a soil map, and/or a topographic map were used to determine the community types and other physical features that may support sensitive and uncommon taxa or communities within the Project site. Surveys were conducted by following meandering transects within target areas of suitable habitat. All plant species encountered during the field surveys were identified and recorded following the guidelines adopted by CNPS and CDFW.

4.4.4.3 Wildlife Resources

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 entire Project site by direct observation, including the use of binoculars. Observations of physical evidence and direct sightings of wildlife were recorded in field notes during the visit.

Literature Search. A literature search was conducted to obtain a list of special-status wildlife species with the potential to occur within the Project site. Species were evaluated based on two factors: (1) species identified by the CNDDB as occurring (either currently or historically) on or in the vicinity

of the Project site; and (2) any other special-status animals that are known to occur within the vicinity of the Project site, or for which potentially suitable habitat occurs on the Project site.

Focused Surveys for Special-Status Animal Species. GLA biologists Zack West and April Nakagawa conducted habitat assessments for special-status animal species on July 27 and 28, 2016. An aerial photograph, soil map, and/or topographic map were used to determine the community types and other physical features that may support special-status and uncommon taxa within the Project site.

- **Burrowing Owl:** GLA biologists Jeff Ahrens and Kevin Livergood conducted focused surveys for the burrowing owl (*Athene cunicularia*) for all suitable habitat areas within the Project site. Surveys were conducted in accordance with survey guidelines described in the 2012 CDFW Staff Report on Burrowing Owl Mitigation. The guidelines stipulate that four focused survey visits should be conducted between February 15th and July 15th, with the first visit occurring between February 15th and April 15th. The remaining three visits should be conducted 3 weeks apart from each other, with at least one visit occurring between June 15th and July 15th. Focused surveys were conducted on March 17, April 26, May 30, and July 3, 2017. As recommended by the survey guidelines, the survey visits were conducted between morning civil twilight and 10:00 a.m. Weather conditions during the surveys were conducive to a high level of bird activity.

  Surveys were conducted by walking meandering transects throughout areas of suitable habitat, primarily rubble piles, culverts, and irrigation pipes located throughout the Project site. All suitable burrows were inspected for diagnostic owl sign (e.g., pellets, prey remains, whitewash, feathers, bones, and/or decoration) to identify potentially occupied burrows.

- **Coastal California Gnatcatcher:** GLA biologists Jeff Ahrens (Permit TE 052159-5) and Kevin Livergood (Permit TE-172638-2) conducted focused surveys for the coastal California gnatcatcher for all suitable habitat areas within the Project site. Surveys were conducted in accordance with the 1997 USFWS survey guidelines, which during the breeding season (March 15th through June 30th) require a minimum of six surveys (per survey polygon) with at least 1 week separating each survey visit. The survey guidelines limit individual biologists to surveying a maximum of 80 ac per day. The Project site contains approximately 0.28 ac of suitable habitat for the gnatcatcher. Therefore, the 0.28 ac survey area of suitable habitat was completed as a single survey polygon. Regardless, biologists recorded birds throughout the entire Project area during surveys.

  Focused surveys were conducted on March 17, March 24, March 31, April 7, April 14, and April 26, 2017. Pursuant to the survey guidelines, the surveys were conducted between sunrise and 12:00 p.m. Weather conditions during the surveys were conducive to a high level of bird activity.

- **Least Bell's Vireo:** GLA biologist Kevin Livergood conducted focused surveys for the least Bell's vireo (*Vireo bellii pusillus*) for all suitable habitat areas within the Project site. Surveys were conducted in accordance with the 2001 USFWS survey guidelines, which stipulate that eight

surveys should be conducted between April 10th and July 31st, with a minimum of 10 days separating each survey visit.

Focused surveys were conducted on April 14, April 26, May 8, May 18, May 30, June 12, June 23, and July 3, 2017. Pursuant to the survey guidelines, the surveys were conducted between sunrise and 11:00 a.m. Weather conditions during the surveys were conducive to a high level of bird activity.

- **Southwestern Willow Flycatcher.** GLA biologist Jeff Ahrens conducted focused surveys for the southwestern willow flycatcher for all suitable habitat areas within the Project site. Surveys were conducted in accordance with the 2010 USFWS survey guidelines, which stipulate that five surveys should be conducted between May 15th and July 17th, and divided into three survey periods. The southwestern willow flycatcher is one of four subspecies of willow flycatcher that occur within southern California, but is the only subspecies that breeds in southern California. The other subspecies may occur in southern California during the first and second survey periods as they migrate through the area on their way breeding areas, but will not breed in southern California. Therefore, the presence of the southwestern willow flycatcher is determined by willow flycatchers that remain in southern California during the third survey period.

  Focused surveys were conducted on May 20, June 1, June 15, June 25, and July 5, 2017. Pursuant to the survey guidelines, the surveys were conducted between sunrise and 10:00 a.m. Weather conditions during the surveys were conducive to a high level of bird activity.

4.4.4.4 Jurisdictional Delineation

A jurisdictional delineation was conducted for the Project site on April 7, 2017, by GLA biologist Zack West. Prior to beginning the field delineation, a 200 ft scale color aerial photograph and the previously cited USGS topographic maps were examined to determine the locations of potential areas of ACOE/CDFW jurisdiction and the San Diego Creek Watershed SAMP was reviewed for any Aquatic Resource Integrity Areas mapped within the boundaries of the Project site. Suspected jurisdictional areas were field checked for the presence of definable channels and/or wetland vegetation, soils, and hydrology. Glenn Lukos Associates, Inc. evaluated potential wetland habitats at the subject site using the methodology set forth in the ACOE 1987 Wetland Delineation Manual (Wetland Manual) and the 2008 Regional Supplement to the ACOE Wetland Delineation Manual: Arid West Supplement (Arid West Supplement). The presence of an OHWM was determined using the 2008 Field Guide to Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States in conjunction with the Updated Datasheet for the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States. While in the field, the limits of the OHWM, wetlands, and CDFW jurisdiction were recorded using global positioning system (GPS) technology and/or on copies of the aerial photography. Other data were recorded onto the appropriate datasheets.

4.4.5 Thresholds of Significance

The thresholds for biological resource impacts used in this analysis are consistent with Appendix G of the *State CEQA Guidelines*. The proposed Project may be deemed to have a significant impact with respect to biological resources if it would:

Threshold 4.4.1: **Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service**

Threshold 4.4.2: **Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the California Department of Fish and Game or US Fish and Wildlife Service**

Threshold 4.4.3: **Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means**

Threshold 4.4.4: **Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.**

Threshold 4.4.5: **Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance**

Threshold 4.4.6: **Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan**

None of the thresholds for biological resources were scoped out in the Initial Study, which is included in Appendix A. Therefore, all of the thresholds listed above are addressed in the following analysis.

4.4.6 Project Impacts

Threshold 4.4.1: **Would the project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?**

Direct Impacts

Special Interest Plant Species.

No Impact. No special-status plants are present on the Project site; therefore, no impacts to these resources would occur and no mitigation is required.

Special Interest Animal Species.

Potentially Significant Impact. The proposed Project would remove 119.77 ac (115.26 ac permanently, 4.51 ac temporarily) of potential foraging habitat for two special-status bats: the western red bat and the western mastiff bat. The agricultural lands would not provide valuable foraging habitat but could be used to some degree by these species, if present. The number of individuals potentially foraging on site is judged to be low given the degraded condition of the site. In addition, large blocks of high-quality foraging habitat are present within Whiting Ranch Wilderness Park and Limestone Canyon Regional Park, located approximately 1 mi north of the Project site. Roosting and breeding (nursery) by these species and other non-special-status bats may occur in Serrano Creek, but potential roosting habitat is not proposed for removal. The removal of 119.77 ac of low-quality potential foraging habitat for bats would be a less than significant impact.

Serrano Creek provides potential nesting habitat for yellow warbler and the species was observed during field studies. The Project proposes no removal of potential habitat for this species. No direct impact would occur. Willow flycatcher was detected as a spring migrant in Serrano Creek. As discussed above, the subspecies of willow flycatcher detected was not the southwestern subspecies, which is federally listed as Endangered. All subspecies of willow flycatcher are State listed as Endangered, but the State does not provide protection of migrant habitat, thus no potential "take" of willow flycatcher would occur under CESA. The non-southwestern subspecies of willow flycatcher that migrates through southern California in spring and fall does not breed on the Project site and during migration are habitat generalists, including the use of residential landscaping. The proposed Project would not encroach into Serrano Creek. The potential foraging that could occur by these migrants in other parts of the Project site that are proposed for impact (nursery agriculture) is not judged important habitat for these subspecies given the broad range of vegetation used by them. Potential impacts to non-southwestern willow flycatchers during migration is less than significant, and no mitigation is required.

As discussed above, protocol surveys for burrowing owls were conducted on the Project site. Surveys were conducted in accordance with survey guidelines described in the 2012 CDFW Staff Report on Burrowing Owl Mitigation. While burrowing owls were not detected on the Project site during focused surveys, the CDFW survey guidelines requires a pre-construction survey prior to ground disturbance to ensure the species has not moved onto the site between when the survey was performed and commencement of construction. Mitigation Measure 4.4.1 requires a qualified biologist to conduct a pre-construction presence/absence survey for burrowing owls within 14 days prior to site disturbance. If burrowing owls are not detected, no further action is necessary. If burrowing owls are detected during the preconstruction survey visit, the owls shall be evicted from the site (when not nesting) following accepted CDFW protocols and as approved by the CDFW to avoid direct take of burrowing owl and compensate for the loss of habitat. Compensation for the loss of occupied burrowing owl habitat shall occur at a 1:1 ratio such that the habitat acreage and

number of burrows occupied by burrowing owls impacted are replaced. As required by CDFW, a mitigation management plan shall be drafted and submitted to CDFW for approval, and will ensure lands used to compensate for the loss of habitat and burrows occupied by burrowing owls are conserved and managed in perpetuity. With implementation of Mitigation Measure 4.4.1, potential impacts to burrowing owls would be reduced below a level of significance.

Indirect Impacts

Potentially Significant Impact. In the context of biological resources, indirect effects are those effects associated with developing areas adjacent to native open space. Potential indirect effects associated with development include water quality impacts associated with drainage into adjacent open space/downstream aquatic resources; dust effects; lighting effects; noise effects; invasive plant species from landscaping; and effects from human entry into adjacent open space (e.g., recreational activities [including hiking], pets, dumping). Temporary indirect effects may also occur as a result of construction-related activities.

More specifically, indirect effects of Project construction and habitation may contribute to the degradation of the existing functions and values of Serrano Creek, and may increase depredation of wildlife from noise and lighting; dissuaded use of Serrano Creek by wildlife from noise and lighting; introduction of nonnative invasive plants that outcompete native riparian plant species and thus cause reduced value to native plants and wildlife; and increased mortality to native wildlife from dogs and cats. These impacts can occur to non-special-status as well as special-status species (e.g., western red bat, western mastiff bat, nesting hawks).

As discussed above, two special-status bats have potential to occur in Serrano Creek: western mastiff bat and western red bat. Neither species is State or federally listed but both are State Species of Special Concern. These bats, along with several non-special-status bats, have potential to roost and possibly breed in Serrano Creek. Mitigation Measure 4.4.2 requires bat roosting/nursery exit counts and acoustic surveys prior to the start of any construction activities. The mitigation also requires the preparation of a Bat Management Plan if the surveys find 25 or more individuals composed of non-special-status bat species[1] and/or one or more bats with a special-status in order to ensure that bat mortality does not occur during construction. With implementation of Mitigation Measure 4.4.2, significant impacts to bats roosting in Serrano Creek would be avoided.

In order to reduce and/or avoid the introduction of nonnative invasive plants that may outcompete native riparian plant species and thus cause reduced value to native plants and wildlife, Mitigation Measure 4.4.3 requires that none of the plants installed in common areas (including parks and open space) on the Project site as part of the proposed Project would be invasive exotic plants (i.e., those plant species rated as “High” or “Moderate” in the California Invasive Plant Council Invasive Plant Inventory).

[1] For bats, the threshold of significance would be if the population of bats potentially impacted is 25 or more individuals with no special status and one individual bat with a special status. The threshold of significance is set at 25 or more individuals for non-special-status bats because the loss of 25 individuals would not pose a significant loss to the regional population of any non-special-status species with potential to roost on the Project site.

Mitigation Measures 4.4.4 and 4.4.5 would reduce indirect impacts to Serrano Creek and wildlife (including bats) in the Serrano Creek corridor during Project construction. These mitigation measures require the installation of construction fencing around Serrano Creek and the southern black willow forest to prevent encroachment. Mitigation Measure 4.4.5 also requires construction Best Management Practices (BMPs) intended to reduce and avoid indirect impacts to wildlife related to construction lighting, noise, dust, and the spread of exotic species. Mitigation Measure 4.4.6 requires the Project Applicant/Developer to create a Wall and Fencing Plan that includes details for the use of a permanent bird strike avoidance treatment consisting of either window film (CollidEscape Clear or equivalent) or UV (ultraviolet) patterned glass (or equivalent) on all perimeter glass fencing including, but not limited to the fencing around Serrano Creek and the radiant heat wall (refer to Figure 4.19.2: Fire Protection Plan). With the implementation of Mitigation Measures 4.4.2 through 4.4.6, potential indirect impacts to sensitive plant and animal species on the Project site would be reduced below a level of significance.

Threshold 4.4.2: Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?

Potentially Significant Impact. Serrano Creek is vegetated with southern black willow forest, which is similar to southern mixed riparian forest and southern riparian scrub. In addition, a small patch of remnant maritime succulent scrub is present along the southwestern boundary of the property. These vegetation types can provide valuable habitat to a wide range of species associated with riparian habitats and sage scrub habitats, both of which have declined appreciably over the past several decades in Orange County and coastal southern California. As such, both the remnant maritime succulent scrub and the southern black willow forest are considered a special-status vegetation community.

The proposed Project does not include the removal of any of the southern black willow forest; therefore, there would be no direct impacts to this vegetation community. As discussed under Threshold 4.4.1, Mitigation Measures 4.4.4 and 4.4.5 would avoid indirect impacts to Serrano Creek and the southern black willow forest during Project construction. These mitigation measures require the installation of construction fencing around Serrano Creek and the southern black willow forest to prevent encroachment. Mitigation Measure 4.4.5 also requires construction BMPs intended to reduce and avoid indirect impacts to wildlife in the southern black willow forest related to construction lighting, noise, dust, and the spread of exotic species. Mitigation Measure 4.4.7 requires the Project Applicant/Developer to develop a Habitat Management Plan (HMP) for the Project site. The HMP would describe the long-term management and maintenance requirements (including funding mechanisms and monitoring) for the Open Space & Habitat & Restoration Area, including the southern black willow forest. Mitigation Measure 4.4.7 also requires that the Open Space & Habitat & Restoration Area, including the southern black willow forest, be placed in a permanent conservation easement or similar legal protection that would protect and manage the land in perpetuity. Mitigation Measure 4.1.1 in Section 4.1, Aesthetics, requires the Project Applicant/Developer to prepare a comprehensive lighting plan and a photometric survey prior to construction in order to demonstrate that no spill lighting occurs in sensitive areas. This measure is

intended to minimize the impacts of new sources of light to adjacent land uses, including Serrano Creek and the Open Space & Habitat & Restoration Area. Mitigation Measures 4.1.1, 4.4.4, 4.4.5, and 4.4.7 would ensure that the Project avoids impacts to sensitive riparian habitat (i.e., the southern black willow forest).

The Maritime Succulent Scrub/Southern Cactus Scrub (Coastal Sage Scrub) located at the Project site is a small (0.28 ac) remnant patch of this community that is highly disturbed in nature. It is not within federally designated Critical Habitat, is co-dominated by nonnative species (including ornamental species), and has a very low density. In addition, this community on the Project site represents Coastal Sage Scrub species that have been recruited, along with escaped ornamental and more invasive nonnative species, onto areas that were previously disturbed by agricultural activities, and does not represent intact Coastal Sage Scrub. Therefore, the Coastal Sage Scrub on the Project site holds marginal ecological value and, through focused surveys, was found not to support coastal California gnatcatcher or other special-status species. Based on the size and degraded quality of vegetation, potential impacts to the coastal sage scrub would be less than significant, and no mitigation is required.

The proposed Project would result in the loss of 119.77 ac (115.26 ac permanently, 4.51 ac temporarily) of foraging habitat that supports several species of raptors. As discussed under Threshold 4.4.4, Cooper's hawk and redtailed hawk both nest in the trees within Serrano Creek. There would be no proposed direct impacts to Serrano Creek, thus this nesting habitat would remain after Project implementation. Based on the degraded quality of the foraging habitat and the low number of individuals potentially affected, the loss of 119.77 ac of nursery agriculture lands would not be a significant impact, and no mitigation is required.

Threshold 4.4.3: Would the project have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

Potentially Significant Impact. Implementation of the proposed Project would permanently impact a 0.99 ac (4,078 linear feet of drainage) portion of the existing 1.28 ac (4,971 linear feet) of potential federal ACOE jurisdiction, none of which consists of jurisdictional wetlands. Development of the proposed Project would remove a 0.99 ac (4,078 linear feet) portion of the existing 1.28 ac (4,971 linear feet) of RWQCB jurisdiction, none of which are wetlands. For the CDFW jurisdiction on the Project site, an estimated 1.91 ac portion of the 1.94 ac of existing unvegetated streambed would be removed. The proposed Project would not impact the existing 2.17 ac of vegetated streambed. Refer to Table 4.4.C below for a summary of impacts by jurisdiction and feature.

While the Water Quality Treatment Ditch and Drainage 3 do not support riparian vegetation (herbaceous or woody) or provide habitat to plant or wildlife species beyond what the adjacent uplands provide, the entirety of both the ditch and Drainage 3 would be permanently removed by the Project (Figure 4.4.2 and Figure 4.4.3). Therefore, the Project would be required to comply with Mitigation Measure 4.4.8, which outlines the procedures for coordinating with the ACOE, CDFW, and RWQCB regarding potential jurisdictional areas and the associated permitting processes.

Table 4.4.C: Summary of Proposed Impacts to ACOE, CDFW, and RWQCB Jurisdiction

Drainage Feature	Impact Type	ACOE			CDFW			Total RWQCB Acreage	Total Length (linear feet)
		Wetland (acres)	Nonwetland Waters (acres)	Total (acres)	Vegetated Streambed (acres)	Unvegetated Streambed (acres)	Total (acres)		
Water Quality Treatment Ditch (Intermittent)	Permanent	0.0	0.92	0.92	0.0	1.84	1.84	0.92	3,032
	Temporary	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0
Serrano Creek (Intermittent)	Permanent	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0
	Temporary	0.0	0.01	0.01	0.0	0.01	0.01	0.01	35
Drainage 3 (Ephemeral)	Permanent	0.0	0.07	0.07	0.0	0.07	0.07	0.07	1,011
	Temporary	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0
Totals[1]		**0.0**	**0.99**	**0.99**	**0.0**	**1.91**	**1.91**	**0.99**	**4,078**

Source: *Biological Technical Report* (GLA 2019).

[1] Totals may not equal sum of parts due to rounding error.

ACOE = United States Army Corps of Engineers
CDFW = California Department of Fish and Wildlife
GLA = Glenn Lukos Associates, Inc.
RWQCB = Regional Water Quality Control Board

In addition to outlining the procedures for coordinating with ACOE, RWQCB, and the CDFW, Mitigation Measure 4.4.8 provides a range of mitigation scenarios that the resource agencies may require.

Additionally, as specified in RCM WQ-2, an erosion and sediment control plan would be prepared and submitted to the City Building Official prior to issuance of a grading or building permit in compliance with the City of Lake Forest Municipal Code. Erosion Control and Sediment Control BMPs would be designed to minimize erosion and retain sediment on site. With implementation of Erosion Control and Sediment Control BMPs, soil disturbance activities would not have the potential to contribute to the sedimentation/siltation, benthic community effects, and selenium impairments. With adherence to Mitigation Measure 4.4.8 and RCM WQ-2, impacts would be reduced below a level of significance.

The proposed Project would impact 0.95 ac that has been mapped under the San Diego Creek Watershed SAMP as an Aquatic Resource Integrity Area. The area mapped as an Aquatic Resource Integrity Area is an agricultural and developed upland area currently and historically used by the plant nursery operation. These areas were part of the nursery operation during the time the SAMP was developed, are outside of the existing riparian zone associated with Serrano Creek, and are located at an elevation of 10 feet (ft) or more above the bankfull channel of Serrano Creek. Therefore, it is believed these areas were incorrectly mapped as Aquatic Resource Integrity Areas as a result of the course level of remote-sensing-based mapping utilized to develop the SAMP.

The entirety of the existing riparian zone associated with Serrano Creek would be avoided by the proposed Project. Impacts to the riparian integrity of Serrano Creek would not occur from the development of the proposed Project because the entire riparian zone is being avoided (refer to Mitigation Measures 4.4.4 and 4.4.5). Nevertheless, Mitigation Measure 4.4.9 requires that mitigation for impacts to greater than 0.1 ac within this mapping unit be developed in coordination with the CDFW unless the CDFW determines that the Project site does not contain an Aquatic Resource Integrity Area (i.e., there is a mapping error in the SAMP). With implementation of Mitigation Measure 4.4.9, potential impacts related to the SAMP would be reduced below a level of significance.

Threshold 4.4.4: Would the project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

Less than Significant Impact. There are no wildlife corridors or wildlife nurseries on the Project site where development is proposed. Serrano Creek is considered a wildlife migration corridor, but is outside the Project footprint. Serrano Creek is an important link between the open space lands southwest and northeast of the Project site. Although Serrano Creek is in a degraded condition, it still supports the necessary attributes needed to support animal movement, namely vegetation for cover and topography to guide animals up and downstream. The proposed Project would not directly encroach on Serrano Creek.

Nevertheless, due to the proximity of anticipated construction activities to Serrano Creek and the southern black willow forest, the proposed Project has the potential to impact active native bird nests if construction or demolition activities occur during the nesting season (January 15th to August 31st). Impacts to nesting native birds are prohibited by the MBTA and California Fish and Game Code. Therefore, Project implementation must be accomplished in a manner that avoids impacts to active nests during the nesting season. If any disturbance to the Project site (including disking, demolition, grading, or vegetation clearance) occurs between February 15th and August 31st, a qualified biologist shall conduct a nesting bird survey of the construction area and areas within 500 ft of the construction area no more than 3 days prior. As documented in RCM BIO-1, if active nests are identified, the biologist shall establish suitable buffers (i.e., a minimum of 50 ft for passerines, 250 ft for raptors [including burrowing owls]) around the nests. The buffer areas shall be avoided until the nests are no longer occupied and the juvenile birds can survive independently from the nests. Therefore, with compliance with the MBTA and California Fish and Game Code Section 3503, the proposed Project's potential impacts on nesting birds—including Cooper's hawk and red-tailed hawk in Serrano Creek—would be less than significant.

Threshold 4.4.5: Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

Potentially Significant. Lake Forest has a vast quantity of eucalyptus trees. These trees are endangered by the presence of a beetle identified as the eucalyptus longhorn borer (*Phoracantha semipunctata* and *Phorocantha recurve*). These beetles lay their eggs on the eucalyptus trees and the larvae bore holes within the trees, causing serious damage and destruction. The control of infestation by this beetle can be helped by regulating the maintenance of such trees in a healthy and nonhazardous condition through good arboricultural practices and by prohibiting the transportation and cutting of eucalyptus trees or logs during the period of April 1st through October 31st without a City permit. Because implementation of the proposed Project would require the removal of eucalyptus trees (including the transportation of cut logs, branches, or trunks on City streets) from the Project site, RCM BIO-2 requires the Project Applicant/Developer to comply with the City's permitting requirements (Lake Forest Municipal Code Section 6.20.025). No mitigation is required.

The polyphagous shot hole borer (PSHB) (*Euwallacea* sp.*)* is an invasive wood-boring beetle that attacks dozens of tree species in Southern California, including commercial avocado groves, common landscape trees, and native species in urban and wildland environments. PSHB spreads a disease called Fusarium Dieback (FD), which is caused by pathogenic fungi. Trees that are FD-susceptible may experience branch dieback, canopy loss, and, in some cases, tree mortality. Kuroshio shot hole borer (KSHB) is another ISHB species that also vectors FD. While the City does not have a specific policy related to ISHBs, with documented occurrences of both PSHB and KSHB in Lake Forest,[1] the avoidance and preservation of Serrano Creek and its associated habitat would reduce the potential spread of invasive species (including ISHBs) because no disturbance to existing trees or transportation of tree material would occur. Additionally, Serrano Creek would be placed into a

[1] University of California, Division of Agriculture and Natural Resources, Invasive Shot Hole Borers, Distribution of PSHB/FD and KSHB/FD in California. Website: https://ucanr.edu/sites/pshb/Map/ (accessed June 18, 2019).

conservation easement (refer to Mitigation Measures 4.4.4, 4.4.5, and 4.4.7) or similar legal protection that would protect the lands in perpetuity. In addition, Mitigation Measure 4.4.10 requires that a survey of all on-site trees to be removed or trimmed as part of Project implementation be performed no more than 30 days prior to the commencement of construction activities. If any tree is determined to be infested/infected by ISHBs, a control plan would be prepared and provided to CDFW and the City for review and approval. At a minimum, the plan would include methods of control, removal, and appropriate disposal techniques to prevent the spread of ISHBs. With the survey and implementation of the control plan, potential impacts related to ISHBs would be reduced to below a level of significance.

The City's General Plan Recreation and Resources Element includes the following policy related to the protection of biological resources.

> **Policy 2.1:** Conserve and protect important natural plant and animal communities, such as areas supporting rare and endangered species, riparian areas, wildlife movement corridors, wetlands, and significant tree stands through appropriate site planning and grading techniques, re-vegetation and soil management practices, and other resource management techniques.

As discussed in Responses to Thresholds 4.4.1 through 4.4.4, the potential impacts of the proposed Project on special-status species, riparian areas, wildlife movement corridors, and jurisdictional waters would be reduced to below a level of significance through implementation of Project-specific mitigation. Moreover, the proposed Project does not propose any changes to Serrano Creek or the adjacent southern black willow forest, which provide important habitat to plant and animal species. With implementation of Mitigation Measures 4.4.1 through 4.4.10, the proposed Project would not result in a significant impact related to local policies or ordinances protecting biological resources

Threshold 4.4.6: Would the project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

Less than Significant Impact. The City is a participant in the Orange County Central and Coastal NCCP/HCP. According to the *Biological Technical Report* (GLA 2019; Appendix D), the Project site is located within the Orange County Central and Coastal NCCP/HCP planning area but outside the boundaries of the NCCP/HCP Reserve System. The Reserve System boundary is located approximately 3,960 ft (0.75 mi) northeast of the proposed Project site. The Project site, however, is in an area identified in the NCCP/HCP as urbanized and is located in an area designated for development. Development of the proposed Project would not result in the removal of any sensitive habitat species identified in the Orange County Central and Coastal NCCP/HCP. The proposed Project would not conflict with local ordinances or the adopted HCP, NCCP, or other approved local, regional, or State HCP. Therefore, the proposed Project would result in a less than significant impact related to local ordinances and the adopted NCCP/HCP, and no mitigation is required.

4.4.7 Cumulative Impacts

Cumulative impacts are defined as the direct and indirect effects of a proposed Project which, when considered alone, would not be deemed a substantial impact, but when considered in addition to the impacts of related projects in the area, would be considered potentially significant. "Related projects" refers to past, present, and reasonably foreseeable probable future projects, which would have similar impacts to the proposed Project (refer to Table 4.A for a list of probable future projects).

4.4.7.1 Native Vegetation

Development of the Project site would permanently remove 0.29 ac of maritime succulent scrub (coastal sage scrub. This patch is a remnant and, due to its very small size and lack of contiguity with other sage scrub, is not judged to provide resource values associated with coastal sage scrub vegetation. The permanent removal of 0.29 ac of maritime succulent scrub would not make a cumulatively considerable contribution to the regional decline of this vegetation community.

Direct impacts to Serrano Creek are not proposed, but there is potential for significant indirect impacts to occur to this section of the Creek by the adjacent proposed development. Although this portion of Serrano Creek shows degradation from being adjacent to surrounding development, the potential further decline of Serrano Creek as a result of Project construction and operation would be a cumulatively considerable contribution to the regional decline of native streambed vegetated with riparian vegetation (southern black willow forest) that supports animal movement, nesting raptors, yellow warbler, and potential roosting/nursery habitat for bats. Serrano Creek and its vegetation are expected to support a degree of wildlife movement/connectivity between the natural open space lands southwest and northeast of the Project site; the connectivity between these areas would be maintained by the proposed Project. Mitigation Measures 4.4.4 and 4.4.5 would reduce indirect impacts to Serrano Creek during Project construction. These mitigation measures require the installation of construction fencing around Serrano Creek and the southern black willow forest to prevent encroachment. Mitigation Measure 4.4.5 also requires construction BMPs intended to reduce and avoid indirect impacts to vegetation and wildlife related to construction lighting, noise, dust, and the spread of exotic species. With implementation of mitigation measures, the Project's contribution to the cumulative regional decline of native streambed vegetated with riparian vegetation would be less than significant.

4.4.7.2 Raptor Use

The Project site is used by nesting Cooper's hawk and red-tailed hawk. Other species of raptors may also use the site for foraging. No direct impact to occupied nesting habitat in Serrano Creek would occur, but there is potential for potentially significant indirect impacts to occur to Serrano Creek, which may dissuade raptors from nesting along this stretch of the Creek. These two species are common to the region, and the removal of nesting habitat for these or other common species of raptors would not make a potentially cumulatively considerable contribution to the regional decline of raptors.

The proposed Project would remove 119.77 ac of potential raptor foraging habitat through development of the active nursery. Although the nursery may provide foraging habitat for raptors, it

is not expected to be valuable because the lands are actively maintained to minimize use by small mammals (prey for raptors). This loss of 119.77 ac of potential raptor foraging habitat would not make a cumulatively considerable contribution to the regional decline of raptors.

4.4.7.3 Special-Status Wildlife

Yellow warbler is present in Serrano Creek and likely nests there. This species is strongly tied to riparian habitats for nesting. During migration, yellow warbler can be seen in a wide variety of native and nonnative vegetation, including residential landscaping and native upland vegetation. Yellow warbler is a species of Special of Concern. Development of the Project would not directly impact yellow warbler, but potential indirect impacts to Serrano Creek could be appreciable. However, the number of yellow warbler potentially affected would be limited to approximately two or three pairs, and this species remains a common species to many riparian habitats. The loss of nesting habitat for yellow warbler would not make a cumulatively considerable contribution to the regional decline of this species.

There is potential for bats to roost in Serrano Creek (including western mastiff bat and western red bat). The proposed Project would not directly remove potential roosting/nursery habitat but has the potential to cause bats to abandon Serrano Creek due to indirect degradation of habitat during construction. As discussed under Threshold 4.4.1, for bats, the threshold of significance for potential impacts to bats would be if the population of bats potentially impacted is 25 or more individuals with no special status and one individual bat with a special status. The threshold of significance is set at 25 or more individuals for non-special-status bats because the loss of 25 individuals would not pose a significant loss to the regional population of any non-special-status species with potential to roost on the Project site. Given the regional decline of bats over the past several decades, this potential indirect impact would make a cumulatively considerable contribution to the regional decline of bats. Mitigation Measures 4.4.2, 4.4.4, and 4.4.5 would be implemented to reduce potential indirect cumulative impacts to bats foraging and/or roosting in Serrano Creek to a less than significant level. Mitigation Measure 4.4.2 requires bat roosting/nursery exit counts and acoustic surveys prior to the start of any construction activities. The mitigation also requires the preparation of a Bat Management Plan if the surveys find 25 or more individuals composed of non-special-status bat species[1] and/or one or more bats with a special-status in order to ensure that bat mortality does not occur during construction. Mitigation Measures 4.4.4 and 4.4.5 would reduce indirect impacts to Serrano Creek and wildlife (including bats) in the Serrano Creek corridor during Project construction. These mitigation measures require the installation of construction fencing around Serrano Creek and the southern black willow forest to prevent encroachment. Mitigation Measure 4.4.5 also requires construction BMPs intended to reduce and avoid indirect impacts to wildlife related to construction lighting, noise, dust, and the spread of exotic species. With implementation of mitigation measures, the Project's contribution to the cumulative regional decline of bats would be less than significant.

[1] For bats, the threshold of significance would be if the population of bats potentially impacted is 25 or more individuals with no special status and one individual bat with a special status. The threshold of significance is set at 25 or more individuals for non-special-status bats because the loss of 25 individuals would not pose a significant loss to the regional population of any non-special-status species with potential to roost on the Project site.

4.4.7.4 Native Nesting Birds

There is potential for native nesting birds to be affected by development of the Project. The types of birds potentially affected are common to the region, and the number of individuals would be limited given the type of vegetation proposed for removal (agriculture, remnant patch of scrub habitat). Migratory birds are protected by the MBTA and similar provisions under the California Fish and Game Code. Based on the types of species and the expected limited number of nesting pairs potentially affected, development of the Project would not make a cumulatively considerable contribution to the regional decline of native nesting birds.

4.4.7.5 Federal and State Jurisdictional Waters

The jurisdictional waters proposed for removal are associated with the nursery operations and do not provide the functions and values of natural drainages/streambeds. As such, the removal of 0.99 ac of ACOE non-wetland waters, 0.99 ac of RWQCB non-wetland waters, and 1.91 ac of unvegetated CDFW streambed would not make a cumulatively considerable contribution to the regional decline of jurisdictional waters.

4.4.8 Level of Significance Prior to Mitigation

Potential adverse impacts to native plant communities, sensitive species, riparian habitat, jurisdictional areas, and nesting birds would be significant, and mitigation is required. The proposed Project would not conflict with any local policies or ordinances or the provisions of the NCCP/HCP. Cumulative indirect impacts to native vegetation in Serrano Creek and cumulative impacts to bat species would be significant, and mitigation is required.

4.4.9 Compliance Measures and Mitigation Measures

4.4.9.1 Regulatory Compliance Measures

RCM BIO-1 **Migratory Bird Treaty Act and California Department of Fish and Game Code.** In the event that any construction, vegetation clearing, or grading activities (including disking and demolition) should occur between February 1st and September 1st, a qualified biologist shall conduct a nesting bird survey no more than 3 days prior to commencement of construction activities to confirm the absence of nesting birds. If active nesting of birds is observed within 500 feet (ft) of the designated construction area during surveys, the biologist shall establish suitable buffers around the active nests (e.g., a minimum of 50 ft for passerines and 250 ft for raptors [including burrowing owls]). The buffer areas shall be avoided until the nests are no longer occupied and the juvenile birds can survive independently from the nests. Prior to commencement of grading activities and issuance of any building permits, the Director of the City of Lake Forest Community Development, or designee, shall verify that all Project grading and construction plans include specific documentation regarding the requirements of the Migratory Bird Treaty Act (MBTA) and California Fish and Game Code Section 3503, that preconstruction surveys have been completed and the results reviewed by staff, and that the appropriate buffers (if needed) are noted on the plans and established in the field with orange snow fencing.

RCM BIO-2 **Tree Ordinance.** In compliance with City of Lake Forest Municipal Code Section 6.20.025, if any eucalyptus trees on the Project site are to be cut or trimmed between April 1st through October 31st, the Project Applicant/Developer shall first obtain a permit from the City of Lake Forest for the transportation of any logs, branches, or trunks to an off-site location for disposal.

4.4.9.2 Mitigation Measures

Mitigation Measure 4.4.1 **Burrowing Owls.** A qualified biologist shall conduct a pre-construction presence/absence survey for burrowing owls no more than 14 days prior to site disturbance and submit the survey results to the Director of the City of Lake Forest Community Development Department, or designee,. If burrowing owls are not detected, no further action is necessary.

If burrowing owls are detected during the pre-construction survey, the owls shall be evicted from the site (when not nesting) under the supervision of a qualified biologist and following accepted California Department of Fish and Wildlife (CDFW) protocols and as approved by the CDFW to avoid direct take of burrowing owl and compensate for the loss of habitat. Compensation for the loss of occupied burrowing owl habitat shall occur at a 1:1 ratio such that the habitat acreage and number of burrows occupied by burrowing owls impacted are replaced. As required by the 2012 CDFW Staff Report on Burrowing Owl Mitigation, if owl are detected on the Project site, a mitigation management plan shall be drafted and submitted to CDFW for approval, and shall ensure lands used to compensate for the loss of habitat and burrows occupied by burrowing owls are conserved and managed in perpetuity.

Mitigation Measure 4.4.2 **Bats.** Bat roosting/nursery exit counts and acoustic surveys shall be performed in Serrano Creek by a qualified bat biologist prior to site disturbance to determine whether Serrano Creek supports a bat nursery and/or roost and by which species. The survey results shall be submitted to the Director of the City of Lake Forest Community Development Department, or designee. This survey work shall occur in late-spring/summer and potentially again in the fall, depending on the results of the summer work. This would be determined by the bat biologist. If the results of the bat work finds 25 or more individuals composed of non-special-status bat species and/or one or more bats with a special-status, a Bat Management Plan shall be developed to ensure bat mortality does not occur during construction. If it is determined that excluding the bats during non-breeding (generally October through March) is necessary, the plan shall provide details (both in text and with graphic images) where

exclusion devices shall be placed, the timing for exclusion work, and the timeline and methodology needed to exclude the bats. The plan shall be reviewed and approved by CDFW. Prior to issuance of any construction or grading permits, documentation indicating CDFW approval of the plan shall be provided to the City of Lake Forest Director of Community Development, or designee.

Mitigation Measure 4.4.3 **Invasive Plant Species.** Prior to issuance of any building permits, the Project Applicant/Developer shall submit a final landscape plan to the Director of the City of Lake Forest Community Development Department, or designee, demonstrating that the landscaping palette for all common areas within the community does not include invasive exotic plants (i.e., those plant species rated as "high" or "moderate" in the California Invasive Plant Council's [Cal-IPC] Invasive Plant Inventory). Prior to issuance of certificates of occupancy, the Project Applicant/Developer shall submit a copy of the Homeowner Association's (HOA) Covenants, Conditions, and Restrictions (CC&Rs) to the Director of the City of Lake Forest Community Development Department, or designee, for verification that the CC&Rs prohibit the use of invasive exotic plants all on-site parks, open space, and other common areas. Further, the CC&Rs shall note that revisions to the HOA CC&Rs related to the maintenance of parks, open space, and other common areas shall be prohibited except with the review and approval of the Director of the City of Lake Forest Community Development Department, or designee.

Mitigation Measure 4.4.4: **Preservation of Serrano Creek During Project Construction.** Prior to the start of grading or construction activities, the Director of the City of Lake Forest Community Development Department, or designee, shall verify that plans require the Project impact footprint, including any construction buffers, be staked and fenced (e.g., with orange snow fencing, silt fencing, or a material that is clearly visible). The Director of the City of Lake Forest Community Development Department, or designee, shall further verify that a qualified, experienced biologist has been retained by the Project Applicant/Developer and that the biologist shall: (1) be present on site during all grading or vegetation removal activities occurring within 100 ft of Serrano Creek to ensure that encroachment into Serrano Creek and/or the southern black willow forest does not occur; and (2) verify the boundary is properly delineated, staked, and fenced prior to the start of any ground disturbance or vegetation clearing. The Construction Site Manager shall ensure that the fencing is maintained for the duration of construction and that any required repairs are completed in a timely manner. Prior to

the removal of the fencing at the completion of construction activities, a qualified, experienced biologist shall conduct a final inspection of the area to ensure that encroachment into Serrano Creek and/or the southern black willow forest has not occurred. The biologist shall provide a final report to the City of Lake Forest Director of Community Development, or designee. If encroachment did occur, the biologist shall evaluate the encroachment and provide a report to both the City of Lake Forest Director of Community Development and CDFW. The City and CDFW shall determine if and what additional mitigation would be required.

Mitigation Measure 4.4.5: **Construction Best Management Practices.** Prior to the start of grading or construction activities, the Director of the City of Lake Forest Community Development Department, or designee, shall verify that the plans note the following requirements:

- Any open trenches shall be covered at the end of each workday in a manner to prevent the entrapment of wildlife, or be adequately ramped to provide an animal escape route.
- Construction shall occur between 30 minutes before sunrise and 30 minutes after sunset.
- No nighttime construction within 200 ft of Serrano Creek shall occur.
- No construction lighting shall be placed within 200 ft of Serrano Creek unless a qualified biologist confirms the lighting does not illuminate Serrano Creek.
- Active construction areas shall be watered regularly (at least once every 2 hours) to control dust and thus minimize impacts on vegetation within Serrano Creek.
- Equipment operators and construction crews shall be informed of the importance of the construction limits by the biological monitor prior to any ground disturbance.
- Construction personnel shall strictly limit their activities, vehicles, equipment, and construction materials to the limits of disturbance and the designated staging areas and routes of travel approved by the biological monitor.
- Exotic plant species removed during construction shall be properly handled to prevent sprouting or regrowth.

Construction equipment shall be cleaned of mud or other debris that may contain invasive plants and/or seeds and inspected to reduce the potential of spreading noxious weeds before mobilizing to the site and before leaving the site during the course of construction. The cleaning of equipment shall occur at least 300 ft from jurisdictional aquatic features, including Serrano Creek. If the location is closer, it must be approved by the biological monitor.

- Vegetation shall be covered while being transported, and vegetation materials removed from the site shall be disposed of in accordance with applicable laws and regulations.

- All equipment maintenance, staging, and dispensing of fuel, oil, coolant, or any other toxic substances shall occur only in designated areas within the limits of disturbance and at least 200 ft from jurisdictional aquatic features, including Serrano Creek. These designated areas shall be clearly marked and located in such a manner as to contain runoff and shall be approved by the biological monitor.

- To avoid attracting predators, the Project site will be kept clear of trash and debris. All food-related trash items will be enclosed in sealed containers and regularly removed from the site.

Mitigation Measure 4.4.6: **Perimeter Glass Fencing.** The Project Applicant/Developer shall submit a Wall and Fencing Plan to the City of Lake Forest Director of Community Development, or designee, for review and approval. The Wall and Fencing Plan shall specify, and include details for, the use of a permanent bird strike avoidance treatment consisting of either window film (CollidEscape Clear or equivalent) or UV (ultraviolet) patterned glass (or equivalent) on all perimeter glass fencing, including but not limited to the fencing around Serrano Creek and the radiant heat wall (refer to Figure 4.19.2: Fire Protection Plan). The Wall and Fence Plan shall include documentation addressing the bird strike avoidance effectiveness of the proposed treatment.

Mitigation Measure 4.4.7: **Habitat Management Plan.** Prior to the start of grading or construction activities, the Director of the City of Lake Forest Community Development Department, or designee, shall verify that the Project Applicant/Developer has developed a Habitat Management Plan (HMP) for the Project site. The HMP shall describe the long-term management and maintenance requirements—including funding mechanisms and monitoring—for

the Open Space & Habitat & Restoration Area and the southern black willow forest. In addition, the HMP shall, at a minimum:

- Require the installation of permanent fencing along the perimeter of the Open Space & Habitat & Restoration Area and interior trails, if applicable. In addition, permanent signs shall be installed along all fencing indicating the purpose and need for the fencing and the restrictions within the Open Space & Habitat & Restoration Area. The maintenance of the fencing and signage shall be the responsibility of the HOA or a long-term land management entity.

- Require that all lighting along the perimeter of Serrano Creek, particularly street lamps, be shielded and oriented in a manner that prevents spill light or glare into the Creek. This also includes outdoor lighting for those residences abutting Serrano Creek. It shall be the responsibility of the HOA to ensure lighting is maintained consistent with these criteria.

- The Project Applicant/Developer shall place the Open Space & Habitat & Restoration Area into a conservation easement or similar legal protection, along with sufficient funds (as approved by the City of Lake Forest Director of Community Development, or designee) to protect the lands in perpetuity. In addition, lands within the conservation easement shall be managed in perpetuity by a qualified entity designated by the Project Applicant/Developer and approved by the City of Lake Forest Director of Community Development, or designee.

Mitigation Measure 4.4.8: **Jurisdictional Resources.** Prior to the issuance of any grading permits, the Project Applicant/Developer shall coordinate with the United States Army Corps of Engineers (ACOE), Santa Ana Regional Water Quality Control Board (RWQCB), and the California Department of Fish and Wildlife (CDFW) regarding their jurisdiction over the on-site drainages.

The Project Applicant/Developer shall be obligated to implement/ comply with mitigation measures required by the resource agencies regarding impacts on their respective jurisdictions. The ratios at which ACOE, RWQCB, and CDFW may require permanent impacts to be mitigated vary from 1:1 (no net loss) to as high as 3:1. The jurisdictional areas of the ACOE, RWQCB, and CDFW are not additive areas because the jurisdictional areas on the site may be within the jurisdiction of one or more of these agencies. Therefore, the permits and associated jurisdictional replacement requirements

would identify which mitigation areas apply to the corresponding jurisdiction. At a minimum, the following shall be implemented by the Project Applicant/Developer:

- A detailed Habitat Mitigation Monitoring Plan (HMMP) shall be prepared that describes the location of establishment, restoration, and/or enhancement, which shall include replanting requirements, success criteria, and monitoring following construction. The HMMP shall be incorporated into the regulatory agencies permit, certification, and agreement required for the proposed Project and shall be subject to review and approval by the resource agencies.

- To mitigate the loss of ACOE, RWQCB, and CDFW jurisdictional waters, the Project Applicant/Developer shall create a minimum of 4.19 acres (ac) of riparian vegetation on the Project site that shall be contiguous with, and contribute to, the existing riparian canopy associated with Serrano Creek within the conservation lands. If on-site mitigation options are not feasible, the Project Applicant/Developer shall purchase credits from an approved mitigation bank/in-lieu fee program at a minimum of a 1:1 ratio, for a minimum of 1.91 ac of mitigation credits. If on-site mitigation options are not feasible and an approved mitigation bank/in-lieu fee program cannot be identified to mitigate the loss of ACOE, RWQCB, and CDFW jurisdiction, the Project Applicant/Developer shall enhance, re-establish, or establish ACOE, RWQCB, and CDFW jurisdictional areas on off-site conserved lands at a minimum 1:1 ratio, for a minimum of 1.91 ac of enhancement, re-establishment, or establishment.

Mitigation Measure 4.4.9: **Aquatic Resource Integrity Area.** The Project site is located within the boundaries of the San Diego Creek Watershed Special Area Management Plan (SAMP). The proposed Project would result in impacts to 0.95 ac of mapped Aquatic Resource Integrity Area. Mitigation for impacts to greater than 0.1 ac within this mapping unit shall be developed in coordination with the CDFW unless the CDFW determines that the Project site does not contain an Aquatic Resource Integrity Area (i.e., there is a mapping error in the SAMP). Prior to the issuance of any grading permits, the Project Applicant/ Developer shall provide documentation to the City of Lake Forest Director of Community Development, or designee, that (1) CDFW has determined that a mapping error exists; OR (2) the Project Applicant/Developer shall implement mitigation as specified by the CDFW.

Mitigation Measure 4.4.10 **Invasive Short Hole Borers (ISHBs).** A designated biologist familiar with the signs of ISHBs shall survey trees on the Project site that are designated for removal or trimming. Surveys shall be conducted no more than 30 days prior to removal or trimming activities. If any tree is determined to be infested/infected by ISHBs, a control plan shall be prepared and submitted to CDFW for review and approval. At a minimum, the control plan shall include methods of control, removal, and appropriate disposal techniques to prevent the spread of ISHBs. The results of the tree survey, and if warranted, a copy of the CDFW-approved control plan shall be submitted to the City of Lake Forest Director of Community Development, or designee, prior to issuance of construction permits.

4.4.10 Level of Significance after Mitigation

Potential impacts to biological resources associated with Project construction and operation would be reduced to levels that are less than significant with implementation of the mitigation measures listed above. Therefore, the proposed Project would not result in any significant unavoidable impacts related to biological resources.