ESCONDIDO ESTATES PROJECT:
BIOLOGICAL RESOURCES LETTER REPORT

COUNTY PROJECT NUMBER: PDS2020-TM-5639

REVISED FEBRUARY 5, 2021

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Prepared for The County of San Diego

SUMMARY

Unison Communities, LLC (Unison) proposes to construct a 20-unit single-family residential development southeast of the intersection of San Pasqual Valley Road and Idaho Avenue, near the City of Escondido in an unincorporated section of San Diego County (County), California. The project site is approximately 10.7 acres within Assessor's Parcel Number (APN) 234-231-01. As required by the County, LSA surveyed an additional 100-foot buffer surrounding the project boundary. This survey area (the project site plus the 100-foot mapping buffer) is referred to as the Biological Study Area (BSA) and totals approximately 17.2 acres.

The BSA consists of nonnative grassland, walnut woodland, eucalyptus woodland, and urban/developed land. Four potentially jurisdictional drainage features convey flows along the western edge of the BSA. There are no special-status plant species with a moderate or higher potential to occur within the BSA based on the results of a database records search, observations made during the general biological resources survey, and the absence of suitable habitat on site. No special-status plant species were observed during the general biological resources survey. Although no special-status wildlife species were observed during the general biological resources survey, the following special-status species have a moderate potential to occur within the BSA based on the results of the database records search of a 2-mile radius around the BSA and observations made during the survey: Cooper's hawk (*Accipiter cooperi*), sharp-shinned hawk (*Accipiter striatus*), red-shouldered hawk (*Buteo lineatus*), turkey vulture (*Cathartes aura*), common barn owl (*Tyto alba*), and pallid bat (*Antrozous pallidus*). This list contains species that are not considered special-status by federal or State governments, but were included in a biological resources scoping attachment to a major pre-application scoping letter provided by the County for another nearby project.

The project is expected to permanently affect 9.1 acres of nonnative grassland, 0.0 acre of walnut woodland, 0.3 acre of eucalyptus woodland, 0.024 acre of nonwetland waters of the State, and 0.024 acre of California Department of Fish and Wildlife (CDFW) jurisdiction (streambeds and banks). Unison will purchase 4.6 acres of grassland credits at a mitigation bank to mitigate for impacts to nonnative grassland. Impacts to walnut woodland will be mitigated through on-site preservation an approximately 1.3-acre area vegetated primarily by walnut woodland and nonnative grassland at the northwestern corner of the project site. Unison will establish an open space easement to protect this area in perpetuity. Mitigation is not required for eucalyptus woodland. Subject to concurrence from the resource agencies, Unison will purchase 0.048 acre of wetland/riparian credits at a mitigation bank to mitigate from impacts to RWQCB/CDFW jurisdiction. . The project design includes a County Fire Authority-approved 30-foot-wide Limited Building Zone from the edge of the proposed open space.

INTRODUCTION, PROJECT DESCRIPTION, LOCATION, AND SETTING

Unison proposes to construct a 20-unit single-family residential development southeast of the intersection of San Pasqual Valley Road and Idaho Avenue, near the City of Escondido in an unincorporated section of San Diego County, California (see Figure 1). The project site is approximately 10.7 acres and is within APN 234-231-01. Each unit would include its own septic system. The project includes construction of a basin at the southwestern corner of the property to address drainage and water quality requirements.

The County of San Diego General Plan Circulation element requires that both Idaho Avenue and San Pasqual Valley Road be widened to their full street section, which will result in impacts to aquatic resources within the property boundary. An approximately 1.3-acre area at the northwestern corner of the property boundary will not be affected by the project.

The BSA is dominated by nonnative grassland vegetation with some developed land, walnut woodland, and eucalyptus woodland. Portions of a jurisdictional drainage are within the western edge of the BSA. The following soils are present within the project site: Ramona sandy loam (2 to 5 percent slopes) and Fallbrook-Vista sandy loam (15 to 30 percent slopes).

See Attachment A for representative site photographs.

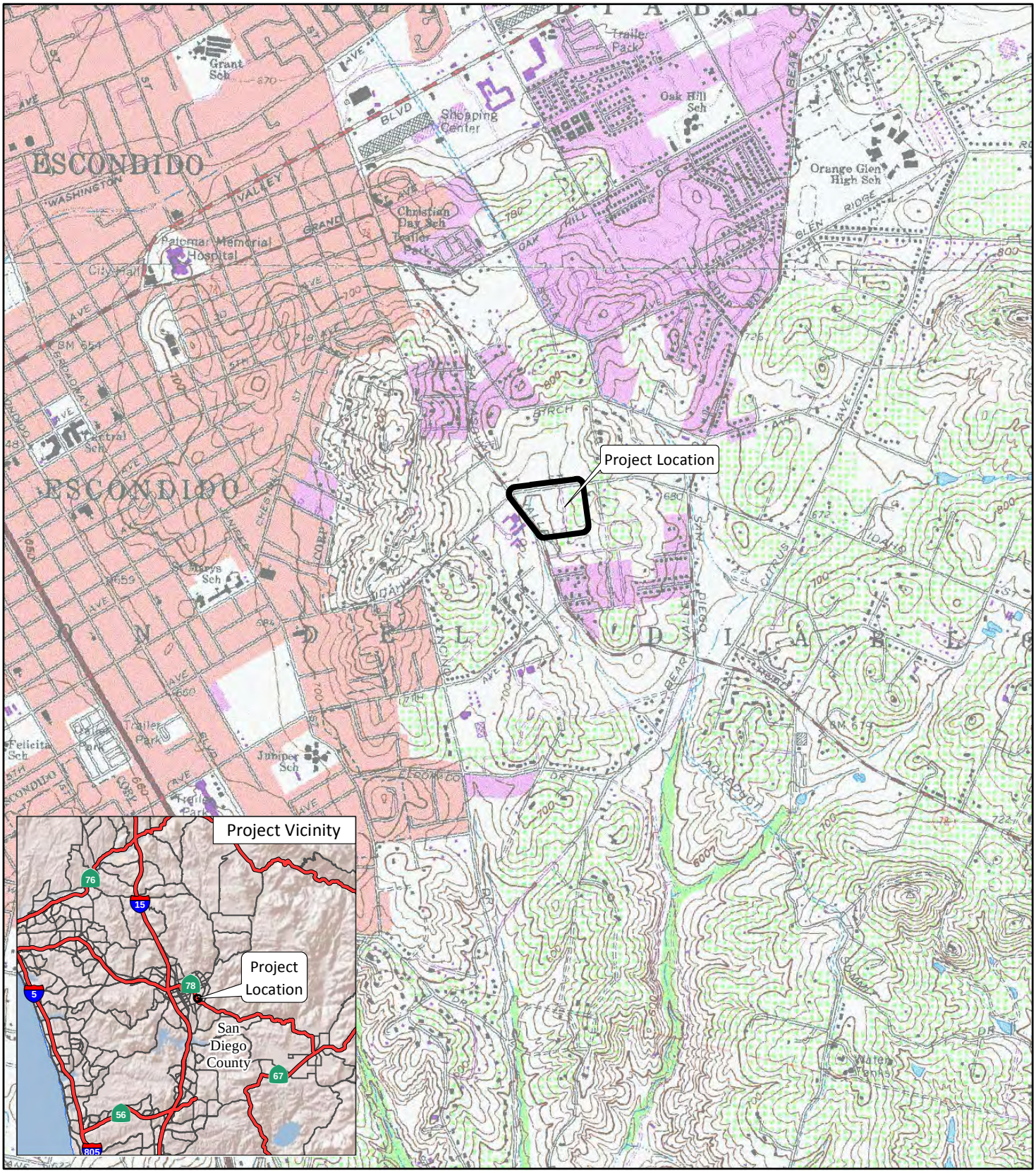
LSA conducted the following tasks to assess impacts to biological resources that may result from the proposed project:

Literature and Database Review

Prior to the general biological resources survey, LSA Senior Biologist Jaime Morales conducted a database records search to identify the previously recorded existence or potential occurrence of special-status biological resources (e.g., plant and animal species, and vegetation communities) within or in the vicinity of the BSA. Special-status species potentially relevant to the project are those that are federally and/or State-listed, proposed for listing, or candidate species for designation as threatened or endangered; species listed as species of concern by the CDFW Special Animals List (CDFW 2018) and the Special Vascular Plants, Bryophytes, and Lichens List (CDFW 2019); plants with a California Rare Plant Ranking (CRPR) by the California Native Plant Society (CNPS); and plants or animals on the San Diego County Multiple Species Conservation Program (MSCP) Covered Species List (MSCP 2008).

LSA reviewed the following databases:

- The California Natural Diversity Data Base information (Version 5.2.14, November 2018), which is administered by the CDFW. This database includes special-status plant and animal species, as well as special-status natural communities that occur in California. LSA reviewed species information within the United States Geological Survey (USGS) 7.5-minute *Escondido, California* quadrangle.



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LEGEND

Project Boundary/APN 234-321-01

FIGURE 1

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SOURCE: USGS 7.5' Quad - Escondido (1975), CA

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Escondido Estates Project

Project Location

- The CNPS Online Inventory of Rare and Endangered Plants of California (Version 8-03, November 2018, CNPS Inventory). LSA reviewed species information within the USGS 7.5-minute *Escondido, California* quadrangle.
- The United States Fish and Wildlife Service (USFWS) Carlsbad Fish and Wildlife Office Species Occurrence Data.

General Biological Resources Survey

Mr. Morales performed a general biological resources survey on November 28, 2018, from 1400 to 1600 hours, by walking the entire project site and accessible portions of the additional County-required 100-foot buffer within adjoining properties. Inaccessible areas within the buffer were visually surveyed from the nearest accessible vantage points or by using a field map containing a 2018 aerial photograph base at a scale of 1 inch = 200 feet. The survey included the following elements:

- Mapping of vegetation communities on an aerial photograph;
- A direct search for special-status plant species with potential to occur in the BSA;
- A general inventory of detected plant and wildlife species;
- An evaluation of habitat suitability for special-status resources identified during the literature search;
- Preliminary identification of areas that may be considered wetland and/or nonwetland waters of the United States, streambeds, banks, and associated riparian vegetation as defined by the CDFW, and County Resource Protection Ordinance (RPO) Wetlands; and
- Notes regarding other pertinent features or conditions of the site and adjacent lands.

Mr. Morales conducted a second field visit on December 13, 2018, to refine the vegetation/aquatic resource mapping along the western edge of the site and to dig test pits for soil analysis.

Mapped vegetation communities were digitized using geographic information system (GIS) software. Vegetation community categories use those described in the *Draft Vegetation Communities of San Diego County* (Oberbauer 2008) and plant nomenclature follows *The Jepson Manual: Higher Plants of California* (Hickman 1996). When possible, all plant species observed in the BSA were noted to species level and are listed in Attachment B.

All wildlife observed and sign detected (including tracks, scat, carcasses, burrows, excavations, and vocalizations) were recorded during each field visit and are listed in Attachment C. Additional survey time was spent in those habitats most likely to be used by wildlife or in habitats with the potential to support federally-and/or State- listed or proposed species. Notes were made on the general habitat types, species observed, and the conditions of the site.

Special-status plant and wildlife species and their potential to occur in the BSA are described in Attachment D.

Jurisdictional Delineation

Mr. Morales performed jurisdictional delineation fieldwork on November 4, 2019. Mr. Morales surveyed the BSA on foot and evaluated all areas of potential jurisdiction according to Corps, RWQCB, CDFW, and County criteria. Data were recorded directly on a field map containing a 2019 aerial photograph base at a scale of 1 inch = 200 feet.

LSA evaluated areas supporting hydrology or species of plant life potentially indicative of wetlands according to routine wetland delineation procedures described in the *Regional Supplement*. Representative sample points were selected and examined in the field in those areas where wetland jurisdiction was in question or needed to be confirmed. At each sample point, the dominant and subdominant plant species were identified and their wetland indicator status (Corps 2018) noted. When possible, a small sample pit (approximately 16 inches deep) was dug in order to examine soil characteristics and composition. Soil matrix colors were classified according to the Munsell Soil Color Charts (Munsell Color 2000). Hydrological conditions, including any surface inundation, saturated soils, groundwater levels, and/or other wetland hydrology indicators, were recorded. General site characteristics were also noted. Standard data forms were completed for each sample point.

San Diego County Resource Protection Ordinance (RPO) Wetlands

The County restricts, to varying degrees, impacts to various natural resources including wetlands. According to Section 86.602 of the San Diego County Code of Regulatory Ordinances, a wetland is defined as land having one or more of the following attributes:

- At least periodically, the land supports a predominance of hydrophytic plant species;
- The substratum is predominantly undrained hydric soil; or
- An ephemeral or perennial stream is present, whose substratum is predominantly non-soil and such lands contribute substantially to the biological functions or values of wetlands in the drainage system.

The following shall not be considered RPO wetlands:

- Lands that have attributes specified above solely due to man-made structures (e.g., culverts, ditches, road crossings, or agricultural ponds), provided that the Director of Planning and Development Services determines that they have negligible biological function or value as wetlands, are small and geographically isolated from other wetland systems, are not vernal pools, and do not have substantial or locally important populations of wetland-dependent sensitive species.
- Lands that have been degraded by past legal land disturbance activities, to the point that the Director of Planning and Development Services determines that they have negligible biological function or value as wetlands even if restored to the extent feasible and do not have substantial or locally important populations of wetland-dependent sensitive species.

The results of the jurisdictional delineation are presented in a report titled *Jurisdictional Delineation Report: Escondido Estates Project, Near the City of Escondido, San Diego County, California* prepared by LSA (2021). A copy of the report is included as Attachment E.

REGIONAL CONTEXT

From a geographic perspective, the BSA is in an unsectioned portion of the Rincon del Diablo Land Grant on the USGS 7.5-minute *Escondido, California* quadrangle map. The BSA is within the South Coast subregion of the Southwestern California region of the California Floristic Province and within Watershed Hydrologic Unit 12: Lake Hodges-San Dieguito River.

The project is within the County's draft North County Multiple Species Conservation Program (NCMSCP) in land designated as outside the Pre-Approved Mitigation Area (PAMA).

HABITATS/VEGETATION COMMUNITIES

Table A presents the total vegetation communities acreages identified within the BSA, while Figure 2 shows the vegetation communities in the BSA on an aerial photograph.

Table A: Vegetation Communities within the BSA

Vegetation Communities	Acreage within the BSA
Nonnative Grassland	11.0
Walnut Woodland	0.4
Eucalyptus Woodland	0.9
Urban/Developed	4.8
Total Acres	**17.2**

BSA = Biological Study Area

According to the *County of San Diego Guidelines for Determining Significance and Report Format and Content Requirements* (Guidelines for Determining Significance), because nonnative grassland has the potential to support federally- and/or State-listed species, it is considered and RPO Sensitive Habitat. Additionally, per the County, walnut woodland is considered an RPO Sensitive Habitat because it is a unique vegetation community. The remaining vegetation communities within the BSA are of low biological value and are not considered RPO Sensitive Habitats; furthermore, they are not designated as sensitive by State or federal agencies and have low conservation value. The following sections describe each of the vegetation communities present within the BSA along with its numeric code found in the *Draft Vegetation Communities of San Diego County*.

Nonnative Grassland (42200)

Most of the BSA is vegetated by nonnative grassland composed of the following plant species: ripgut brome (*Bromus diandrus*), wild oat (*Avena fatua*), longbeak stork's bill (*Erodium botrys*), Russian thistle (*Salsola tragus*), short-pod mustard (*Hirschfeldia incana*), red brome (*Bromus madritensis* ssp. *rubens*), tree tobacco (*Nicotiana glauca*), and coyote brush (*Baccharis pilularis*). A few sparsely scattered coast live oak, blue elderberry (*Sambucus nigra* ssp. *caerulea*) trees occur at the eastern third of the BSA. These trees were either dead or struggling. A patch of Brazilian peppertrees and

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FIGURE 2

LEGEND

Project Boundary/
APN 234-321-01

Biological Study Area

Topographical Contours

*Biological Study Area includes a County-required 100-foot buffer

Vegetation Communities

Urban/Developed (4.83 Ac)

Eucalyptus Woodland (0.94 Ac)

Nonnative Grassland (10.99 Ac)

Walnut Woodland (0.40 Ac)

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Escondido Estates Project

Vegetation Communities

SOURCE: Nearmap (02/19/2019); IMG (6/20/2019)

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two struggling and isolated Southern California black walnut (*Juglans californica*) trees also occur in this area.

Walnut Woodland (71200)

Walnut woodland is present near the northwestern corner of the BSA. This vegetation community is composed primarily of native Southern California black walnut trees, with sparsely scattered coast live oak (*Quercus agrifolia*), Goodding's black willow (*Salix goodingii*), eucalyptus (*Eucalyptus* sp.), and Mexican fan palm (*Washingtonia robusta*) trees. The understory consists of the same nonnative annual herb species that occur within the nonnative grassland. Southern California black walnut is considered a List D species according to the Guidelines for Determining Significance. List D includes plants that have a limited distribution and are uncommon, but not presently rare or endangered.

Eucalyptus Woodland (79100)

Eucalyptus woodland is present at the southwestern corner of the BSA and along the west side of San Pasqual Valley Road. This vegetation community is composed entirely of eucalyptus trees on the west side of San Pasqual Valley Road and a mix of eucalyptus trees and, to a lesser extent, coast live oak trees east of San Pasqual Valley Road. The understory consists of leaf litter.

Urban/Developed Land (12000)

Developed land within the BSA refers to paved roads and irrigated landscaping.

SPECIAL-STATUS SPECIES

Table B lists criteria for evaluating special-status plant and wildlife species potential for occurrence. Attachment D contains a table naming the special-status plant and wildlife species with the potential to occur in the BSA and/or the project vicinity (up to 2 miles). The table in Attachment D includes sensitive species from a comprehensive list contained in a biological resources scoping attachment to a major pre-application scoping letter provided by the County for another nearby project.

Table B: Criteria for Evaluating Special-Status Plant and Wildlife Species Potential for Occurrence

PFO	Criteria
Not Expected	Species is restricted to habitats or environmental conditions that do not occur in the study area.
Low	Historical records for this species do not exist in the study area, and/or habitats or environmental conditions needed to support the species are of poor quality.
Moderate	Either a historical record exists of the species in the study area and marginal habitat exists in the proposed work areas or the habitat requirements or environmental conditions associated with the species occur in the proposed work areas, but no historical records exist in the study area.
High	Both a historical record exists of the species and the habitat requirements and environmental conditions associated with the species occur in the study area.
Present	Species was detected in or near the study area during project surveys.

PFO = potential for occurrence

Special-Status Plants

Based on the results of the database records search of a 2-mile radius around the BSA and observations made during the general biological resources survey, no special-status plant species have a moderate or higher potential to occur within the BSA.

No special-status plant species were observed during the general biological resources survey.

Special-Status Wildlife

Based on the results of the database records search of a 2-mile radius around the BSA and observations made during the general biological resources survey, the following special-status wildlife species have a moderate potential to occur within the BSA: Cooper's hawk, sharp-shinned hawk, red-shouldered hawk, turkey vulture, common barn owl, and pallid bat.

Cooper's hawk is a County Group 1 species that has a moderate probability of nesting and foraging within the BSA. Although no CNDDB occurrences of this species were identified within 2 miles of the BSA and this species was not observed during the biological survey, suitable nesting and foraging habitat (woodland and grassland, respectively) was present within the BSA and this species was reported in the San Diego Bird Atlas square that includes the BSA (Unitt 2004).

Sharp-shinned hawk is a County Group 1 species and a California Species of Special Concern Watch List species that has moderate probability of nesting and foraging within the BSA. Although no CNDDB occurrences of this species were identified within 2 miles of the BSA and this species was not observed during the biological survey, suitable nesting and foraging habitat (woodland and grassland, respectively) was present within the BSA and this species was reported in the San Diego Bird Atlas square that includes the BSA (Unitt 2004).

Red-shouldered hawk is not a special-status species as far as the federal and State governments are concerned; however, because this species was included on a County-provided list of sensitive species to be reviewed for potential to occur within the study area for another nearby project, LSA included it in its special-status species analysis. Although this County Group 1 species was not observed during the biological survey, it has a moderate probability to occur within the BSA because it was reported in the San Diego Bird Atlas square that includes the BSA (Unitt 2004) and suitable nesting and foraging habitats (eucalyptus woodland and grassland, respectively) were present within the BSA.

Turkey vulture is not a special-status species as far as the federal and State governments are concerned; however, because this species was included on a County-provided list of sensitive species to be reviewed for potential to occur within the study area for another nearby project, LSA included it in its special-status species analysis. Although this County Group 1 species was not observed during the biological survey, it has a moderate probability to occur within the BSA because it was reported in the San Diego Bird Atlas square that includes the BSA and suitable foraging habitat (grassland) was present within the BSA.

Common barn owl is not a special-status species as far as the federal and State governments are concerned; however, because this species was included on a County-provided list of sensitive

species to be reviewed for potential to occur within the study area for another nearby project, LSA included it in its special-status species analysis. Although this County Group 2 species was not observed during the biological survey, it has a moderate probability to occur within the BSA because it was reported in the San Diego Bird Atlas square that includes the BSA and suitable nesting and foraging habitats (woodland and grassland, respectively) were present within the BSA.

Pallid bat is a County Group 2 species and a California Species of Special Concern that has moderate probability of roosting within the BSA. Although this species was not observed during the biological survey, suitable night roosting habitat (woodland) was present within the BSA and there is a CNDDB occurrence within 1 mile of the BSA.

No special-status animal species were observed during the general biological resources survey.

California ground squirrel (*Otospermophilus beecheyi*) burrows were observed throughout the site. No large mammals were observed, although there is the potential for coyote (*Canis latrans*) to occur within the BSA. Migratory birds have the potential to forage and nest in vegetation within the BSA, but substantial use by special-status birds is not expected. Raptors, in addition to those listed above, have the potential to forage within the BSA and to nest in trees within the BSA.

Critical Habitat

Multiple critical habitat polygons for coastal California gnatcatcher (*Polioptila californica californica*) were identified within a 2-mile radius of the BSA, the closest one is 1.34 miles southwest of the BSA. Additionally, one critical habitat polygon for arroyo toad (*Anaxyrus californicus*) is 2.25 miles southeast of the BSA. No suitable habitat for coastal California gnatcatcher or arroyo toad was present within the BSA.

JURISDICTIONAL WETLANDS AND WATERWAYS

The BSA contains sections of four ephemeral drainage features potentially subject to regulation by resource agencies as shown in the aerial photograph in Figure 3. The following subsections describe each drainage feature as observed during the jurisdictional delineation fieldwork.

LSA examined vegetation and hydrology within and adjacent to the drainage features. LSA performed a sample point in the walnut woodland south of Feature 1, as this was the area most likely to contain hydric soils based on physical conditions suitable to ponding, to determine whether or not this section contained hydric soils. LSA also studied current and historic aerial images and performed a visual inspection of areas downstream of the BSA

Functions and values for these drainage features were determined to have low significance in terms of resources.

Feature 1

Feature 1 consists of a small section of earthen ephemeral drainage near the northwestern corner of the BSA. Storm water sheet flows (no discernable drainage feature) from the property north of the project site are conveyed via a culvert under Idaho Avenue into Feature 1. This feature also receives

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LEGEND

Project Boundary/
APN 234-321-01

Biological Study Area

Topographical Contours

*Biological Study Area includes a County-required 100-foot buffer

Aquatic Resources

CDFW Jurisdictional Streambed, Banks, and Associated Habitat (0.10 acre)

Non-Wetland Waters of the State (0.10 acre)

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FIGURE 3

Escondido Estates Project

Aquatic Resources

SOURCE: Nearmap (02/19/2019); IMG (6/20/2019)

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runoff of storm water flows from Idaho Avenue and on-site sheet flows from the west and east, as the elevation within this feature, and the western edge in general, is the lowest. This feature has a defined streambed and banks (approximately 2 feet wide) and a 1.5-foot wide OHWM and is entirely vegetated by nonnative grassland dominated by ripgut brome (*Bromus diandrus*) and Russian thistle (*Salsola tragus*). The southern end of this short feature ends near the northern edge of the property boundary, as the defined streambed and banks gradually become less noticeable until the drainage is no longer evident before reaching the area mapped as walnut woodland. The area vegetated by walnut woodland does not display a defined streambed and banks or a discernable OHWM; however, it is assumed that storm water sheet flows are conveyed through this area and into Feature 2. Because the area mapped as walnut woodland does not display a defined streambed and banks, a discernable OHWM, or a predominance of hydrophytic vegetation, it is considered an upland area. Furthermore, LSA analyzed soils within the walnut woodland for hydric soil indicators. None were observed; therefore, the soils in this area are not hydric. The soils in the BSA are sandy loam in texture and have a moderate capacity to drain. This fact, in conjunction with the relatively low amount of water entering the site, has precluded the development of hydric soils.

Although Feature 1 ends at the northern edge of the BSA, flows conveyed by this feature continue southward via sheet flows into Feature 2, which then conveys flows to a culvert and into Feature 4. Flows within Feature 4 then continue in a southerly direction off site along a system of earthen roadside drainages and underground pipes into Lake Hodges and then into Lusardi Creek and ultimately into the Pacific Ocean, a TNW. Although this feature displays an OHWM and has a direct connection to a TNW, pursuant to current regulations and a June 19, 2020, court order (United States District Court Northern District of California, 2020), the Corps no longer regulates nonwetland ephemeral drainage features. The streambed and banks associated with this feature are potentially subject to CDFW and RWQCB (nonwetland waters of the State) jurisdiction. Because Feature 1 does not contain a predominance of hydrophytic vegetation and because its substratum consists of non-hydric soils, it does not meet the definition of County RPO wetlands.

Feature 2

Feature 2 consists of an ephemeral earthen drainage near the southwestern corner of the BSA. Storm water sheet flows from throughout the site into this feature, as it is in the lowest part of the property. Feature 2 has a defined streambed and banks (approximately 3.5 feet wide) and a 3-foot wide OHWM. This feature is within and surrounded by eucalyptus woodland dominated by eucalyptus trees (*Eucalyptus* spp.) with scattered coast live oak (*Quercus agrifolia*) trees. The allelopathic properties of eucalyptus tree leaf litter and root exudates prevent the growth of vegetation within the drainage. This feature conveys flows in a southeasterly direction into a concrete drainage inlet, which then conveys flows through a culvert pipe under San Pasqual Valley Road to a drainage outlet that connects to Feature 4.

Feature 2 conveys flows to a culvert and into Feature 4, which then conveys flows off site in a southerly direction along a system of earthen roadside drainages and underground pipes into Lake Hodges and then into Lusardi Creek and ultimately into the Pacific Ocean, a TNW. Although this feature displays an OHWM and has a direct connection to a TNW, pursuant to current regulations and a June 19, 2020, court order (United States District Court Northern District of California, 2020), the Corps no longer regulates nonwetland ephemeral drainage features. The streambed and banks

associated with this feature are potentially subject to CDFW and RWQCB (nonwetland waters of the State) jurisdiction. Because Feature 2 does not contain a predominance of hydrophytic vegetation and because its substratum consists of non-hydric soils, it does not meet the definition of County RPO wetlands.

Feature 3

Feature 3 consists of a vegetated swale at the southeastern corner of the BSA. Storm water and irrigation flows exit the southwestern corner of the adjacent residence (1131 Idaho Avenue) via a small-diameter polyvinyl chloride (PVC) pipe culvert and enter the swale, which then conveys flows in a westerly direction for approximately 150 feet. This feature displays a streambed and banks of varying width (1 to 3 feet), an approximately 1-foot wide OHWM, and is entirely vegetated by nonnative grassland dominated by ripgut brome and red brome (*Bromus madritensis* ssp. *rubens*). Evidence of flow is characterized by an approximately 6-inch wide swath of lower density vegetation along the center of the feature. The feature ends as the streambed and banks gradually become less noticeable until the drainage is no longer evident. Sheet flows continue west of Feature 3 toward Feature 2.

Although Feature 3 displays a subtle OHWM, it does not appear in historic aerial photographs and looks to have been constructed in uplands to capture and channelize residential runoff. Therefore, Feature 3 would not be subject to regulation by the Corps pursuant to the CWA. The streambed and banks of this feature are potentially subject to CDFW and RWQCB (nonwetland waters of the State) jurisdiction. Because Feature 3 exists solely due to runoff water conveyed from a PVC pipe from and adjacent residence; because it does not contain a predominance of hydrophytic vegetation, and because its substratum consists of non-hydric soils, it does not meet the definition of County RPO wetlands.

Feature 4

Feature 4 consists of an ephemeral earthen drainage along the western edge of the BSA. An outlet pipe near the southwestern corner of the intersection of Idaho Avenue and San Pasqual Valley Road discharges storm water and runoff flows into this feature. Within the BSA, this feature continues for approximately 600 feet in a southeasterly direction until it converges with the drainage outlet associated with Feature 2. Flows continue off site within Feature 4 southward along the west side of San Pasqual Valley Road. Feature 4 has a defined streambed and banks (approximately 4 feet wide) and a 3.5-foot wide OHWM. This feature is east of and under the canopy of eucalyptus woodland dominated by eucalyptus trees. The allelopathic properties of eucalyptus tree leaf litter and root exudates prevent the growth of vegetation along the western bank and bed of the drainage, and the eastern bank is vegetated by nonnative grassland dominated by Russian thistle, wild oat (*Avena fatua*), ripgut brome, red brome, and short-pod mustard (*Hirschfeldia incana*).

Feature 4 conveys flows off site in a southerly direction along a system of earthen roadside drainages and underground pipes into Lake Hodges and then into Lusardi Creek and ultimately into the Pacific Ocean, a TNW. Although this feature displays an OHWM and has a direct connection to a TNW, pursuant to current regulations and a June 19, 2020, court order (United States District Court Northern District of California, 2020), the Corps no longer regulates nonwetland ephemeral drainage features. The streambed and banks associated with this feature are potentially subject to CDFW and

RWQCB (nonwetland waters of the State) jurisdiction. Because Feature 4 does not contain a predominance of hydrophytic vegetation and because its substratum consists of non-hydric soils, it does not meet the definition of County RPO wetlands.

Potential Corps Jurisdiction

Although the ephemeral drainages within the BSA display visible OHWMs and have a direct connection to the Pacific Ocean, pursuant to current regulations and a June 19, 2020, court order (United States District Court Northern District of California, 2020), the Corps no longer regulates nonwetland ephemeral drainage features.

Potential RWQCB Jurisdiction

Features 1 through 4 are nonwetland waters of the State subject to the jurisdiction of the RWQCB. Table C displays the acreages of waters of the State present within the BSA.

Table C: Potential Waters of the State within the BSA

Feature	Linear Feet	Wetland Waters (acres)	Nonwetland Waters (acres)
1	34	—	0.007
2	307	—	0.025
3	184	—	0.008
4	671	—	0.062
Total[1]	**1,196**	—	**0.099**

[1] Total may not equal sum due to rounding.
BSA = Biological Study Area

Potential CDFW Jurisdiction

All of the areas satisfying the RWQCB jurisdictional criteria for waters of the State, as described above, are also potentially subject to CDFW jurisdiction, pursuant to Section 1602 of the California Fish and Game Code. Table D displays the acreage of potential CDFW jurisdiction present within the BSA.

Table D: Potential CDFW Jurisdiction within the BSA

Feature	Streambed/Banks (acres)
1	0.007
2	0.025
3	0.008
4	0.062
Total	**0.099**

CDFW = California Department of Fish and Wildlife
BSA = Biological Study Area

San Diego County RPO Wetlands

The BSA does not contain RPO wetlands, as the features onsite do not meet any of the following criteria:

- At least periodically, the land supports a predominance of hydrophytes. The site does not contain a predominance of hydrophytes.
- The substratum is predominantly undrained hydric soil. The substratum of the onsite features is not predominantly undrained hydric soil.
- An ephemeral or perennial stream is present, whose substratum is predominately non-soil and such lands contribute substantially to the biological functions or values of wetlands in the drainage system. An ephemeral or perennial stream whose substratum is predominately non-soil is not present onsite.

OTHER UNIQUE FEATURES/RESOURCES

Although the BSA is undeveloped, it is surrounded by residential development and busy roads that restrict wildlife movement to wildlife corridors, linkages to nearby open spaces, or riparian corridors. The western edge of the BSA contains a narrow corridor for wildlife migration that connects to a riparian corridor south of the BSA; however, wildlife must cross San Pasqual Valley Road to access it and, because the corridor is vegetated by eucalyptus trees, it does not provide adequate cover for wildlife migration during the day or when vehicular/human activity is high. As such, the BSA provides minimal function as a wildlife corridor or linkage.

SIGNIFICANCE OF PROJECT IMPACTS AND PROPOSED MITIGATION

Construction of this proposed project would result in permanent loss of nonnative grassland, eucalyptus woodland, walnut woodland, and developed land. Permanent loss includes long-term impacts associated with permanent features such as, but not limited to, housing units, roads, and landscaping.

Direct impacts to nonnative grassland, eucalyptus woodland, and walnut woodland will result from permanent clearing of vegetation. It is anticipated that any wildlife within the project site will be displaced. Direct impacts to currently developed land will result from construction of the proposed housing units and infrastructure.

Indirect impacts to adjacent areas may result from noise and dust and vibration generated by construction-related activities, which have the potential to disturb on-site and nearby wildlife and, in the case of dust, vegetation. Additionally, while not anticipated, if construction is performed at night, lighting has the potential to indirectly affect wildlife.

The project proposes to preserve an approximately 1.3-acre area vegetated primarily by walnut woodland and nonnative grassland at the northwestern corner of the project site. Unison will establish an open space easement to protect this area in perpetuity. The project design includes a

County Fire Authority-approved 30-foot-wide Limited Building Zone from the edge of the proposed open space. Opens space boundary fencing and signpost locations are provided in Figures 4 and 5.

Vegetation Communities

Figure 4 is an aerial photograph depicting the anticipated impacts to vegetation communities within the BSA. Table E outlines the expected mitigation for permanent impacts to each vegetation community type resulting from project-related activities.

Table E: Anticipated Mitigation for Permanent Impacts to Vegetation Communities

Vegetation Community	Existing Area within Project Boundary (acres)*	Impact Area (acres)	Mitigation Ratio	Mitigation Required (acres)	Area Preserved On Site (acres)	Off-Site Mitigation (acres)
Nonnative Grassland	9.9	9.1	0.5:1	4.6	0.8	4.6
Walnut Woodland	0.4	0.0	3:1	0.1	0.4	—
Eucalyptus Woodland	0.4	0.3	NA	0.0	0.2	—
Urban/ Developed	—	0.0	NA	0.0	—	—
Total	**10.7**	**9.4**		**4.7**	**1.3**	**4.6**

* Existing area within the project boundary does not include the additional 100-foot buffer required by the County.
** All values were rounded to the nearest tenth.

Per the Guidelines for Determining Significance, permanent impacts to eucalyptus woodland and urban/developed land do not require mitigation. Unison proposes to mitigate for impacts to nonnative grassland by purchasing 4.6 acres of grasslands at an off-site mitigation bank. Impacts to walnut woodland were 0.035 acre. Application of a 3:1 mitigation to impact ratio yields a 0.1 acre mitigation requirement that will be accomplished through on-site preservation.

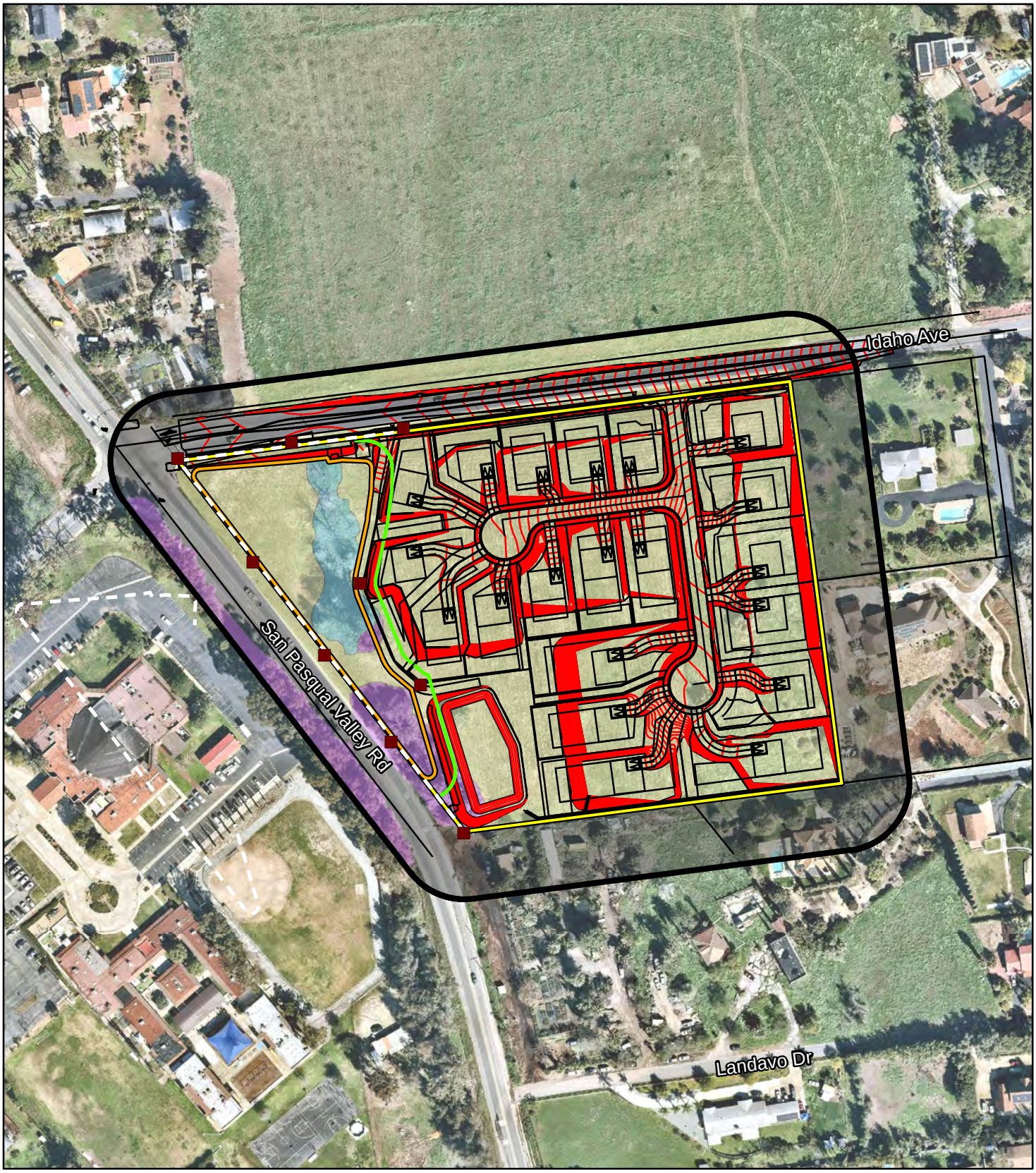
Special-Status Plant Species

Based on the results from the database records search, the absence of suitable habitat on site, and because no special-status plant species were observed during the general biological resources survey, special-status plant species are not expected to be affected by project-related activities.

Special-Status Wildlife Species

Special-Status Bird Species and Nesting Birds

Although no special-status bird species were observed during the general biological resources survey, Cooper's hawk, sharp-shinned hawk, red-shouldered hawk, turkey vulture, and common barn owl have a moderate potential to occur within the BSA based on the presence of suitable habitat within the BSA and known occurrences in the San Diego Bird Atlas square that includes the BSA (Unitt 2004).



LSA

FIGURE 4

LEGEND

Project Boundary/ APN 234-321-01

Biological Study Area*

Proposed Open Space Fencing**

Proposed Open Space Signposts

*Biological Study Area includes a County-required 100-foot buffer

Site Plan (1/2021)

Proposed Open Space

Setbacks and Boundaries

Grading Contours

Limited Building Zone (LBZ)

**Fencing is not needed around the eastern side of the proposed open space because it will be protected by the proposed development's exterior wall

Vegetation Communities

Urban/Developed

Eucalyptus Woodland

Nonnative Grassland

Walnut Woodland

N

0 100 200

FEET

SOURCE: Nearmap (02/19/2019); IMG (1/13/2021)

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Escondido Estates Project

Vegetation Communities Impacts

Temporary and permanent impacts to foraging and nesting habitat for these species and other bird species that are not considered special-status, but are protected by the California Fish and Game Code and the Migratory Bird Treaty Act, are expected to occur. If project-related activities are conducted during the typical bird breeding season (February 1 through August 31), these activities could affect individual birds, breeding activities, and active nests directly or indirectly (e.g., noise and fugitive dust).

Section 3503.5 of the California Fish and Game Code states that "It is unlawful to take, possess, or destroy any birds in the orders Falconiformes or Strigiformes (birds of prey) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation adopted thereto." To comply with this law, LSA recommends that a qualified biologist perform a pre-construction nesting bird survey in suitable nesting habitat prior to the commencement of construction to avoid impacts to nesting birds. The contractor should create and implement a plan to minimize fugitive dust, which will reduce indirect impacts to birds. If active bird nests are identified during the pre-construction nesting bird survey, then a qualified biologist should establish an adequate buffer zone in which construction activities are prohibited until the nest is no longer active. If the species is federally or State-listed as threatened or endangered, then consultation with the USFWS and CDFW will be required for direction on appropriate buffer zone radius. If the species is not federally or State-listed as threatened or endangered, then the size of the buffer zone will be determined by the qualified biologist based on the amount, intensity, and duration of construction, and can be altered based on site conditions.

Special-Status Mammal Species

Although no special-status mammal species were observed during the biological resources survey, pallid bat has a moderate potential to occur within the BSA based on the presence of the suitable habitat and known occurrences within a 2-mile radius of the BSA. Clearing/disturbance of trees within the BSA has the potential to affect this species directly through the loss of suitable roosting habitat. Furthermore, this species could be affected indirectly by impacts associated with activities that generate high amounts of vibration, noise, or possible night lighting.

LSA recommends that a qualified biologist perform a pre-construction bat survey in suitable roosting habitat prior to the commencement of construction to avoid impacts to foliage-roosting bats. If special-status bats are identified during the pre-construction survey, then a qualified biologist should establish an adequate buffer zone in which construction activities are prohibited until the bats can be evicted. Removal of special-status bats will require consultation with the CDFW.

Aquatic Resources

Figure 5 is an aerial photograph depicting the anticipated impacts to aquatic resources within the BSA. Tables F and G outline the expected mitigation for impacts to aquatic resources resulting from project-related activities.

Table F: Anticipated Mitigation for Impacts to Potential Waters of the State

Feature	Linear Feet	Wetland Waters of the State (acres)	Nonwetland Waters of the State (acres)	Total Water of the State (acres)	Anticipated Mitigation Ratio (acres)	Anticipated Mitigation Required (acres)
1	34	—	0.007	0.007	2:1	0.014
2	230	—	0.017	0.017	2:1	0.034
3	—	—	—	—	—	—
4	—	—	—	—	—	—
Total	**264**	—	**0.024**	**0.024**	**2:1**	**0.048**

Table G: Anticipated Mitigation for Impacts to Potential CDFW Jurisdiction

Feature	Streambed/Banks (acres)	Anticipated Mitigation Ratio (acres)	Anticipated Mitigation Required (acres)
1	0.007	2:1	0.014
2	0.017	2:1	0.034
3	—	—	—
4	—	—	—
Total	**0.024**	**2:1**	**0.048**

CDFW = California Department of Fish and Wildlife

The project team and County staff members Hunter McDonald and Kendalyn White met virtually with Kelly Fisher (CDFW); Mike Porter and Alan Monji (RWQCB); and Max Roseman (Corps) to discuss the project and the proposed impacts. The resource agencies will likely require the following permits: enrollment in the State Water Resources Control Board Statewide General Waste Discharge Requirements and a CDFW Streambed Alteration Agreement. By meeting the mitigation acreage requirement for impacts to waters of the State or CDFW jurisdiction, the project will meet the mitigation requirements for both relevant agencies (CDFW and RWQCB). Unison proposes to mitigate for impacts to aquatic resources by purchasing off-site mitigation bank credits.

CUMULATIVE IMPACTS

The cumulative study area includes the the BSA, as well as portions of lands within the City of Escondido's Multiple Habitat Conservation Program (MHCP) Subarea Plan to the west and lands within the City of San Diego's MSCP Subarea Plan to the east. The purpose of these habitat conservation programs is to take a broad-based ecosystem approach to planning for the protection and perpetuation of biological diversity, which is the most appropriate way to assess and address the potential cumulative impacts stemming from multiple projects in the same geographic area.

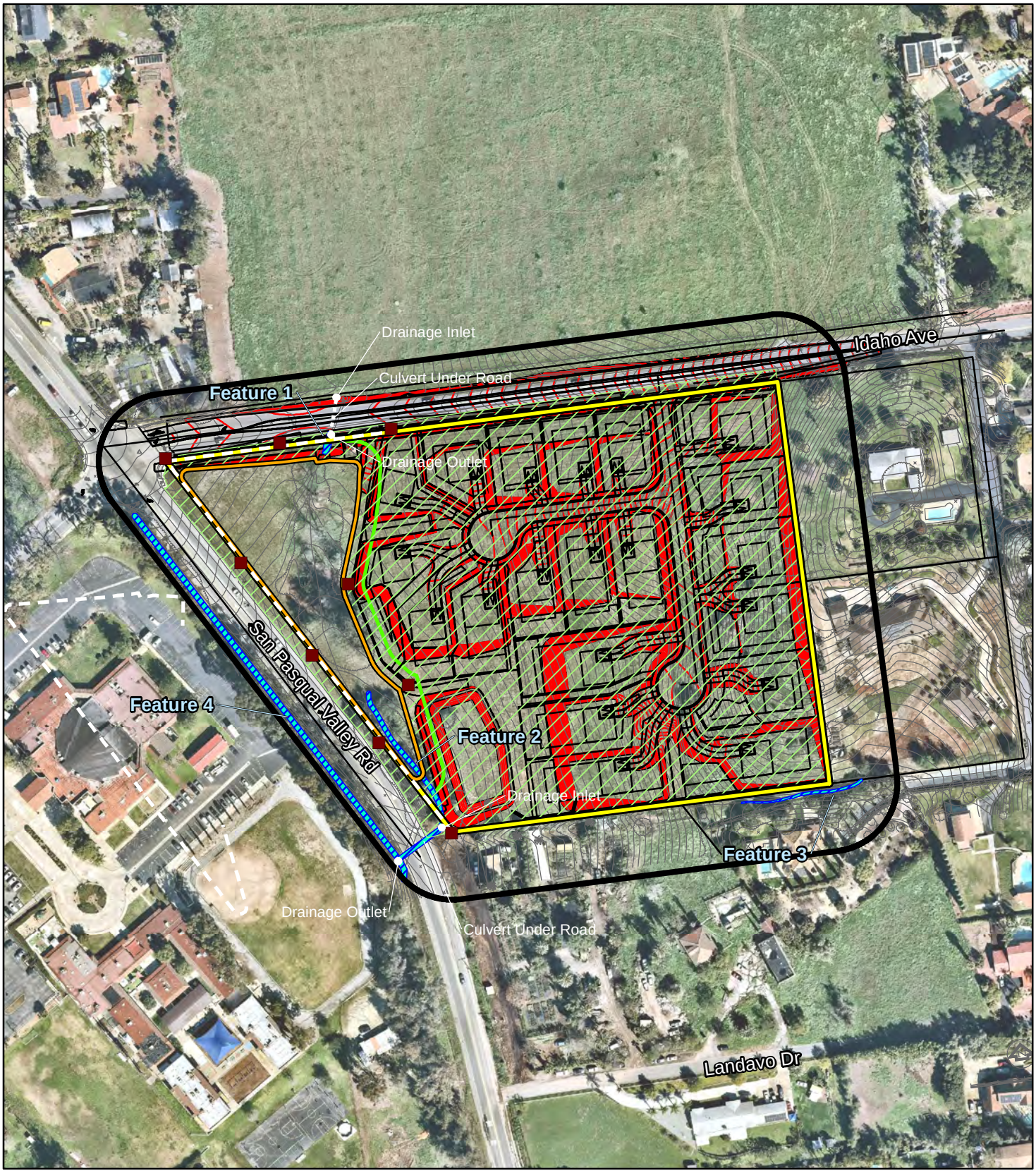

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FIGURE 5

Project Boundary/
APN 234-321-01

Biological Study Area

Permanent Impact Area

Proposed Open Space Fencing**

Proposed Open Space Signposts

*Biological Study Area includes a County-required 100-foot buffer

Site Plan (1/2021)

Proposed Open Space

Setbacks and Boundaries

Grading Contours

Limited Building Zone (LBZ)

Aquatic Resources

CDFW Jurisdictional Streambed, Banks, and Associated Habitat

Non-Wetland Waters of the State

**Fencing is not needed around the eastern side of the proposed open space because it will be protected by the proposed development's exterior wall

N

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FEET

Escondido Estates Project

Aquatic Resources Impacts

SOURCE: Nearmap (02/19/2019); IMG (1/13/2021)

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These programs focus on the long-term stability of wildlife and plant communities and include key interests in the process. These programs identify and provide for the regional protection of plants, animals, and their habitats while allowing compatible and appropriate economic activity. Potential impacts to sensitive habitats and associated species have been addressed in a regional context through these programs.

Although, the project will directly and permanently affect nonnative grassland and aquatic resources at the project site, these impacts will be addressed through compliance with the Guidelines for Determining Significance and resource agency requirements, and mitigated through the purchase of off-site mitigation bank credits. Furthermore, special-status plant and wildlife species are not expected to be cumulatively affected by project-related activities because avoidance and minimization mitigation measures will be implemented. Through mitigation in compliance with the Guidelines for Determining Significance, the project will offset cumulative impacts to a less than significant level.

Pending and future projects will also be required to comply with the regional habitat conservation programs, such as the County MSCP, which will address project-specific impacts and appropriate mitigation to offset cumulative impacts to a less than significant level.

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ATTACHMENTS

A. Site Photographs

B. Vascular Plant Species Observed

C. Wildlife Species Observed

D. Special-Status Species Summary Table

E. Jurisdictional Delineation Report

ATTACHMENT A:

SITE PHOTOGRAPHS

Photograph 1: View of the western edge of the BSA, facing south. San Pasqual Valley Road in the background.

Photograph 2: View of the BSA from the northwestern corner of the site, facing southeast.

Photograph 3: View of the northern edge of the BSA facing northeast. Idaho Avenue in the background.

Photograph 4: View from the eastern edge of the BSA, facing southwest.

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Attachment A

Escondido Estates Project
Site Photographs

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Photograph 5: View of the eastern portion of the BSA, facing northeast.

Photograph 6: View of the northern half of the BSA, facing northwest.

Photograph 7: View of Drainage Feature 1, facing west.

Photograph 8: The culvert outlet, south of Idaho Avenue, associated with Drainage Feature 1, facing northeast.

Photograph 9: View upstream of Drainage Feature 1, facing north. Idaho Avenue is in the foreground.

Photograph 10: View of walnut woodland north of Drainage Feature 2, facing north.

Photograph 11: Upstream end of Drainage Feature 2, facing south. Beginning of streambed, banks, and OHWM.

Photograph 12: Drainage Feature 2, facing northwest.

LSA

Attachment A

Escondido Estates Project
Site Photographs

Photograph 13: Downstream end of Drainage Feature 2, facing west. Flows continue under San Pasqual Valley Road and into Drainage Feature 4.

Photograph 14: Source of flows (irrigation runoff from adjacent residence) for Drainage Feature 3, facing northeast.

Photograph 15: View of Drainage Feature 3, facing west.

Photograph 16: View of Drainage Feature 4 (parallel to San Pasqual Valley Road) and the culvert that conveys flows from Drainage Feature 2, facing north.

ATTACHMENT B:

VASCULAR PLANT SPECIES OBSERVED

The following vascular plant species were observed within the BSA by LSA during the general biological resources survey performed on November 28, 2018.

Vascular Plant Species Observed

Scientific Name	Common Name
Adoxaceae	**Muskroot family**
Sambucus nigra ssp. *caerulea*	Blue elderberry
Anacardiaceae	**Sumac family**
Schinus terebinthifolius (nonnative species)	Brazilian peppertree
Asteraceae	**Sunflower family**
Baccharis pilularis	Coyote brush
Brassicaceae	**Mustard family**
Hirschfeldia incana (nonnative species)	Shortpod mustard
Chenopodiaceae	**Saltbush family**
Salsola tragus (nonnative species)	Russian thistle
Fagaceae	**Beech family**
Quercus agrifolia	Coast live oak
Geraniaceae	**Geranium family**
Erodium botrys (nonnative species)	Longbeak stork's bill
Juglandaceae	**Walnut family**
Juglans californica	Southern California black walnut
Myrtaceae	**Myrtle family**
Eucalyptus sp. (nonnative species)	Eucalyptus
Salicaceae	**Willow family**
Salix gooddingii	Goodding's willow
Solanaceae	**Nightshade family**
Nicotiana glauca (nonnative species)	Tree tobacco
Arecaceae	**Palm family**
Washingtonia robusta (nonnative species)	Mexican fan palm
Poaceae	**Grass family**
Avena fatua (nonnative species)	Wild oat
Bromus diandrus (nonnative species)	Ripgut brome
Bromus madritensis ssp. *rubens* (nonnative species)	Red brome

Vascular Plant Species Observed

Scientific Name	Common Name

Taxonomy and scientific nomenclature generally conform to Hickman (1993). Common names for each taxa generally conform to the Checklist of the Vascular Plants of San Diego County (Simpson and Rebman 2006).

ATTACHMENT C:

WILDLIFE SPECIES OBSERVED

This is a list of the conspicuous aerial insects, reptiles, birds, and mammals noted in or adjacent to the BSA by LSA during the general biological resources survey performed on November 28, 2018. Presence may be noted if a species is seen or heard, or identified by the presence of tracks, scat, or other signs.

Wildlife Species Observed

Scientific Name	Common Name
AVES	**BIRDS**
Accipitridae	**Kites, Hawks, and Eagles**
Buteo jamaicensis	Red-tailed hawk
Columbidae	**Pigeons and Doves**
Zenaida macroura	Mourning dove
Tyrannidae	**Tyrant Flycatchers**
Sayornis nigricans	Black phoebe
Sayornis saya	Say's phoebe
Trochilidae	**Hummingbirds**
Calypte anna	Anna's hummingbird
Corvidae	**Crows and Ravens**
Corvus brachyrhynchos	American crow
Timaliidae	**Babblers**
Chamaea fasciata	Wrentit
Mimidae	**Mockingbirds and Thrashers**
Mimus polyglottos	Northern mockingbird
Emberizidae	**Buntings and New World Sparrows**
Melospiza melodia	Song sparrow
MAMMALIA	**MAMMALS**
Leporidae	**Rabbits and Hares**
Sylvilagus audubonii	Desert cottontail
Rodentia	**Rodents**
Otospermophilus beecheyi	California ground squirrel

Wildlife Species Observed

Scientific Name	Common Name

Taxonomy and nomenclature are based primarily on the following:

Damselflies and dragonflies: Paulson, D. (2009, Dragonflies and Damselflies of the West, Princeton University Press, Princeton, New Jersey).

Butterflies: North American Butterfly Association (2001, NABA checklist and English Names of North American Butterflies, Second Edition, North American Butterfly Association, Morristown, New Jersey; see http://www.naba.org/pubs/checklst.html).

Amphibians and reptiles: Crother, B.I. ed. (2012, Scientific and Standard English Names of Amphibians and Reptiles of North America North of Mexico. *Herpetological Circular* 39) for species taxonomy and nomenclature; Stebbins, R.C., and S.M. McGinnis (2012, Field Guide to Amphibians and Reptiles of California, Revised Edition, University of California Press, Berkeley) for sequence and higher order taxonomy.

Birds: American Ornithologists' Union (1998, The A.O.U. Checklist of North American Birds, Seventh Edition, American Ornithologists' Union, Washington D.C.; and supplements; see http://www.aou.org/checklist/north/index.php).

Mammals: Wilson, D.E., and D.M. Reeder, eds. (2005, Mammal Species of the World, Third Edition, Johns Hopkins University Press, Baltimore, Maryland; see http://www.vertebrates.si.edu/msw/mswcfapp/msw/index.cfm).

ATTACHMENT D:

SPECIAL-STATUS SPECIES SUMMARY TABLE

Special-Status Species Summary Table

Species	Status	Habitat and Distribution	Activity Period	Occurrence Probability
Plants				
Acanthomintha ilicifolia **San Diego thorn-mint**	US: FT CA: SE CRPR: 1B.1 County: List A	Annual herb endemic to active vertisol clay soils of mesas and valleys within grasslands, chaparral, coastal scrub, and vernal pool communities; known from southwestern San Diego County and Baja California; 30 to 3,000 feet elevation.	Blooms April through June (annual herb)	**Not Expected.** Suitable soils and habitat for this species are not present within the BSA and no known occurrences of this species were identified within 2 miles of the BSA.
Adolphia californica **California adolphia**	US: – CA: SP CRPR: 2B.1 County: List B	Sandy/gravelly to clay soils within grasslands, coastal sage scrub, and chaparral communities; known from western San Diego County and Baja California; 50 to 1,300 feet elevation.	Blooms December through May (perennial deciduous shrub)	**Not Expected.** Suitable soils for this species were not present within the BSA, no known occurrences of this species were identified within 2 miles of the BSA, and this perennial species was not observed during the biological survey.
Ambrosia pumila **San Diego ambrosia**	US: FE CA: SP CRPR: 1B.1 County: List A	Occurs in open habitats, usually near drainages or vernal pools, usually in sandy loam or on clay (including upland clay slopes) from 70 to 1,600 feet elevation. Known from western Riverside and western San Diego Counties. Also occurs in Mexico.	Generally non-flowering (perennial herb)	**Not Expected.** Suitable habitat (vernal pools) for this species was not present within the BSA, no known occurrences of this species were identified within 2 miles of the BSA, and this perennial species was not observed during the biological survey.
Artemisia palmeri **San Diego sagewort**	US: – CA: SP CRPR: 4.2 County: List D	Primarily found in drainages and riparian areas in sandy soil within coastal scrub, chaparral, riparian forest, riparian woodland; known from San Diego and Riverside Counties and Baja California; 50 to 3,000 feet elevation.	February–September (biennial or perennial deciduous shrub)	**Not Expected.** Suitable habitat (riparian areas in sandy soil) for this species was not present within the BSA, no known occurrences of this species were identified within 2 miles of the BSA, and this perennial species was not observed during the biological survey.

Special-Status Species Summary Table

Species	Status	Habitat and Distribution	Activity Period	Occurrence Probability
Astragalus oocarpus **San Diego milk-vetch**	US: – CA: SP CRPR: 1B.2 County: List A	Primarily found in open areas of chaparral and foothill woodland; known in San Diego and Riverside Counties; 1,000 to 5,000 feet elevation.	Blooms May through August (perennial herb)	**Not Expected.** Suitable habitat for this species was not present within the BSA, no known occurrences of this species were identified within 2 miles of the BSA, and this perennial species was not observed during the biological survey.
Azolla microphylla (formerly *Azolla mexicana*) **Mexican mosquito fern**	US: – CA: SP CRPR: 4.2 County: List D	Aquatic fern found primarily in freshwater wetlands and wetland/riparian vegetation communities. More common in Northern California.	Blooms in August	**Not Expected.** Suitable habitat for this species was not present within the BSA, no known occurrences of this species were identified within 2 miles of the BSA, and this species was not observed during the biological survey.
Baccharis vanessae **Encinitas baccharis**	US: FT CA: SE CRPR: 1B.1 County: List A	Sandstone soils in steep, open, rocky areas in chaparral at 200 to 2,400 feet elevation. Known only from San Diego County, California.	Blooms August through November (deciduous shrub)	**Not Expected.** Suitable habitat and soils for this species were not present within the BSA, no known occurrences of this species were identified within 2 miles of the BSA, and this perennial species was not observed during the biological survey.
Bloomeria clevelandii **San Diego goldenstar**	US: – CA: SP CRPR: 1B.1 County: List A	Clay soils in chaparral, coastal sage scrub, valley and foothill grassland and vernal pools; 200 to 1,500 (3,600?) feet elevation. Only known from San Diego County and Baja California.	Blooms April–May (perennial bulbiferous herb)	**Not Expected.** Suitable habitat and soils for this species were not present within the BSA, no known occurrences of this species were identified within 2 miles of the BSA, and this perennial species was not observed during the biological survey.

Special-Status Species Summary Table

Species	Status	Habitat and Distribution	Activity Period	Occurrence Probability
Brodiaea filifolia **Thread-leaved brodiaea**	US: FT CA: SE CRPR: 1B.1 County: List A	Usually on clay or associated with vernal pools or alkaline flats; occasionally in vernally moist sites in fine soils (clay loam, silt loam, fine sandy loam, loam, loamy fine sand). Typically associated with needlegrass or alkali grassland or vernal pools. Occurs from 80 to 4,000 feet elevation. Known only from Los Angeles, Orange, Riverside, San Bernardino, San Diego, and San Luis Obispo Counties, California.	Blooms March through June (perennial herb)	**Not Expected.** Suitable habitat and soils for this species were not present within the BSA, no known occurrences of this species were identified within 2 miles of the BSA, and this perennial species was not observed during the biological survey.
Brodiaea orcuttii **Orcutt's brodiaea**	US: – CA: SP CRPR: 1B.1 County: List A	Clay and some serpentine soils, usually associated with streams or vernal pools, from 100 to 5,600 feet elevation. In California, known only from Riverside and San Diego Counties. Also occurs in Mexico.	May through July (perennial herb)	**Not Expected.** Suitable soils for this species were not present within the BSA, no known occurrences of this species were identified within 2 miles of the BSA, and this perennial species was not observed during the biological survey.
Calochortus dunnii **Dunn's mariposa lily**	US: – CA: SP CRPR: 1B.2 County: List A	In gabbroic or metavolcanic rocky habitat, within closed-cone coniferous forest, chaparral, valley and foothill grasslands; 600 to 6,000 feet elevation. In San Diego County and Baja California.	Blooms April through June (perennial bulbiferous herb)	**Not Expected.** Suitable habitat for this species was not present within the BSA, no known occurrences of this species were identified within 2 miles of the BSA, and this perennial species was not observed during the biological survey.
Caulanthus heterophylles var. *heterophyllus* **Slender pod jewelflower**	US: – CA: – CRPR: – County: –	In disturbed areas within coastal sage scrub and chaparral in southwestern California.	Blooms March through May (annual herb)	**Not Expected.** Suitable habitat for this species was not present within the BSA, no known occurrences of this species were identified within 2 miles of the BSA, and this species was not observed during the biological survey.

Special-Status Species Summary Table

Species	Status	Habitat and Distribution	Activity Period	Occurrence Probability
Ceanothus verrucosus **Wart-stemmed ceanothus**	US: – CA: SP CRPR: 2B.2 County: List B	Chaparral in western San Diego County and northern Baja California; sea level to 1,250 feet elevation.	Blooms December through May (perennial shrub)	**Not Expected.** Suitable habitat for this species was not present within the BSA, no known occurrences of this species were identified within 2 miles of the BSA, and this perennial species was not observed during the biological survey.
Centromadia parryi ssp. *australis* **Southern tarplant**	US: – CA: SP CRPR: 1B.1 County: List A	In vernally wet areas such as edges of marshes and vernal pools, at edges of roads and trails, and in other areas of compacted, poorly drained, or alkaline soils where competition from other plants is limited, often due to disturbance, below 1,400 feet elevation. In California, known only from Santa Barbara, Ventura, Los Angeles, Orange and San Diego Counties. Also occurs in Mexico.	Blooms May–November (annual herb)	**Not Expected.** Although a known occurrence of this species was identified within 1 mile of the BSA, it is from 1916. Suitable habitat for this species was not present within the BSA and this annual species was not observed during the biological survey.
Centromadia pungens ssp. *laevis* **Smooth tarplant**	US: – CA: SP CRPR: 1B.1 County: List A	Alkaline areas in chenopod scrub, meadows, playas, riparian woodland, valley and foothill grassland below 1,600 feet elevation. Known from Riverside and San Bernardino Counties, extirpated from San Diego County.	Blooms April–November (annual herb)	**Not Expected.** Suitable habitat for this species was not present within the BSA, no known occurrences of this species were identified within 2 miles of the BSA, and this annual species was not observed during the biological survey.
Chorizanthe procumbens **Prostrate spineflower**	US: – CA: – CRPR: – County: –	In chaparral, valley grassland, pinyon-juniper woodland, and coastal sage scrub.	Blooms April through June (annual herb)	**Not Expected.** Suitable habitat for this species was not present within the BSA, no known occurrences of this species were identified within 2 miles of the BSA, and this annual species was not observed during the biological survey.

Special-Status Species Summary Table

Species	Status	Habitat and Distribution	Activity Period	Occurrence Probability
Clarkia delicata **Delicate clarkia**	US: – CA: SP CRPR: 1B.2 County: List A	Often gabbroic soils in chaparral and cismontane woodland at 830 to 3,280 feet elevation. Known only from San Diego County, California.	Blooms April–June (annual herb)	**Not Expected.** Suitable habitat for this species was not present within the BSA, no known occurrences of this species were identified within 2 miles of the BSA, and this annual species was not observed during the biological survey.
Comarostaphylis diversifolia ssp. *diverifolia* **Summer holly**	US: – CA: SP CRPR: 1B.2 County: List A	Chaparral or cismontane woodland at 100 to 2,600 feet. In California, known only from Orange, Riverside, and Santa Barbara, and San Diego Counties. Also occurs in Mexico.	Blooms April through June (evergreen shrub)	**Not Expected.** Suitable habitat for this species was not present within the BSA, no known occurrences of this species were identified within 2 miles of the BSA, and this perennial species was not observed during the biological survey.
Convolvulus simulans **Small-flowered morning-glory**	US: – CA: SP CRPR: 4.2 County: List D	Wet clay and serpentine seeps and ridges in chaparral, coastal scrub, and valley and foothill grassland from 100 to 2,300 feet elevation. Known from Contra Costa County to Baja California, including the Channel Islands. Rare in Southern California.	Blooms March–July (annual herb)	**Not Expected.** Suitable habitat for this species was not present within the BSA, no known occurrences of this species were identified within 2 miles of the BSA, and this annual species was not observed during the biological survey.
Dichondra occidentalis **Western dichondra**	US: – CA: SP CRPR: 4.2 County: List D	Mostly dry sandy banks in scrub or under trees; coastal sage scrub, chaparral, oak woodland. Coastal Orange and San Diego Counties; elevations 200 to 1,700 feet.	Blooms March through May (perennial rhizomatous herb)	**Not Expected.** Suitable habitat for this species was not present within the BSA, no known occurrences of this species were identified within 2 miles of the BSA, and this perennial species was not observed during the biological survey.

Special-Status Species Summary Table

Species	Status	Habitat and Distribution	Activity Period	Occurrence Probability
Dudleya variegata **Variegated dudleya**	US: – CA: SP CRPR: 1B.2 County: List A	In rocky or clay soils within chaparral, coastal scrub, cismontane woodland, valley and foothill grassland, and margins of vernal pools; known from western San Diego County and Baja California; 10 to 1,900 feet elevation.	Blooms April–June (perennial herb)	**Not Expected.** Suitable habitat for this species was not present within the BSA, no known occurrences of this species were identified within 2 miles of the BSA, and this perennial species was not observed during the biological survey.
Dudleya viscida **Sticky dudleya**	US: – CA: SP CRPR: 1B.2 County: List A	Rocky areas in coastal bluff scrub, chaparral, coastal sage scrub, and cismontane woodland from 30 to 1,800 feet elevation. Known only from Orange and San Diego Counties, California.	May through June (perennial herb)	**Not Expected.** Suitable habitat for this species was not present within the BSA, no known occurrences of this species were identified within 2 miles of the BSA, and this perennial species was not observed during the biological survey.
Ericameria palmeri var. *palmeri* **Palmer's goldenbush**	US: – CA: SP CRPR: 1B.1 County: List B	On granitic soils and moist, steep hillsides within coastal scrub and chaparral; known from western San Diego County and Baja California; 100 to 2,000 feet elevation.	Blooms July through November (perennial evergreen shrub)	**Not Expected.** Suitable habitat for this species was not present within the BSA, no known occurrences of this species were identified within 2 miles of the BSA, and this perennial species was not observed during the biological survey.
Eryngium aristulatum var. *parishii* **San Diego button-celery**	US: FE CA: SE CRPR: 1B.1 County: List A	Vernal pools at 50 to 2,000 feet elevation. In California, known only from Riverside and San Diego Counties. In Riverside County, this species is known only from the Santa Rosa Plateau.	Blooms April through June (annual/perennial herb)	**Not Expected.** Suitable habitat for this species was not present within the BSA, no known occurrences of this species were identified within 2 miles of the BSA, and this species was not observed during the biological survey.

Special-Status Species Summary Table

Species	Status	Habitat and Distribution	Activity Period	Occurrence Probability
Ferocactus viridescens **San Diego barrel cactus**	US: – CA: SP CRPR: 2B.1 County: List B	Often on undisturbed, exposed, level or south-facing slopes within chaparral, coastal scrub, and grasslands; known from southwestern San Diego County and Baja California; 10 to 1,500 feet elevation.	Blooms May–June (perennial stem succulent)	**Not Expected.** Suitable habitat (undisturbed south-facing slopes) for this species was not present within the BSA, no known occurrences of this species were identified within 2 miles of the BSA, and this perennial species was not observed during the biological survey.
Githopsis diffusa ssp. *filicaulis* **Mission Canyon bluecup**	US: – CA: SP CRPR: 3.1 County: List C	Mesic disturbed places in chaparral at 1,480 to 2,300 feet elevation. Known only from Riverside and San Diego Counties, California.	April through June (annual herb)	**Not Expected.** Suitable habitat for this species was not present within the BSA, no known occurrences of this species were identified within 2 miles of the BSA, and this perennial species was not observed during the biological survey.
Harpagonella palmeri **Palmer's grapplinghook**	US: – CA: SP CRPR: 4.2 County: List D	Clay soils in openings in coastal sage scrub, juniper woodland, and grassland below 2,700 feet elevation. In California, known only from Orange, Riverside, and San Diego Counties and the Channel Islands. Also occurs in Arizona and Mexico.	March through May (annual herb)	**Not Expected.** Suitable soils for this species were not present within the BSA, no known occurrences of this species were identified within 2 miles of the BSA, and this perennial species was not observed during the biological survey.
Holocarpha virgata ssp. *elongata* **Graceful tarplant**	US: – CA: SP CRPR: 4.2 County: List D	Found in chaparral, coastal scrub, valley and foothill grassland, and cismontane woodland; 200 to 3,600 feet elevation. Known from Orange, Riverside, and San Diego Counties.	Blooms May through November (annual herb)	**Not Expected.** Suitable habitat for this species was not present within the BSA, no known occurrences of this species were identified within 2 miles of the BSA, and this annual species was not observed during the biological survey.

Special-Status Species Summary Table

Species	Status	Habitat and Distribution	Activity Period	Occurrence Probability
Hordeum intercedens **Vernal barley**	US: – CA: SP CRPR: 3.2 County: List C	Vernal pools and saline flats and depressions below 3,300 feet elevation in valley grassland, freshwater wetlands, and wetland/ riparian vegetation communities. Known from many California Counties. Also occurs in Mexico.	March through June (annual herb)	**Not Expected.** Suitable habitat for this species was not present within the BSA, no known occurrences of this species were identified within 2 miles of the BSA, and this annual species was not observed during the biological survey.
Iva hayesiana **San Diego marsh-elder**	US: – CA: SP CRPR: 2B.2 County: List B	River washes, marshes, swamps, and playas at 30 to 1,650 feet elevation. Known from western San Diego County and Baja California.	Blooms April through October (perennial shrub or subshrub)	**Not Expected.** Suitable habitat for this species was not present within the BSA, no known occurrences of this species were identified within 2 miles of the BSA, and this perennial species was not observed during the biological survey.
Juncus acutus ssp. *leopodii* **Southwestern spiny rush**	US: – CA: SP CRPR: 4.2 County: List D	Moist, saline places in salt marshes, alkaline seeps, and coastal dunes (mesic sites); 10 to 2,950 feet elevation. Known from Imperial, Los Angeles, Orange, Santa Barbara, San Diego, San Luis Obispo, and Ventura Counties, Arizona, and Baja California.	Blooms May–June (perennial rhizomatous herb)	**Not Expected.** Suitable habitat for this species was not present within the BSA, no known occurrences of this species were identified within 2 miles of the BSA, and this perennial species was not observed during the biological survey.
Lepidium virginicum var. *robinsonii* **Robinson's pepper-grass**	US: – CA: SP CRPR: 4.3 County: List A	Dry soils in coastal sage scrub and chaparral and occasionally in wetlands below 2,900 feet elevation. In California, known only from Los Angeles, Orange, Riverside, Santa Barbara, San Bernardino and San Diego Counties, and Santa Cruz Island. Also occurs in Mexico.	Blooms January through July (annual herb)	**Not Expected.** Suitable habitat for this species was not present within the BSA, no known occurrences of this species were identified within 2 miles of the BSA, and this annual species was not observed during the biological survey.

Special-Status Species Summary Table

Species	Status	Habitat and Distribution	Activity Period	Occurrence Probability
Ophioglossum californicum **California adder's tongue fern**	US: – CA: SP CRPR: 4.2 County: List D	In vernal pools within chaparral, valley grassland, freshwater wetlands, and wetland riparian vegetation communities.	Blooms January through June (rhizomatous fern)	**Not Expected.** Suitable habitat for this species was not present within the BSA, no known occurrences of this species were identified within 2 miles of the BSA, and this annual species was not observed during the biological survey.
Pentachaeta aurea ssp. *aurea* **Golden-rayed pentachaeta**	US: – CA: SP CRPR: 4.2 County: List D	In chaparral, cismontane woodland, coastal scrub, lower montane coniferous forest, riparian woodland, and valley and foothill grassland habitats. Known from Los Angeles, Orange, Riverside, San Bernardino, and San Diego Counties, in addition to Baja California. 260 to 6,000 feet elevation.	Blooms March through July (annual herb)	**Not Expected.** Suitable habitat for this species was not present within the BSA, no known occurrences of this species were identified within 2 miles of the BSA, and this annual species was not observed during the biological survey.
Piperia leptopetala **Narrow-petaled rein orchid**	US: – CA: SP CRPR: 4.3 County: List D	In chaparral, foothill woodland, yellow pine forest, red fir forest, northern coastal scrub, and closed-cone pine forest throughout California.	Blooms May through July (perennial herb)	**Not Expected.** Suitable habitat for this species was not present within the BSA, no known occurrences of this species were identified within 2 miles of the BSA, and this annual species was not observed during the biological survey.
Quercus dumosa **Nuttall's scrub oak**	US: – CA: SP CRPR: 1B.1 County: List A	On sandy and clay loam soils near the coast within closed-cone coniferous forest, chaparral, and coastal scrub from 50 to 1,300 feet elevation. Known from western Orange, Santa Barbara, and San Diego Counties. Also known from Baja California.	Blooms February through August (perennial evergreen shrub)	**Not Expected.** Suitable habitat for this species was not present within the BSA, no known occurrences of this species were identified within 2 miles of the BSA, and this perennial species was not observed during the biological survey.

Special-Status Species Summary Table

Species	Status	Habitat and Distribution	Activity Period	Occurrence Probability
Quercus engelmannii **Engelmann oak**	US: – CA: SP CRPR: 4.2 County: List D	Chaparral, woodland, and grassland, from 400 to 4,300 feet elevation. Known from Los Angeles, Orange, Riverside, and San Diego Counties and from northern Baja California.	Year-round (perennial deciduous tree)	**Not Expected.** Although marginally-suitable habitat (grassland) for this species was not present within the BSA, no known occurrences of this species were identified within 2 miles of the BSA, and this conspicuous perennial species was not observed during the biological survey.
Selaginella cinerascens **Ashy spike-moss**	US: – CA: SP CRPR: 4.1 County: List D	In chaparral and coastal scrub often on clay soil both in open areas and in the shade of larger plants from 65 to 2,100 feet in elevation. Known in Orange, Riverside, and San Diego Counties in addition to Baja California.	Perennial (perennial rhizomatous herb)	**Not Expected.** Suitable habitat for this species was not present within the BSA, no known occurrences of this species were identified within 2 miles of the BSA, and this perennial species was not observed during the biological survey.
Stipa diegoensis **San Diego needlegrass**	US: – CA: SP CRPR: 4.2 County: List D	In chaparral and coastal sage scrub ecosystems below 350 feet in elevation, especially near streams. Known from San Diego and Ventura Counties and the Channel Islands, and Baja California.	Perennial (bunch grass)	**Not Expected.** Suitable habitat for this species was not present within the BSA, no known occurrences of this species were identified within 2 miles of the BSA, and this perennial species was not observed during the biological survey.
Viguiera laciniata **San Diego County viguiera**	US: – CA: SP CRPR: 4.3 County: List D	Slopes and ridges in chaparral and coastal scrub. Known from Orange and San Diego Counties, and Mexico; 295 to 2,460 feet elevation.	February–August (perennial shrub)	**Not Expected.** Suitable habitat for this species was not present within the BSA, no known occurrences of this species were identified within 2 miles of the BSA, and this perennial species was not observed during the biological survey.

Special-Status Species Summary Table

Species	Status	Habitat and Distribution	Activity Period	Occurrence Probability
Xanthisma junceum **Rush-like bristleweed**	US: – CA: SP CRPR: 4.3 County: List D	In chaparral and coastal scrub from 780 to 3,280 feet in elevation. Known in San Diego County as well as Arizona, Baja California, and Sonora.	Blooms May through January (perennial herb)	**Not Expected.** Suitable habitat for this species was not present within the BSA, no known occurrences of this species were identified within 2 miles of the BSA, and this perennial species was not observed during the biological survey.
Invertebrates				
Danaus plexippus (wintering sites) **Monarch butterfly**	US: – CA: SA County: Group 2	Winter roosts are located in wind-protected tree groves (Eucalyptus, Monterey Pine, Cypress) with nectar and water sources nearby.	September through March	**Low.** Although marginally-suitable habitat (eucalyptus woodland without a consistent water source nearby) for this species was present within the BSA, no CNDDB occurrences of this species were identified within 2 miles of the BSA, and this species was not observed during the biological survey.
Euphydryas editha quino **Quino checkerspot butterfly**	US: FE CA: SA County: Group 1	Meadows or openings within coastal sage scrub or chaparral below about 5,000 feet where food plants (*Plantago erecta* and/or *Orthocarpus purpurascens*) are present. Historically known from Santa Monica Mountains to northwest Baja California; currently known only from southwestern Riverside County, southern San Diego County, and northern Baja California.	January through late April	**Not Expected.** Suitable habitat for this species was not present within the BSA, no CNDDB occurrences of this species were identified within 2 miles of the BSA, and this perennial species was not observed during the biological survey.
Euphyes vestris harbisoni **Dun skipper**	US: – CA: SA County: Group 1	Chaparral, oak woodland, and riparian areas that have narrow canyons or drainages. Host plant (*Carex spissa*) requires moving water or dry ravines. Known occurrences in the foothills of northern and southern San Diego County, western Riverside County, and southern Orange County.	June	**Not Expected.** Suitable habitat for this species was not present within the BSA, no CNDDB occurrences of this species were identified within 2 miles of the BSA, and this perennial species was not observed during the biological survey.

Special-Status Species Summary Table

Species	Status	Habitat and Distribution	Activity Period	Occurrence Probability
Lycaena hermes **Hermes copper butterfly**	US: CS CA: SA County: Group 1	Host plant (*Rhamnus crocea*) occurs in coastal sage scrub, chaparral, mixed evergreen forest, southern oak woodland, foothill woodland, and yellow pine forest. Found only in San Diego County and Baja California.	May through June	**Not Expected.** Suitable habitat for this species was not present within the BSA, no CNDDB occurrences of this species were identified within 2 miles of the BSA, and this perennial species was not observed during the biological survey.
Amphibians				
Anaxyrus californicus **Arroyo toad**	US: FE CA: SSC County: Group 1	Washes and arroyos with open water; sand or gravel beds; for breeding, low flowing water and eddies/ pools with sparse overstory vegetation. Coastal and a few desert streams from Santa Barbara County to Baja California.	March through July	**Not Expected.** Suitable habitat for this species was not present within the BSA, no CNDDB occurrences of this species were identified within 2 miles of the BSA, and this species was not observed during the biological survey.
Spea hammondii **Western spadefoot**	US: – CA: SSC County: Group 2	Grasslands and occasionally hardwood woodlands; largely terrestrial but requires rain pools or other ponded water persisting at least three weeks for breeding; burrows in loose soils during dry season. Occurs in the Central Valley and adjacent foothills, the non-desert areas of southern California, and Baja California.	October through April (following onset of winter rains)	**Low.** Although marginally-suitable habitat (grassland; however, water likely does not persist for three weeks) for this species was present within the BSA, no CNDDB occurrences of this species were identified within 2 miles of the BSA, and this species was not observed during the biological survey.
Reptiles				
Anniella pulchra **California legless lizard**	US: – CA: SSC County: Group 2	Inhabits sandy or loose loamy soils with high moisture content under sparse vegetation from central California to northern Baja California.	Nearly year round, at least in southern areas	**Low.** Although marginally-suitable habitat (loamy soils in grassland) for this species was present within the BSA, no CNDDB occurrences of this species were identified within 2 miles of the BSA, and this species was not observed during the biological survey.

Special-Status Species Summary Table

Species	Status	Habitat and Distribution	Activity Period	Occurrence Probability
Anniella stebbinsi **Southern California legless lizard**	US: – CA: SSC County: –	Inhabits coastal sand dunes, sandy washes, and alluvial fans.	Nearly year round	**Low.** Although a CNDDB occurrence of this species was identified within 1 mile of the BSA, the record is from 1952. Suitable habitat for this species was not present within the BSA, and this species was not observed during the biological survey.
Aspidoscelis hyperythra **Orange-throated whiptail**	US: – CA: WL County: Group 2	Prefers washes and other sandy areas with patches of brush and rocks, in chaparral, coastal sage scrub, juniper woodland, and oak woodland from sea level to 3,000 feet elevation. Perennial plants required. Occurs in Riverside, Orange, San Diego Counties west of the crest of the Peninsular Ranges, in extreme southern San Bernardino County near Colton, and in Baja California.	March through July, with reduced activity August through October	**Not Expected.** Although a CNDDB occurrence of this species was identified within 1 mile of the BSA, the record is from 1972 and this species is believed to be extirpated from the area. Suitable habitat for this species was not present within the BSA and this species was not observed during the biological survey.
Aspidoscelis tigris stejnegeri **Coastal western whiptail**	US: – CA: SSC County: Group 2	Wide variety of habitats including coastal sage scrub, sparse grassland, and riparian woodland; coastal and inland valleys and foothills; Ventura County to Baja California.	April through August	**Low.** Although marginally-suitable habitat for this species was present within the BSA, no known occurrences of this species were identified within 2 miles of the BSA, and this species was not observed during the biological survey.
Charina trivirgata ssp. *roseofusca* **Rosy boa**	US: – CA: – County: Group 2	In rocky areas in chaparral or scrub habitats or oak woodland; also in rocky riparian areas. Found in Los Angeles County, southwestern San Bernardino County, south through western Riverside County, and San Diego County into Baja California.	Nocturnal. Rarely active during day. Active between April and September	**Not Expected.** Suitable habitat for this species was not present within the BSA, no known occurrences of this species were identified within 2 miles of the BSA, and this species was not observed during the biological survey.

Special-Status Species Summary Table

Species	Status	Habitat and Distribution	Activity Period	Occurrence Probability
Coleonyx variegatus abbotti **San Diego banded gecko**	US: – CA: SSC County: Group 2	Often associated with rocks. Coastal sage scrub and chaparral, most often on granite or rocky outcrops in these habitats. Interior Ventura County south.	Nocturnal April through October	**Not Expected.** Suitable habitat for this species was not present within the BSA, no known occurrences of this species were identified within 2 miles of the BSA, and this species was not observed during the biological survey.
Crotalus ruber **Northern red diamond rattlesnake**	US: – CA: SSC County: Group 2	Desert scrub, thornscrub, open chaparral and woodland; occasional in grassland and cultivated areas. Prefers rocky areas and dense vegetation. Morongo Valley in San Bernardino and Riverside Counties to the west and south into Mexico.	Mid-spring through mid-fall	**Not Expected.** Suitable habitat for this species was not present within the BSA, no known occurrences of this species were identified within 2 miles of the BSA, and this species was not observed during the biological survey.
Diadophis punctatus similis **San Diego ringneck snake**	US: – CA: SA County: Group 2	Under cover of rocks, wood, bark, boards, and other surface debris in a variety of habitats. Prefers moist habitats of coastal San Diego County, northern Baja California and southwestern San Bernardino County.	Diurnal. Crepuscular and nocturnal during warmer periods.	**Not Expected.** Suitable habitat for this species was not present within the BSA, no known occurrences of this species were identified within 2 miles of the BSA, and this species was not observed during the biological survey.
Emys marmorata ssp. *pallida* **Southwestern pond turtle**	US: – CA: SSC County: Group 1	Inhabits permanent or nearly permanent water. Not Expected from desert regions, except in the Mojave Desert along the Mojave River and its tributaries. Requires basking sites such as partially submerged logs, rocks, or open mud banks.	Year-round with reduced activity November through March	**Not Expected.** Suitable habitat for this species was not present within the BSA, no known occurrences of this species were identified within 2 miles of the BSA, and this species was not observed during the biological survey.

Special-Status Species Summary Table

Species	Status	Habitat and Distribution	Activity Period	Occurrence Probability
Phrynosoma blainvillii **Coast horned lizard**	US: – CA: SSC County: Group2	Occurs in annual grassland, coastal sage scrub, chaparral, and woodland communities. Requires open areas for sunning, bushes for cover, patches of loose soil for burial, and an abundant supply of ants or other insects. Occurs in Siskiyou County, in the Central Valley and adjacent foothills below 4,000 feet elevation, in coastal areas of central California, and in non-desert areas of southern California below 6,000 feet elevation, and into Baja California.	April through July, with reduced activity August through October	**Low.** Although marginally-suitable habitat was present within the BSA and a known occurrence of this species was identified within 1 mile of the BSA, the record is from 1928 and this species is believed to be extirpated from the area. Furthermore, this species was not observed during the biological survey.
Plestiodon (Eumeces) skiltonianus interparietalis **Coronado skink**	US: – CA: WL County: –	Occurs in variety of plant communities including coastal sage scrub, mesic chaparral, oak woodlands, pinyon-juniper, and riparian woodlands to pine forests. Found west of the deserts from Riverside County to Baja California.	Diurnal. Activity is bimodal; from early spring through early fall.	**Not Expected.** Suitable habitat for this species was not present within the BSA, no known occurrences of this species were identified within 2 miles of the BSA, and this species was not observed during the biological survey.
Salvadora hexalepis virgultea **Coast patch-nosed snake**	US: – CA: SSC County: Group 2	Coastal chaparral, washes, sandy flats and rocky areas. Widely distributed throughout lowlands, up to 2,130 meters (7,000 feet) elevation, of Southern California from coast to the eastern border.	Active diurnally throughout most of the year	**Not Expected.** Suitable habitat for this species was not present within the BSA, no known occurrences of this species were identified within 2 miles of the BSA, and this species was not observed during the biological survey.
Thamnophis hammondii **Two-striped garter snake**	US: – CA: SSC County: Group 1	Highly aquatic. Only in or near permanent sources of water. Streams with rocky beds supporting willows or other riparian vegetation. From Monterey County to northwest Baja California.	Diurnal Year-round	**Not Expected.** Suitable habitat for this species was not present within the BSA, no known occurrences of this species were identified within 2 miles of the BSA, and this species was not observed during the biological survey.

Special-Status Species Summary Table

Species	Status	Habitat and Distribution	Activity Period	Occurrence Probability
Thamnophis sirtalis novum **South coast garter snake**	US: – CA: SSC County: Group 2	Highly aquatic. Preferably rocky streams with protected pools, marshes, vernal pools, and other shallow water bodies lacking large aquatic predators.	Year-round	**Not Expected.** Suitable habitat for this species was not present within the BSA, no known occurrences of this species were identified within 2 miles of the BSA, and this species was not observed during the biological survey.
Birds				
Accipiter cooperii **Cooper's hawk**	US: – CA: WL (nesting) County: Group 1	Forages in a wide range of habitats, but primarily in forests and woodlands. These include natural areas as well as human-created habitats such as plantations and ornamental trees in urban landscapes. Usually nests in tall trees (20 to 60 feet) in extensive forested areas (generally woodlots of 4 to 8 hectares with canopy closure of greater than 60 percent). Occasionally nests in isolated trees in more open areas.	Year-round	**Moderate.** Although no CNDDB occurrences of this species were identified within 2 miles of the BSA, and this species was not observed during the biological survey, suitable nesting and foraging habitat was present within the BSA and this species was reported in the San Diego Bird Atlas square that includes the BSA.
Accipiter striatus **Sharp-shinned hawk**	US: – CA: WL (nesting) County: Group 1	Nests in woodland, coniferous/deciduous forest. Winter visitor and migrant to coastal Southern California. Forages over a variety of habitats.	Fall and winter; scarce in summer	**Moderate.** Although no CNDDB occurrences of this species were identified within 2 miles of the BSA, and this species was not observed during the biological survey, suitable nesting habitat was present within the BSA and this species was reported in the San Diego Bird Atlas square that includes the BSA.

Special-Status Species Summary Table

Species	Status	Habitat and Distribution	Activity Period	Occurrence Probability
Agelaius tricolor **Tricolored blackbird**	US: – CA: SSC (nesting) County: Group 1	Open country in western Oregon, California, and northwestern Baja California. Breeds near fresh water, preferably in emergent wetland with tall, dense cattails or tules, but also in thickets of willow, blackberry, wild rose, tall herbs and forages in grassland and cropland habitats. Seeks cover for roosting in emergent wetland vegetation, especially cattails and tules, and also in trees and shrubs.	Year-round	**Not Expected.** Suitable habitat for this species was not present within the BSA, no CNDDB occurrences of this species were identified within 2 miles of the BSA, and this species was not observed during the biological survey.
Aimophila ruficeps canescens **Southern California rufous-crowned sparrow**	US: – CA: WL County: Group 1	Steep, rocky, coastal sage scrub, and open chaparral habitats, particularly scrubby areas mixed with grasslands. From Santa Barbara County to northwestern Baja California.	Year-round, diurnal activity	**Not Expected.** Suitable habitat for this species was not present within the BSA, no CNDDB occurrences of this species were identified within 2 miles of the BSA, and this species was not observed during the biological survey.
Ammodramus savannarum **Grasshopper sparrow**	US: – CA: SSC (nesting) County: Group 1	Grasslands, agricultural fields, prairie, old fields and open savanna. Uncommon and local summer resident on grassy slopes and mesas west of the deserts. Only rarely in migration and in winter. Coastal Southern California.	Coastal: Year-round; only casually in migration elsewhere	**Not Expected.** Although suitable habitat for this species was present within the BSA, no CNDDB occurrences of this species were identified within 2 miles of the BSA, no San Diego Bird Atlas reports were identified in the square that includes the BSA, and this species was not observed during the biological survey.
Ardea herodias **Great blue heron**	US: – CA: SA (nesting colony) County: Group 2	Usually nests in trees, but also on large bushes, poles, reedbeds, and even on the ground. Frequents a wide range of wetland habitats at other times of year.	February to July at nesting sites; year round elsewhere	**Low.** Although suitable nesting habitat (trees) for this species was present within the BSA, no CNDDB occurrences of this species were identified within 2 miles of the BSA, and this species was not observed during the biological survey.

Special-Status Species Summary Table

Species	Status	Habitat and Distribution	Activity Period	Occurrence Probability
Artemisiospiza belli belli **Bell's sage sparrow**	US: – CA: SA County: –	Occupies chaparral and coastal sage scrub from west central California to northwestern Baja California.	Year-round, diurnal activity	**Not Expected.** Suitable habitat for this species was not present within the BSA, no CNDDB occurrences of this species were identified within 2 miles of the BSA, and this species was not observed during the biological survey.
Asio otus **Long-eared owl**	US: – CA: SSC (nesting) County: Group 1	Scarce and local in forests and woodlands throughout much of the Northern Hemisphere. Rare resident in coastal southern California. Nests and roosts in dense willow-riparian woodland and oak woodland, but forages over wider areas. Breeds from valley foothill hardwood up to ponderosa pine habitat.	Nocturnal Year-round	**Not Expected.** Suitable habitat for this species was not present within the BSA, no CNDDB occurrences of this species were identified within 2 miles of the BSA, and this species was not observed during the biological survey.
Athene cunicularia **Burrowing owl**	US: – CA: SSC (burrow sites) County: Group 1	Open country in much of North and South America. Usually occupies ground squirrel burrows in open, dry grasslands, agricultural and range lands, railroad rights-of-way, and margins of highways, golf courses, and airports. Often utilizes man-made structures, such as earthen berms, cement culverts, cement, asphalt, rock, or wood debris piles. They avoid thick, tall vegetation, brush, and trees, but may occur in areas where brush or tree cover is less than 30 percent.	Year-round	**Low.** Although suitable habitat for this species was present within the BSA, neither this species nor suitable burrows or sign were observed during the biological survey. Furthermore, the only CNDDB occurrence within 2 miles of the BSA is from 1924 (1 mile from the BSA) and no San Diego Bird Atlas reports were identified in the square that includes the BSA.

Special-Status Species Summary Table

Species	Status	Habitat and Distribution	Activity Period	Occurrence Probability
Branta canadensis **Canada goose**	US: – CA: – County: Group 2	Breeds in Canada and northern United States. Only a migrant in California. Spends the winter in San Diego County, visiting habitats that combine fresh or brackish water with low grass or succulent leaves on which the birds graze. Most of the geese congregate in a few large flocks that frequent the same areas year after year.	October through April	**Not Expected.** Suitable habitat for this species was not present within the BSA, no CNDDB occurrences of this species were identified within 2 miles of the BSA, and this species was not observed during the biological survey.
Buteo lineatus **Red-shouldered hawk**	US: – CA: – County: Group 1	Typically found in riparian forests or in oak woodland, and sometimes in eucalyptus groves.	Year-round	**Moderate.** No CNDDB occurrences of this species were identified within 2 miles of the BSA; however, this species was reported in the San Diego Bird Atlas square that includes the BSA. Although this species was not observed during the biological survey, suitable nesting habitat (eucalyptus woodland) for this species was present within the BSA.
Buteo regalis **Ferruginous hawk**	US: – CA: WL (wintering) County: Group 1	Forages in open fields, grasslands and agricultural areas, sagebrush flats, desert scrub, fringes of pinyon-juniper habitats, and other open country in western North America. Requires large, open tracts of grasslands, sparse shrub, or desert habitats.	Mid-September through mid-April	**Low.** Although suitable foraging habitat (grassland) for this species was present within the BSA, no CNDDB occurrences of this species were identified within 2 miles of the BSA, no San Diego Bird Atlas reports were identified in the square that includes the BSA, and this species was not observed during the biological survey.

Special-Status Species Summary Table

Species	Status	Habitat and Distribution	Activity Period	Occurrence Probability
Buteo swainsoni **Swainson's hawk**	US: – CA: ST (nesting) County: Group 1	Open desert, grassland, or cropland containing scattered, large trees or small groves. Breeds in stands with few trees in juniper-sage flats, riparian areas, and in oak savannah in the Central Valley. Forages in adjacent grasslands or suitable grain or alfalfa fields, or livestock pastures. Breeds and nests in western North America; winters in South America. Uncommon breeding resident and migrant in the Central Valley, Klamath Basin, Northeastern Plateau, Lassen County, and Mojave Desert. Very limited breeding reported from Lanfair Valley, Owens Valley, Fish Lake Valley, and Antelope Valley. In Southern California, now mostly limited to spring and fall transient. Formerly abundant in California with wider breeding range.	Spring and fall (in migration)	**Not Expected.** Although marginally-suitable foraging habitat (grassland) was present within the BSA and a CNDDB occurrence of this species was identified within 1 mile of the BSA, the record is from 1923 and this species is believed to be extirpated from the area. Furthermore, no San Diego Bird Atlas reports were identified in the square that includes the BSA and this species was not observed during the biological survey.
Campylorhynchus brunneicapillus sandiegensis **Coastal cactus wren**	US: – CA: SSC County: Group 1	Inhabits coastal sage scrub, nesting almost exclusively in thickets of cholla (*Opuntia prolifera*) and prickly pear (*Opuntia littoralis* and *Opuntia oricola*), typically below 150 meters (500 feet) elevation. Found in coastal areas of Orange County and San Diego Counties, and extreme northwestern Baja California, Mexico.	Year-round	**Not Expected.** Although a CNDDB occurrence of this species was identified within a quarter mile of the BSA (1990), suitable habitat for this species was not present within the BSA, and this species was not observed during the biological survey.

Special-Status Species Summary Table

Species	Status	Habitat and Distribution	Activity Period	Occurrence Probability
Cathartes aura **Turkey vulture**	US: – CA: – County: Group 1	Forage farmland, forest, and rangeland. Nest in rock crevices, caves, ledges, thickets, mammal burrows and hollow logs, fallen trees, abandoned hawk or heron nests, and abandoned buildings.	Year-round	**Moderate.** No CNDDB occurrences of this species were identified within 2 miles of the BSA; however, this species was reported in the San Diego Bird Atlas square that includes the BSA. Although this species was not observed during the biological survey, suitable foraging habitat (grassland) for this species was present within the BSA.
Circus cyaneus hudsonius **Northern harrier**	US: – CA: SSC (nesting) County: Group 1	Marshy habitats, grassland and other open country; uncommon in open desert and brushlands. Nests on the ground in open (treeless) wetland and upland areas, including cultivated cropland and dry grassland. Nests usually constructed in tall, dense clumps of vegetation. Found in the Temperate Zone worldwide.	Year-round	**Low.** Although suitable habitat (grassland) for this species was present within the BSA, no CNDDB occurrences of this species were identified within 2 miles of the BSA, and this species was not observed during the biological survey. Furthermore, the San Diego Bird Atlas reports only minimal wintering activity in the square that includes the BSA.
Coccyzus americanus occidentalis **Western yellow-billed cuckoo**	US: FT CA: SE County: Group 1	Breeds and nests in extensive stands of dense cottonwood/willow riparian forest along broad, lower flood bottoms of larger river systems at scattered locales in western North America; winters in South America.	May through September	**Not Expected.** Although a CNDDB occurrence of this species was identified within 1 mile of the BSA, the record is from 1932 and this species is believed to be extirpated from the area. Furthermore, suitable habitat was not present within the BSA, this species was not observed during the biological survey, and no San Diego Bird Atlas reports were identified in the square that includes the BSA.

Special-Status Species Summary Table

Species	Status	Habitat and Distribution	Activity Period	Occurrence Probability
Dendroica petechial brewsteri **Yellow warbler**	US: – CA: – County: Group 2	Breed in shrubby thickets and woods, particularly along watercourses and in wetlands. Common trees include willows, alders, and cottonwoods across North America and up to about 9,000 feet in the West. In winter they mainly occur in mangrove forests of Central and South America.	Winter in California	**Not Expected.** Suitable habitat for this species was not present within the BSA and this species was not observed during the biological survey.
Elanus leucurus **White-tailed kite**	US: – CA: FP (nesting) County: Group 1	Found in grasslands, open woodlands, savannas, marshes, and cultivated fields.	Year-round	**Low.** Although suitable habitat (grassland) for this species was present within the BSA, no CNDDB occurrences of this species were identified within 2 miles of the BSA, and this species was not observed during the biological survey. Furthermore, the San Diego Bird Atlas reports a low incidence of occurrence for this species in the square that includes the BSA.
Eremophila alpestris actia **California horned lark**	US: – CA: WL County: Group 2	Sandy beaches, agricultural fields, grasslands, and open areas.		**Low.** Although suitable habitat (grassland) for this species was present within the BSA, no CNDDB occurrences of this species were identified within 2 miles of the BSA, no San Diego Bird Atlas reports were identified in the square that includes the BSA, and this species was not observed during the biological survey.

Special-Status Species Summary Table

Species	Status	Habitat and Distribution	Activity Period	Occurrence Probability
Empidonax traillii extimus **Southwestern willow flycatcher**	US: FE CA: SE County: Group 1	Rare and local breeder in extensive riparian areas of dense willows or (rarely) tamarisk, usually with standing water, in the southwestern U.S. and northwestern Mexico. Winters in Central and South America. Below 6,000 feet elevation.	May through September	**Not Expected.** Suitable habitat for this species was not present within the BSA, no CNDDB occurrences of this species were identified within 2 miles of the BSA, no San Diego Bird Atlas reports were identified in the square that includes the BSA, and this species was not observed during the biological survey.
Falco mexicanus **Prairie falcon**	US: – CA: WL (nesting) County: Group 1	Open country in much of North America. Nests in cliffs or rocky outcrops; forages in open arid valleys and agricultural fields. Rare in southwestern California.	Year-round diurnal	**Not Expected.** Suitable habitat for this species was not present within the BSA, no CNDDB occurrences of this species were identified within 2 miles of the BSA, no San Diego Bird Atlas reports were identified in the square that includes the BSA, and this species was not observed during the biological survey.
Icteria virens **Yellow-breasted chat**	US: – CA: SSC (nesting) County: Group 1	Riparian thickets of willow, brushy tangles near watercourses. Nests in riparian woodland throughout much of western North America. Winters in Central America.	Summer in California	**Not Expected.** Suitable habitat for this species was not present within the BSA, no CNDDB occurrences of this species were identified within 2 miles of the BSA, and this species was not observed during the biological survey.

Special-Status Species Summary Table

Species	Status	Habitat and Distribution	Activity Period	Occurrence Probability
Lanius ludovicianus **Loggerhead shrike**	US: – CA: SSC (nesting) County: Group 1	Prefers open habitats with scattered shrubs, trees, posts, fences, utility lines, or other perches. Inhabits open country with short vegetation, pastures, old orchards, cemeteries, golf courses, riparian areas, and open woodlands. Highest density occurs in open-canopied valley foothill hardwood, valley foothill hardwood-conifer, valley foothill riparian, pinyon-juniper, juniper, desert riparian, and Joshua tree habitats. Occurs only rarely in heavily urbanized areas, but often found in open cropland. Found in open country in much of North America.	Year-round	**Low.** Although marginally-suitable habitat (grassland) for this species was present within the BSA, no CNDDB occurrences of this species were identified within 2 miles of the BSA, no San Diego Bird Atlas reports were identified in the square that includes the BSA, and this species was not observed during the biological survey.
Larus californicus **California gull**	US: – CA: WL (nesting colony) County: Group 2	Breed on sparsely vegetated islands and levees in inland lakes and rivers. Forage in any open area where they can find food including garbage dumps, scrublands, pastures, orchards, meadows, and farms. In the winter they forage along the Pacific Coast and use mostly marine areas including mudflats, estuaries, deltas, and beaches.	Year-round	**Not Expected.** Suitable habitat for this species was not present within the BSA, no San Diego Bird Atlas reports were identified in the square that includes the BSA, and this species was not observed during the biological survey.
Plegadis chihi **White-faced ibis**	US: – CA: WL (nesting colony) County: Group 1	Winters locally in wet meadows, shallow freshwater marshes, ponds, lakes, rivers, flooded fields, and estuaries. May frequent brackish areas or feed in flooded fields. Known rookery in western Riverside County. In the Coachella Valley and Imperial Valley, this species primarily occurs in irrigated agricultural lands, particularly alfalfa and wheat.	Year-round diurnal activity	**Not Expected.** Although a CNDDB occurrence was identified within 1 mile of the BSA, it is from 1901. Suitable habitat for this species was not present within the BSA, no San Diego Bird Atlas reports were identified in the square that includes the BSA, and this species was not observed during the biological survey.

Special-Status Species Summary Table

Species	Status	Habitat and Distribution	Activity Period	Occurrence Probability
Polioptila californica californica **Coastal California gnatcatcher**	US: FT CA: SSC County: Group 1	Inhabits coastal sage scrub in low-lying foothills and valleys in cismontane southwestern California and Baja California.	Year-round	**Not Expected.** Although CNDDB occurrences were identified within 1 mile of the BSA, suitable habitat for this species was not present within the BSA and this species was not observed during the biological survey.
Sialia mexicana **Western bluebird**	US: – CA: – County: Group 2	Montane coniferous and oak woodlands in San Diego County's foothills and mountains.	Year-round	**Low.** Although this species was not observed during the biological survey and only marginally-suitable habitat (oak trees) for this species was present within the BSA, the San Diego Bird Atlas reports this species occurring in the square that includes the BSA.
Tyto alba **Common barn owl**	US: – CA: – County: Group 2	Open habitats including grassland, chaparral, riparian, and other wetlands. Usually nests on ledges, crevices, or other sheltered areas of cliffs or man-made structures. Also nests in cavities in tress or snags.	Year-round	**Moderate.** Although this species was not observed during the biological survey, suitable nesting and foraging habitat was present within the BSA and this species was reported in the San Diego Bird Atlas square that includes the BSA.
Vireo bellii pusillus **Least Bell's vireo**	US: FE CA: SE County: Group 1	Riparian forests and willow thickets. The most critical structural component of least Bell's vireo habitat in California is a dense shrub layer 2 to 10 feet (0.6–3.0 meter) above ground. Nests from central California to northern Baja California. Winters in southern Baja California.	April through September	**Not Expected.** Although CNDDB occurrences were identified within 1 mile of the BSA, they are from 1903 and 1930 and one record is believed to be extirpated. Furthermore, suitable habitat for this species was not present within the BSA and this species was not observed during the biological survey.

Special-Status Species Summary Table

Species	Status	Habitat and Distribution	Activity Period	Occurrence Probability
Mammals				
Antrozous pallidus **Pallid bat**	US: – CA: SSC County: Group 2	Day roosts in caves, crevices, rocky outcrops, tree hollows or crevices, mines and occasionally buildings, culverts, and bridges. Night roosts may be more open sites, such as porches and open buildings. Grasslands, shrublands, woodlands, and forest in western North America.	Year-round; nocturnal	**Moderate.** Although this species was not observed during the biological survey, suitable night roosting habitat (woodland) for this species was present within the BSA and there is a CNDDB occurrence within 1 mile of the BSA.
Bassariscus astutus **Ringtail**	US: – CA: – County: Group 2	Woody and rocky areas of the southwestern United States and most of Mexico.	Year-round; nocturnal	**Not Expected.** Suitable habitat for this species was not present within the BSA and this species was not observed during the biological survey.
Chaetodipus californicus femoralis **Dulzura pocket mouse**	US: – CA: SSC County: Group 2	Found in a variety of habitats including coastal sage scrub, chaparral and grassland in northern Baja California, San Diego and extreme southwestern and western Riverside Counties. Limit of range to northwest (at interface with *C. c. dispar*) unclear.	Year-round	**Not Expected.** Although CNDDB occurrences of this species were identified within 1 mile of the BSA, they are from 1953 and 1961 the general area has been heavily disturbed and developed since then. The BSA is highly disturbed and does not contain suitable habitat for this species. Furthermore, this species was not observed during the biological survey..
Chaetodipus fallax fallax **Northwestern San Diego pocket mouse**	US: – CA: SSC County: Group 2	Found in sandy herbaceous areas, usually associated with rocks or coarse gravel in coastal scrub, chaparral, grasslands, and sagebrush, from Los Angeles County through southwestern San Bernardino, western Riverside, and San Diego Counties to northern Baja California.	Year-round	**Not Expected.** Suitable habitat for this species was not present within the BSA, no CNDDB occurrences of this species were identified within 2 miles of the BSA, and this species was not observed during the biological survey.

Special-Status Species Summary Table

Species	Status	Habitat and Distribution	Activity Period	Occurrence Probability
Choeronycteris mexicana **Mexican long-tongued bat**	US: - CA: SSC County: Group 2	Occasionally found in San Diego County, which is on the periphery of their range. Feeds on nectar and pollen of night-blooming succulents. Roosts in relatively well-lit caves, and in and around buildings.	Year-round	**Not Expected.** Suitable habitat for this species was not present within the BSA, no CNDDB occurrences of this species were identified within 2 miles of the BSA, and this species was not observed during the biological survey.
Corynorhinus townsendii **Townsend's big-eared bat**	US: – CA: SSC County: Group 2	Requires caves, mines, tunnels, buildings, or other similar structures for roosting. May use buildings or bridges for roosting. Often uses use separate sites for night, day, hibernation, or maternity roosts. Ranges from southwestern Canada through the western United States to southern Mexico.	Year-round; nocturnal	**Not Expected.** Although a CNDDB occurrence of this species is within 1 mile of the BSA, it is from 1932. Suitable roosting habitat for this species was not present within the BSA, no CNDDB occurrences of this species were identified within 2 miles of the BSA, and this species was not observed during the biological survey.
Euderma maculatum **Spotted bat**	US: – CA: SSC County: Group 2	Found in various communities including desert-scrub, pinyon-juniper woodland, ponderosa pine, mixed conifer forest, canyons, cliffs, riparian areas, fields, and open pasture at scattered localities in western North America from southern British Columbia to north-central Mexico. Roosts in cracks, crevices, and caves, usually on exposed cliff faces. Poorly known. Wanders widely and through varied habitats when foraging.	Year-round; nocturnal	**Not Expected.** Suitable habitat for this species was not present within the BSA, no CNDDB occurrences of this species were identified within 2 miles of the BSA, and this species was not observed during the biological survey.

Special-Status Species Summary Table

Species	Status	Habitat and Distribution	Activity Period	Occurrence Probability
Eumops perotis californicus **Greater western mastiff bat**	US: – CA: SSC County: Group 2	Occurs in many open, semi-arid to arid habitats, including conifer and deciduous woodlands, coastal scrub, grasslands, chaparral, etc.; roosts in crevices in vertical cliff faces, high buildings, and tunnels, and travels widely when foraging.	Year-round; nocturnal	**Not Expected.** Suitable roosting habitat for this species was not present within the BSA, no CNDDB occurrences of this species were identified within 2 miles of the BSA, and this species was not observed during the biological survey.
Felis concolor **Mountain lion**	US: – CA: – County: Group 2	Largest range of any wild land animal in the Americas. Its range spans from northern Yukon in Canada to the southern Andes. Its wide distribution stems from its adaptability to virtually every habitat type; it is found in all forest types, as well as in lowland and mountainous deserts. The cougar prefers habitats that include precipitous canyons, escarpments, rim rocks, and dense brush, but can also live in open areas with little vegetation	Year-round	**Not Expected.** Suitable habitat for this species was not present within the BSA and this species was not observed during the biological survey.
Lasiurus blossevillii **Western red bat**	US: – CA: SSC County: Group 2	Roosts in the foliage of trees and shrubs, commonly in edge habitats along streams or open fields, and sometimes in orchards or urban areas. Often associated with riparian habitats, particularly those containing sycamores and cottonwoods.	Year-round; nocturnal	**Low.** Although marginally-suitable habitat (trees and open fields) for this species was present within the BSA, the habitat is not optimal due to the absence of established riparian habitat and a consistent water source), no CNDDB occurrences of this species were identified within 2 miles of the BSA, and this species was not observed during the biological survey.

Special-Status Species Summary Table

Species	Status	Habitat and Distribution	Activity Period	Occurrence Probability
Lasiurus cinereus **Hoary bat**	US: – CA: SA County: –	Forages over a wide range of habitats, but prefers open habitats with access to trees, for roosting, and water. Ranges throughout most of California.	Primarily the warmer months; leaves colder areas during winter	**Low.** Trees are present within the BSA and one CNDDB occurrence from 1966 was identified within 1 mile of the BSA; however, the habitat on site is not optimal due the absence of a consistent water source. This species was not observed during the biological survey.
Lasiurus xanthinus **Western yellow bat**	US: – CA: SSC County: –	Varied habitats, but usually near water; often associated with palm trees. Southwestern United States to southern Mexico.	Primarily the warmer months	**Low.** Although Mexican fan palm trees occur within the BSA and a CNDDB occurrence from 1984 was identified within 1 mile of the BSA, habitat on site is not optimal due to the absence of a consistent water source. This species was not observed during the biological survey.
Lepus californicus bennettii **San Diego black-tailed jackrabbit**	US: – CA: SSC County: Group 2	Variety of habitats including herbaceous and desert scrub areas, early stages of open forest and chaparral. Most common in relatively open habitats. Restricted to the cismontane areas of Southern California, extending from the coast to the Santa Monica, San Gabriel, San Bernardino, and Santa Rosa Mountain ranges.	Year-round, diurnal and crepuscular activity	**Not Expected.** Suitable habitat for this species was not present within the BSA, no CNDDB occurrences of this species were identified within 2 miles of the BSA, and this species was not observed during the biological survey.
Myotis ciliolabrum **Western small-footed myotis**	US: – CA: SA County: Group 2	Occupies a wide variety of habitats, primarily relatively arid wooded and brushy uplands near water. Sea level to at least 2,715 meters (8,900 feet) elevation. Contra Costa County south to the Mexican border, west and east sides of the Sierra Nevada and in the deserts from Modoc to Kern and San Bernardino Counties.	Primarily the warmer months	**Not Expected.** Suitable roosting habitat for this species was not present within the BSA (insufficient water), no CNDDB occurrences of this species were identified within 2 miles of the BSA, and this species was not observed during the biological survey.

Special-Status Species Summary Table

Species	Status	Habitat and Distribution	Activity Period	Occurrence Probability
Myotis yumanensis **Yuma myotis**	US: – CA: SA County: Group 2	Optimal habitats are open forests and woodlands with sources of water over which to feed. Common and widespread in California. Uncommon in the Mojave and Colorado Desert regions, except for mountains. Ranging generally from sea level to 2,440 meters (8,000 feet). Roosts in buildings, mines, caves or crevices; occasionally in swallow nests and under bridges.	Primarily the warmer months	**Not Expected.** Suitable roosting habitat for this species was not present within the BSA (insufficient water), no CNDDB occurrences of this species were identified within 2 miles of the BSA, and this species was not observed during the biological survey.
Neotoma lepida intermedia **San Diego desert woodrat**	US: – CA: SSC County: Group 2	Found in desert scrub and coastal sage scrub habitat, especially in association with cactus patches. Builds stick nests around cacti or on rocky crevices. Occurs along the Pacific slope from San Luis Obispo County to northwest Baja California.	Year-round, mainly nocturnal, occasionally crepuscular and diurnal	**Not Expected.** Suitable habitat for this species was not present within the BSA, no CNDDB occurrences of this species were identified within 2 miles of the BSA, and this species was not observed during the biological survey.
Nyctinomops femorosaccus **Pocketed free-tailed bat**	US: – CA: SSC County: Group 2	Usually associated with cliffs, rock outcrops, or slopes. May roost in buildings (including roof tiles) or caves. Occurs from the southwestern United States to central Mexico.	Year-round; nocturnal	**Not Expected.** Although a 1988 CNDDB occurrence of this species was identified within 1 mile of the BSA, suitable habitat for this species was not present within the BSA and this species was not observed during the biological survey.
Nyctinomops macrotis **Big free-tailed bat**	US: – CA: SSC County: Group 2	Inhabits rugged, rocky canyon country in southwestern United States. Found from northern South America and the Caribbean Islands northward to the western United States. In the southwestern U.S., populations appear to be scattered.	Probably year-round	**Not Expected.** Although a 1988 CNDDB occurrence of this species was identified within 1 mile of the BSA, suitable habitat for this species was not present within the BSA and this species was not observed during the biological survey.

Special-Status Species Summary Table

Species	Status	Habitat and Distribution	Activity Period	Occurrence Probability
Odocoileus hemionus **Southern mule deer**	US: – CA: – County: Group 2	Highly adaptable. Common in mountain forests, deserts, and brushlands. Known in the western Great Plains, in the Rocky Mountains, in the United States southwest, and on the west coast of North America	Year-round	**Low.** Suitable habitat for this species was not present within the BSA; however, it is possible for this species to forage in unsuitable habitat.
Onychomys torridus ramona **Southern grasshopper mouse**	US: – CA: SSC County: Group 2	Sandy or gravelly valley floor habitats with friable soils in open and semi-open scrub, including coastal sage scrub, mixed chaparral, low sagebrush, riparian scrub, and annual grassland with scattered shrubs, preferring low to moderate shrub cover. More susceptible to small- and large-scale habitat loss and fragmentation than most other rodents, due to its low fecundity, low population density, and large home range size. Arid portions of southwestern California and northwestern Baja California.	Nocturnal, active year-round	**Not Expected.** Suitable habitat for this species was not present within the BSA, no CNDDB occurrences of this species were identified within 2 miles of the BSA, and this species was not observed during the biological survey.
Taxidea taxus **American badger**	US: – CA: SSC County: Group 2	Primary habitat requirements seem to be sufficient food and friable soils in relatively open uncultivated ground in grasslands, woodlands, and desert. Widely distributed in North America.	Year-round	**Low.** Although suitable habitat (friable soils and grassland/woodlands) for this species was present within the BSA and a CNDDB occurrence of this species was identified within 1 mile of the BSA (unknown date), neither this species nor appropriately-sized burrows were observed during the biological survey.

STATUS ABBREVIATIONS

US: Federal Classifications	
–	No applicable classification.
FE	Taxa federally-listed as Endangered.
FT	Taxa federally-listed as Threatened.
CS	Candidate Species
CA: State Classifications	
–	No applicable classification.
SE	Taxa State-listed as Endangered.

STATUS ABBREVIATIONS	
ST	Taxa State-listed as Threatened.
FP	Fully-Protected Species
SSC	California Species of Special Concern. Refers to animals with vulnerable or seriously declining populations.
WL	California Species of Special Concern Watch List.
SA	Special Animal. Refers to any other animal monitored by the Natural Diversity Data Base, regardless of its legal or protection status.
SP	Special Plant. Refers to any other plant monitored by the Natural Diversity Data Base, regardless of its legal or protection status.
California Rare Plant Rankings (CRPR)	
–	No applicable classification.
1B	Rare, threatened, or endangered in California and elsewhere.
2B	Rare, threatened, or endangered in California, but more common elsewhere.
3	Review list: plants about which more information is needed.
4	Watch list: plants of limited distribution.
	CRPR Extensions
	0.1 Seriously endangered in California (greater than 80% of occurrences threatened/high degree and immediacy of threat).
	0.2 Fairly endangered in California (20 to 80% occurrences threatened).
	0.3 Not very threatened in California (less than 20% occurrences threatened)
California Rare Plant Ranks are assigned by a committee of government agency and non-governmental botanical experts and are not official State designations of rarity status.	
County of San Diego Plant and Animal Classifications	
–	No County classification.
List A	Plants that are rare, threatened, or endangered in California and elsewhere.
List B	Plants that are rare, threatened, or endangered in California but more common elsewhere.
List C	Plants that may be rare, but need more information to determine their true rarity status.
List D	Plants of limited distribution and are uncommon, but not presently rare or endangered.
Group 1	Animals with a very high level of sensitivity, either because they are listed as threatened or endangered or because they have very specific natural history requirements that must be met.
Group 2	Animals that are becoming less common, but are not yet so rare that extirpation or extinction is imminent without immediate action.

ATTACHMENT E:

JURISDICTIONAL DELINEATION REPORT

JURISDICTIONAL DELINEATION REPORT

ESCONDIDO ESTATES PROJECT

NEAR THE CITY OF ESCONDIDO

SAN DIEGO COUNTY, CALIFORNIA

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LSA Project No. UNS1801

LSA

January 2021

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A: COPY OF WETLAND DETERMINATION DATA FORMS
B: FUNCTION AND VALUES ANALYSIS

INTRODUCTION

This report presents the results of a jurisdictional delineation conducted by LSA. It summarizes the results of fieldwork conducted to identify the extent of State and federal jurisdiction within the study area potentially subject to regulation by the United States Army Corps of Engineers (Corps) pursuant to Section 404 of the Federal Clean Water Act (CWA), the Regional Water Quality Control Board (RWQCB) pursuant to Section 401 of the CWA and/or the Porter-Cologne Water Quality Control Act, and the California Department of Fish and Wildlife (CDFW) pursuant to Section 1600 et seq. of the California Fish and Game Code. It includes an assessment of Resource Protection Ordinance (RPO) Wetlands as defined by the San Diego County (County) Code of Regulatory Ordinances. LSA surveyed an approximately 17.2-acre Biological Study Area (BSA) comprising the project site and a 100-foot County-required buffer near the City of Escondido, San Diego County, California. This report has been prepared to identify aquatic resource limits for submittal to the County, the Corps, the RWQCB, and the CDFW as part of their review of applications for permit authorization.

This routine wetland and jurisdictional delineation was conducted under contract with Escondido Estates, LLC. The findings and conclusions presented in this report, including the locations and extent of aquatic resources subject to regulatory jurisdiction, represent the professional opinion of LSA and should be considered preliminary until verified by representatives from the Corps, the RWQCB, the CDFW, and the County.

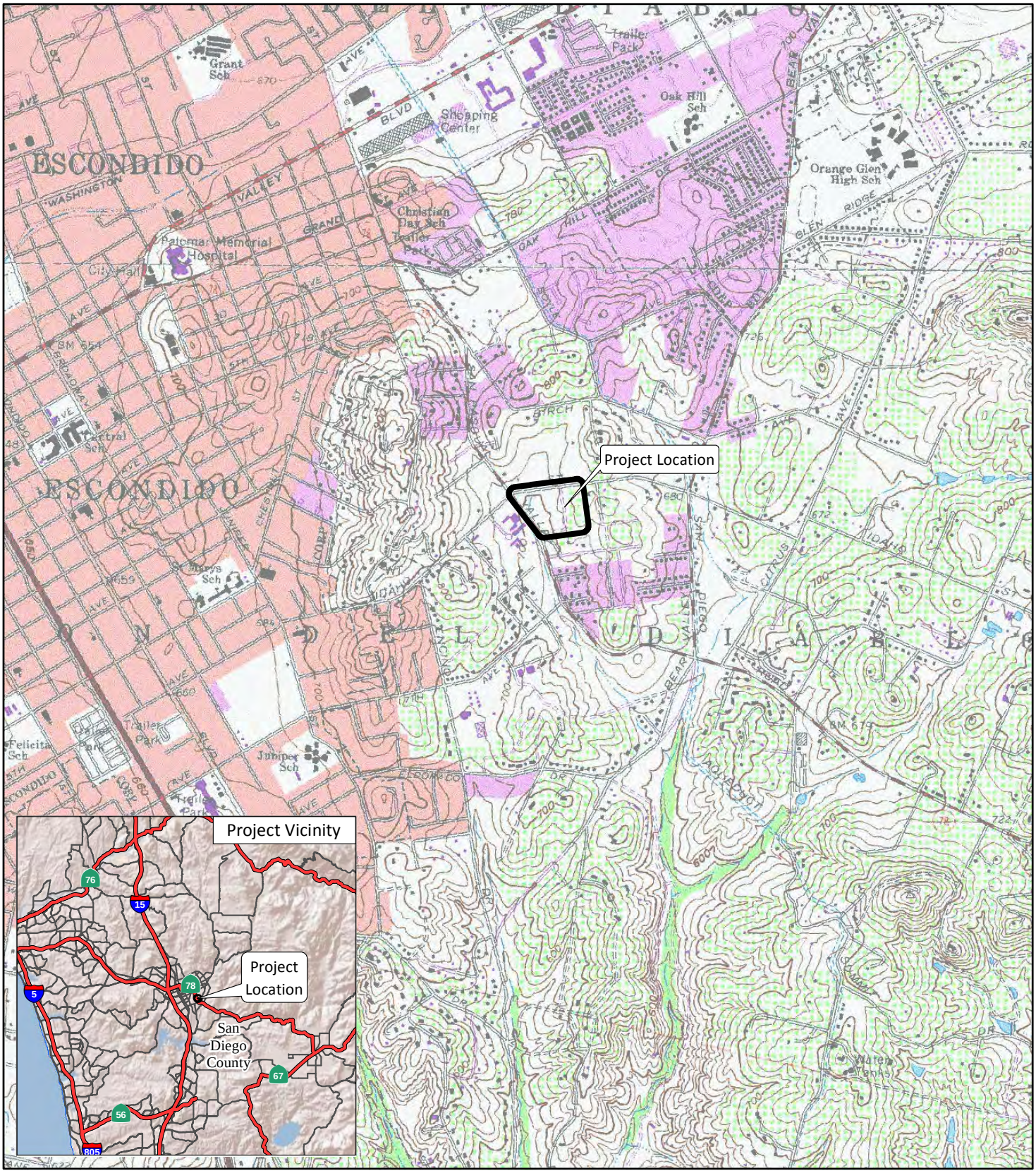
PROPOSED PROJECT

Escondido Estates, LLC proposes to construct a 20-unit single-family residential development southeast of the intersection of San Pasqual Valley Road and Idaho Avenue, within Assessor's Parcel Number (APN) 234-321-01. Each unit would include its own septic system. The proposed project includes construction of a basin at the southwestern corner of the property to address drainage and water quality requirements.

SITE DESCRIPTION

The BSA is near the City of Escondido, San Diego County, California. Specifically, the BSA is in an unsectioned portion of the Rincon del Diablo Land Grant on the U.S. Geological Survey (USGS) 7.5-minute *Escondido, California* quadrangle map (Figure 1).

The BSA is dominated by nonnative grassland vegetation with some developed land and includes walnut woodland and eucalyptus woodland. Portions of a jurisdictional drainage are within the western edge of the BSA. The following soils are present within the project site: Ramona sandy loam (2 to 5 percent slopes) and Fallbrook-Vista sandy loam (15 to 30 percent slopes). The BSA slopes gently downward in a westerly direction and has an elevation range of approximately 690 to 760 feet above mean sea level.



LSA

LEGEND

Project Boundary/APN 234-321-01

FIGURE 1

N

0 1000 2000

FEET

SOURCE: USGS 7.5' Quad - Escondido (1975), CA

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Escondido Estates Project

Project Location

REGULATORY BACKGROUND

United States Army Corps of Engineers

The Corps regulates discharges of dredged or fill material into waters of the United States (WOTUS). These waters include wetland and nonwetland bodies of water that meet specific criteria. Corps regulatory jurisdiction pursuant to Section 404 of the 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 Corps regulations).

For several decades, the operable definition of WOTUS was provided at 33 Code of Federal Regulations (CFR) 328.3, but implementation of this definition has been shaped by the courts and subsequent guidance over the years, most substantially by the 2001 Supreme Court decision in *Solid Waste Agency of Northern Cook County v. United States Army Corps of Engineers*, No. 99-1178 (*SWANCC*) and the 2006 Supreme Court decision in the consolidated cases *Rapanos v. United States* and *Carabell v. United States* (126 S. Ct. 2208), collectively referred to as *Rapanos*. The Supreme Court concluded that wetlands are WOTUS if they significantly affect the chemical, physical, and biological integrity of other covered waters more readily understood as navigable.

Based, in part, on the *Rapanos* decision, a new rule defining WOTUS was promulgated in the Federal Register on June 29, 2015. Following a series of legal challenges and the current presidential administration's attempt to delay the implementation of this rule, on August 16, 2018, the United States District Court for the District of South Carolina enjoined the delay of the WOTUS Rule implementation for failure to comply with the Administrative Procedure Act. This decision made the 2015 WOTUS definition effective in 26 states where federal district court judges did not stay it, including California.

However, pursuant to an Executive Order signed on February 28, 2017, "Restoring the Rule of Law, Federalism, and Economic Growth by Reviewing the `Waters of the United States Rule,'" the Corps and United States Environmental Protection Agency (EPA) embarked on a two-step process to revise the definition of WOTUS. The first step was to repeal the 2015 WOTUS definition and revert to the operative definition that was shaped by previous regulations and subsequent court decisions. The Federal Register notice that effected this repeal was published on October 22, 2019, with an effective date of December 23, 2019. On February 14, 2019, as the second step of the comprehensive two-step process, the Corps and EPA proposed to interpret WOTUS to encompass: Traditional navigable waters, including the territorial seas; tributaries that contribute perennial or intermittent flow to such waters; certain ditches; certain lakes and ponds; impoundments of otherwise jurisdictional waters; and wetlands adjacent to other jurisdictional waters. Following the public comment period for the proposed revised definition of WOTUS, the agencies finalized the revised definition of WOTUS with regulations that became effective on June 22, 2020.

Given the substantial changes in operable definitions that have occurred and may continue to occur considering the regulatory revisions and potential court actions, it is not advisable to predict the regulations that will be in place at the time of a particular jurisdictional determination by the Corps. Therefore, this jurisdictional delineation focuses on identifying the boundaries of potentially

jurisdictional water bodies, utilizing methods for determining the locations of ordinary high water mark (OHWM) and wetland boundaries as described below. These methods for determining the boundaries of water bodies in general have not substantially changed over the years and are not likely to change with revised regulations. This delineation can then be used in combination with a companion jurisdictional analysis to determine which of the identified water bodies is actually jurisdictional, based on the definition that is in effect at the time of a jurisdictional determination by the Corps. In some cases, it may be possible to identify water bodies that are likely or unlikely to be jurisdictional under any scenario, i.e., based on the 2015 WOTUS definition, previous regulations and *Rapanos* guidance, or current regulations.

Any definition is likely to include the following categories of waters:

(i) The territorial seas and all waters that are currently used, were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;

(ii) Tributaries of waters identified in paragraph (i); however, the definition of tributary, based on the nature and amount of flow, is subject to change pursuant to potential court actions;

(iii) All impoundments of waters otherwise identified as waters of the United States;

(iv) Wetlands adjacent to any of the above; and

(v) All interstate waters, including interstate wetlands insofar as they meet one of the definitions in the above categories and possibly all interstate waters depending on court actions and subsequent changes to regulations.

Similarly, certain water bodies are likely to be excluded, pursuant to one of the following: 1) specific rules; 2) the preamble to the 1986 regulations; 3) the SWANCC decision; or 4) *Rapanos* guidance; examples include:

(i) Isolated waters;

(ii) Artificial, ephemeral ditches, excavated on dry land and draining only uplands;

(iii) Erosional features that do not meet the definition of tributary;

(iv) Storm water control features created in dry land;

(v) Artificial reflecting pools or swimming pools and ornamental waters; and

(vi) Incidental depressions created in dry land.

As applicable, waters in the above categories are noted in this delineation; the relationships of waters in other categories likely to be jurisdictional waters are also noted, but without speculation as to their future jurisdictional status.

The Corps typically considers any body of water displaying an OHWM for designation as WOTUS. Subject to the applicable definition of WOTUS, Corps jurisdiction over nontidal WOTUS extends laterally to the OHWM or beyond the OHWM to the limit of any contiguous wetlands, if present. 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.

Waters found to be isolated and not subject to CWA regulation may still be regulated by the RWQCB under the State Porter-Cologne Water Quality Control Act (Porter-Cologne Act).

Wetlands

Wetland delineations for Section 404 purposes must be conducted according to the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* (Version 2.0) (*Regional Supplement*) (Corps 2008) and the *Corps of Engineers 1987 Wetland Delineation Manual* (*1987 Manual*) (Environmental Laboratory 1987). Where there are differences between the two documents, the *Regional Supplement* takes precedence over the *1987 Manual*.

The Corps and the 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 for that particular wetland characteristic to be met. Several indicators may be analyzed to determine whether the criteria are satisfied.

Hydrophytic vegetation and hydric soils indicators provide evidence that episodes of inundation have lasted more than a few days or have occurred repeatedly over a period of years, but do not confirm that an episode has occurred recently. Conversely, wetland hydrology indicators provide evidence that an episode of inundation or soil saturation occurred recently, but do not provide evidence that episodes lasted more than a few days or occurred repeatedly over a period of years. Because of this, if an area lacks one of the three characteristics under normal circumstances, the area is considered nonwetland under most circumstances.

Determination of wetland limits may be obfuscated by a variety of natural environmental factors or human activities, collectively called difficult wetland situations, including cyclic periods of drought and flooding or highly ephemeral stream systems. During periods of drought, for example, bank return flows are reduced and water tables are lowered. This results in a corresponding lowering of ordinary high water and invasion of upland plant species into wetland areas. Conversely, extreme flooding may create physical evidence of high water well above what might be considered ordinary and may allow the temporary invasion of hydrophytic species into nonwetland areas. In highly ephemeral systems typical of Southern California, these problems are encountered frequently. In these situations, professional judgment based on years of practical experience and extensive

knowledge of local ecological conditions comes into play in delineating wetlands. The *Regional Supplement* provides additional guidance for difficult wetland situations.

Hydrophytic Vegetation

Hydrophytic vegetation is plant life that grows and is typically adapted for life in permanently or periodically saturated soils. The hydrophytic vegetation criterion is met if more than 50 percent of the dominant plant species from all strata (tree, shrub, herb, and woody vine layers) are considered hydrophytic. Hydrophytic species are those included on the 2016 National Wetland Plant List (Lichvar et al. 2016) published by the Corps. Each species on the list is rated according to a wetland indicator category, as shown in Table A.

Table A: Hydrophytic Vegetation

Category		Probability
Obligate Wetland	OBL	Almost always occur in wetlands (estimated probability > 99%)
Facultative Wetland	FACW	Usually occur in wetlands (estimated probability 67–99%)
Facultative	FAC	Equally likely to occur in wetlands and nonwetlands (estimated probability 34–66%)
Facultative Upland	FACU	Usually occur in nonwetlands (estimated probability 67–99%)
Obligate Upland	UPL	Almost always occur in nonwetlands (estimated probability > 99%)

To be considered hydrophytic, the species must have wetland indicator status (i.e., be rated Obligate Wetland [OBL], Facultative Wetland [FACW], or Facultative [FAC]).

The delineation of hydrophytic vegetation is typically based on the most dominant species from each vegetative stratum (strata are considered separately); when more than 50 percent of these dominant species are hydrophytic (i.e., FAC, FACW, or OBL), the vegetation is considered hydrophytic. In particular, the Corps recommends the use of the "50/20" rule (also known as the dominance test) from the *Regional Supplement* for determining dominant species. Under this method, dominant species are the most abundant species that immediately exceed 50 percent of the total dominance measure for the stratum, plus any additional species comprising 20 percent or more of the total dominance measure for the stratum. In cases where indicators of hydric soil and wetland hydrology are present but the vegetation initially fails the dominance test, the prevalence index must be used. The prevalence index is a weighted average of all plant species within a sampling point. The prevalence index is particularly useful when communities only have one or two dominants, where species are present at roughly equal coverage, or when strata differ greatly in total plant cover. In addition, Corps guidance provides that morphological adaptations may be considered when determining hydrophytic vegetation when indicators of hydric soil and wetland hydrology are present (Corps 2006). If the plant community passes either the dominance test or prevalence index after reconsidering the indicator status of any plant species that exhibit morphological adaptations for life in wetlands, then the vegetation is considered hydrophytic.

Hydric Soils

Hydric soils[1] are defined as soils that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part.[2] Soils are considered likely to meet the definition of a hydric soil when one or more of the following criteria are met:

1. All Histels except Folistels and Histosols except Folists;
2. Soils that are frequently ponded for a long duration or very long duration[3] during the growing season; or
3. Soils that are frequently flooded for a long duration or very long duration during the growing season.

Hydric soils develop under conditions of saturation and inundation combined with microbial activity in the soil that causes a depletion of oxygen. While saturation may occur at any time of year, microbial activity is limited to the growing season, when soil temperature is above biologic zero (the soil temperature at a depth of 50 centimeters, below which the growth and function of locally adapted plants are negligible). Biogeochemical processes that occur under anaerobic conditions during the growing season result in the distinctive morphologic characteristics of hydric soils. Based on these criteria and on information gathered from the National Soil Information System (NASIS) database, the United States Department of Agriculture's Natural Resources Conservation Service (NRCS) created a Soil Data Access (SDA) Hydric Soils List that is updated annually.

The *Regional Supplement* has a number of field indicators that may be used to identify hydric soils. The NRCS (2017) has also developed a number of field indicators that may demonstrate the presence of hydric soils. These indicators include hydrogen sulfide generation, accumulation of organic matter, and the reduction, translocation and/or accumulation of iron and other reducible elements. These processes result in soil characteristics that persist during both wet and dry periods. Separate indicators have been developed for sandy soils and for loamy and clayey soils.

Wetland Hydrology

Under natural conditions, development of hydrophytic vegetation and hydric soils is dependent on a third characteristic: wetland hydrology. Areas with wetland hydrology are those where the presence of water has an overriding influence on vegetation and soil characteristics due to anaerobic and reducing conditions, respectively (Environmental Laboratory 1987). The wetland hydrology criterion is satisfied if the area is seasonally inundated or saturated to the surface for a minimum of 14 consecutive days during the growing season in most years (Corps 2008).

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1 The hydric soils definition and criteria included in the *1987 Manual* are obsolete. Users of the 1987 Manual are directed to the United States Department of Agriculture (USDA) NRCS website for the most current information on hydric soils.

2 Current definition as of 1994 (*Federal Register,* July 13, 1994).

3 "Long duration" is defined as a single event lasting from 7 to 30 days; "very long duration" is defined as a single event that lasts longer than 30 days.

Hydrology is often the most difficult criterion to measure in the field due to seasonal and annual variations in water availability. Some of the indicators that are commonly used to identify wetland hydrology include visual observation of inundation or saturation, watermarks, recent sediment deposits, surface scour, and oxidized root channels (rhizospheres) resulting from prolonged anaerobic conditions.

California Department of Fish and Wildlife

The CDFW, through provisions of the California Fish and Game Code (Sec. 1600 et seq.), is empowered to issue agreements for any alteration of a river, stream, or lake where fish or wildlife resources may be adversely affected. Streams (and rivers) are defined by the presence of a channel bed and banks and at least an intermittent flow of water. The CDFW regulates wetland areas only to the extent that those wetlands are part of a river, stream, or lake as defined by the CDFW. Also, the CDFW typically does not regulate estuaries below the mouth of a tributary river or stream.

In obtaining CDFW agreements, the limits of wetlands are not typically determined. The reason for this is that the CDFW generally includes, within the jurisdictional limits of streams and lakes, any riparian habitat present. Riparian habitat includes willows, mule fat, and other vegetation typically associated with the banks of a stream or lake shorelines and may not be consistent with Corps definitions. In most situations, wetlands associated with a stream or lake would fall within the limits of riparian habitat. Thus, defining the limits of CDFW jurisdiction based on riparian habitat will automatically include any wetland areas and may include additional areas that do not meet Corps criteria for soils and/or hydrology (e.g., where riparian woodland canopy extends beyond the banks of a stream away from frequently saturated soils).

Regional Water Quality Control Board

The Porter-Cologne Water Quality Control Act of the California Water Code (§ 13000 et seq.) established nine RWQCBs to oversee water quality on a day-to-day basis at the local and/or regional level. Their duties include preparing and updating water quality control plans and associated requirements, and issuing water quality certifications under Section 401 of the CWA. This Act grants ultimate authority to the State Water Resources Control Board (SWRCB) over State water rights and water quality policy. Under the Porter-Cologne Water Quality Control Act, the RWQCBs (or SWRCB for projects that cross multiple RWQCB jurisdictions) are responsible for issuing National Pollutant Discharge Elimination System permits for point-source discharges and waste discharge requirements for nonpoint-source discharges into jurisdictional waters of the State.

The definition of waters under the jurisdiction of the State of California is broad and includes any surface water or groundwater, including saline waters within the boundaries of the State. Waters that meet the definition of waters of the United States are also considered waters of the State, but the jurisdictional limits of waters of the State may extend beyond the limits of waters of the United States. Isolated or ephemeral waters that may not be subject to regulations under federal law are considered to be waters of the State and regulated accordingly. The SWRCB recently adopted a definition of wetlands that utilizes Corps criteria and methods, but includes as wetlands those areas that meet hydrology and soils criteria even when vegetation is absent. While there is no formal statewide guidance for the delineation of nonwetland waters of the State, jurisdiction generally corresponds to the surface area of aquatic features that are at least seasonally inundated, and all

areas within the banks of defined rivers, streams, washes, and channels, including associated riparian vegetation. Currently, each RWQCB reserves the right to establish criteria for the regulation of nonwetland waters of the State.

Wetland Waters of the State

On August 28, 2019, the California Office of Administrative Law approved the SWRCB-proposed *State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State* (*Procedures*). The *Procedures*, effective on May 28, 2020, apply to discharges of dredged or fill material to waters of the State. The *Procedures* consist of four major elements: 1) a wetland definition; 2) a framework for determining whether a feature that meets the wetland definition is a water of the State; 3) wetland delineation procedures; and 4) procedures for the submittal, review and approval of applications for Water Quality Certifications and Waste Discharge Requirements for dredge or fill activities.

The Water Boards define a wetland as:

> An area is wetland if, under normal circumstances, (1) the area has continuous or recurrent saturation of the upper substrate caused by groundwater, or shallow surface water, or both; (2) the duration of such saturation is sufficient to cause anaerobic conditions in the upper substrate; and (3) the area's vegetation is dominated by hydrophytes or the area lacks vegetation.

The Water Board will rely on the final aquatic resource report verified by the Corps for determining the extent of wetland waters of the U.S. However, if it is not delineated in a final aquatic report, the procedures will use the *1987 Manual* and *Regional Supplement* to determine whether the area meets the State definition of a wetland. As described in the *1987 Manual* and *Regional Supplement*, an area "lacks vegetation" if it has less than 5 percent areal coverage of plants at the peak of the growing season. The methods shall be modified only to allow for the fact that the lack of vegetation does not prevent the determination of such an area that meets the State definition of wetland.

METHODOLOGY

LSA Senior Biologist Jaime Morales performed the jurisdictional delineation fieldwork on November 4, 2019. Mr. Morales surveyed the BSA on foot and evaluated all areas of potential jurisdiction according to Corps, RWQCB, CDFW, and County criteria. Data were recorded directly on a field map containing a 2019 aerial photograph base at a scale of 1 inch = 200 feet.

LSA evaluated areas supporting hydrology or species of plant life potentially indicative of wetlands according to routine wetland delineation procedures described in the *Regional Supplement*. Representative sample points were selected and examined in the field in those areas where wetland jurisdiction was in question or needed to be confirmed. At each sample point, the dominant and subdominant plant species were identified and their wetland indicator status (Lichvar et al. 2016) noted. When possible, a small sample pit (approximately 16 inches deep) was dug in order to examine soil characteristics and composition. Soil matrix colors were classified according to the Munsell Soil Color Charts (Munsell Color 2000). Hydrological conditions, including any surface inundation, saturated soils, groundwater levels, and/or other wetland hydrology indicators, were

recorded. General site characteristics were also noted. Standard data forms were completed for each sample point; copies of these data forms are included in Appendix A of this report.

RESULTS

The BSA contains sections of four ephemeral drainage features potentially subject to regulation by the resource agencies. The following subsections describe the features present in the BSA as they were observed during the jurisdictional delineation fieldwork. Figure 2 displays the locations of these features within the BSA. Figure 3 displays representative site photographs of these features.

LSA examined vegetation and hydrology within and adjacent to the drainage features. LSA performed a sample point in the walnut woodland south of Feature 1, as this was the area most likely to contain hydric soils based on physical conditions suitable to ponding, to determine whether or not this section contained hydric soils. LSA also studied current and historic aerial images and performed a visual inspection of areas downstream of the BSA.

Feature 1

Feature 1 consists of a small section of earthen ephemeral drainage near the northwestern corner of the BSA. Storm water sheet flows (no discernable drainage feature) from the property north of the project site are conveyed via a culvert under Idaho Avenue into Feature 1. This feature also receives runoff of storm water flows from Idaho Avenue and on-site sheet flows from the west and east, as the elevation within this feature, and the western edge in general, is the lowest. This feature has a defined streambed and banks (approximately 2 feet wide) and a 1.5-foot wide OHWM and is entirely vegetated by nonnative grassland dominated by ripgut brome (*Bromus diandrus*) and Russian thistle (*Salsola tragus*). The southern end of this short feature ends near the northern edge of the property boundary, as the defined streambed and banks gradually become less noticeable until the drainage is no longer evident before reaching the area mapped as walnut woodland. The area vegetated by walnut woodland does not display a defined streambed and banks or a discernable OHWM; however, it is assumed that storm water sheet flows are conveyed through this area and into Feature 2. Because the area mapped as walnut woodland does not display a defined streambed and banks, a discernable OHWM, or a predominance of hydrophytic vegetation, it is considered an upland area. Furthermore, LSA analyzed soils within the walnut woodland for hydric soil indicators. None were observed; therefore, the soils in this area are not hydric. The soils in the BSA are sandy loam in texture and have a moderate capacity to drain. This fact, in conjunction with the relatively low amount of water entering the site, has precluded the development of hydric soils.

Although Feature 1 ends at the northern edge of the BSA, flows conveyed by this feature continue southward via sheet flows into Feature 2, which then conveys flows to a culvert and into Feature 4. Flows within Feature 4 then continue in a southerly direction off site along a system of earthen roadside drainages and underground pipes into Lake Hodges and then into Lusardi Creek and ultimately into the Pacific Ocean, a TNW. Although this feature displays an OHWM and has a direct connection to a TNW, pursuant to current regulations and a June 19, 2020, court order (United States District Court Northern District of California, 2020), the Corps no longer regulates nonwetland ephemeral drainage features. The streambed and banks associated with this feature are potentially subject to CDFW and RWQCB (nonwetland waters of the State) jurisdiction. Because Feature 1 does

LSA

LEGEND

Project Boundary/
APN 234-321-01

Biological Study Area

Topographical Contours

*Biological Study Area includes a County-required 100-foot buffer

Aquatic Resources

CDFW Jurisdictional Streambed, Banks, and Associated Habitat (0.10 acre)

Non-Wetland Waters of the State (0.10 acre)

0 100 200
FEET

FIGURE 2

Escondido Estates Project

Aquatic Resources

SOURCE: Nearmap (02/19/2019); IMG (6/20/2019)

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Photograph 1: View of the western edge of the BSA, facing south. San Pasqual Valley Road in the background.

Photograph 2: View of the BSA from the northwestern corner of the site, facing southeast.

Photograph 3: View of the northern edge of the BSA facing northeast. Idaho Avenue in the background.

Photograph 4: View from the eastern edge of the BSA, facing southwest.

LSA

Figure 3

Escondido Estates Project
Site Photographs

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Photograph 5: View of the eastern portion of the BSA, facing northeast.

Photograph 6: View of the northern half of the BSA, facing northwest.

Photograph 7: View of Drainage Feature 1, facing west.

Photograph 8: The culvert outlet, south of Idaho Avenue, associated with Drainage Feature 1, facing northeast.

LSA

Figure 3

Escondido Estates Project
Site Photographs

Photograph 9: View upstream of Drainage Feature 1, facing north. Idaho Avenue is in the foreground.

Photograph 10: View of walnut woodland north of Drainage Feature 2, facing north.

Photograph 11: Upstream end of Drainage Feature 2, facing south. Beginning of streambed, banks, and OHWM.

Photograph 12: Drainage Feature 2, facing northwest.

LSA

Figure 3

Escondido Estates Project
Site Photographs

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Photograph 13: Downstream end of Drainage Feature 2, facing west. Flows continue under San Pasqual Valley Road and into Drainage Feature 4.

Photograph 14: Source of flows (irrigation runoff from adjacent residence) for Drainage Feature 3, facing northeast.

Photograph 15: View of Drainage Feature 3, facing west.

Photograph 16: View of Drainage Feature 4 (parallel to San Pasqual Valley Road) and the culvert that conveys flows from Drainage Feature 2, facing north.

LSA

Figure 3

Escondido Estates Project
Site Photographs

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not contain a predominance of hydrophytic vegetation and because its substratum consists of non-hydric soils, it does not meet the definition of County RPO wetlands.

Feature 2

Feature 2 consists of an ephemeral earthen drainage near the southwestern corner of the BSA. Storm water sheet flows from throughout the site into this feature, as it is in the lowest part of the property. Feature 2 has a defined streambed and banks (approximately 3.5 feet wide) and a 3-foot wide OHWM. This feature is within and surrounded by eucalyptus woodland dominated by eucalyptus trees (*Eucalyptus* spp.) with scattered coast live oak (*Quercus agrifolia*) trees. The allelopathic properties of eucalyptus tree leaf litter and root exudates prevent the growth of vegetation within the drainage. This feature conveys flows in a southeasterly direction into a concrete drainage inlet, which then conveys flows through a culvert pipe under San Pasqual Valley Road to a drainage outlet that connects to Feature 4.

Feature 2 conveys flows to a culvert and into Feature 4, which then conveys flows off site in a southerly direction along a system of earthen roadside drainages and underground pipes into Lake Hodges and then into Lusardi Creek and ultimately into the Pacific Ocean, a TNW. Although this feature displays an OHWM and has a direct connection to a TNW, pursuant to current regulations and a June 19, 2020, court order (United States District Court Northern District of California, 2020), the Corps no longer regulates nonwetland ephemeral drainage features. The streambed and banks associated with this feature are potentially subject to CDFW and RWQCB (nonwetland waters of the State) jurisdiction. Because Feature 2 does not contain a predominance of hydrophytic vegetation and because its substratum consists of non-hydric soils, it does not meet the definition of County RPO wetlands.

Feature 3

Feature 3 consists of a vegetated swale at the southeastern corner of the BSA. Storm water and irrigation flows exit the southwestern corner of the adjacent residence (1131 Idaho Avenue) via a small-diameter polyvinyl chloride (PVC) pipe culvert and enter the swale, which then conveys flows in a westerly direction for approximately 150 feet. This feature displays a streambed and banks of varying width (1 to 3 feet), an approximately 1-foot wide OHWM, and is entirely vegetated by nonnative grassland dominated by ripgut brome and red brome (*Bromus madritensis* ssp. *rubens*). Evidence of flow is characterized by an approximately 6-inch wide swath of lower density vegetation along the center of the feature. The feature ends as the streambed and banks gradually become less noticeable until the drainage is no longer evident. Sheet flows continue west of Feature 3 toward Feature 2.

Although Feature 3 displays a subtle OHWM, it does not appear in historic aerial photographs and looks to have been constructed in uplands to capture and channelize residential runoff. Therefore, Feature 3 would not be subject to regulation by the Corps pursuant to the CWA. The streambed and banks of this feature are potentially subject to CDFW and RWQCB (nonwetland waters of the State) jurisdiction. Because Feature 3 exists solely due to runoff water conveyed from a PVC pipe from and adjacent residence; because it does not contain a predominance of hydrophytic vegetation, and because its substratum consists of non-hydric soils, it does not meet the definition of County RPO wetlands.

Feature 4

Feature 4 consists of an ephemeral earthen drainage along the western edge of the BSA. An outlet pipe near the southwestern corner of the intersection of Idaho Avenue and San Pasqual Valley Road discharges storm water and runoff flows into this feature. Within the BSA, this feature continues for approximately 600 feet in a southeasterly direction until it converges with the drainage outlet associated with Feature 2. Flows continue off site within Feature 4 southward along the west side of San Pasqual Valley Road. Feature 4 has a defined streambed and banks (approximately 4 feet wide) and a 3.5-foot wide OHWM. This feature is east of and under the canopy of eucalyptus woodland dominated by eucalyptus trees. The allelopathic properties of eucalyptus tree leaf litter and root exudates prevent the growth of vegetation along the western bank and bed of the drainage, and the eastern bank is vegetated by nonnative grassland dominated by Russian thistle, wild oat (*Avena fatua*), ripgut brome, red brome, and short-pod mustard (*Hirschfeldia incana*).

Feature 4 conveys flows off site in a southerly direction along a system of earthen roadside drainages and underground pipes into Lake Hodges and then into Lusardi Creek and ultimately into the Pacific Ocean, a TNW. Although this feature displays an OHWM and has a direct connection to a TNW, pursuant to current regulations and a June 19, 2020, court order (United States District Court Northern District of California, 2020), the Corps no longer regulates nonwetland ephemeral drainage features. The streambed and banks associated with this feature are potentially subject to CDFW and RWQCB (nonwetland waters of the State) jurisdiction. Because Feature 4 does not contain a predominance of hydrophytic vegetation and because its substratum consists of non-hydric soils, it does not meet the definition of County RPO wetlands.

CONCLUSIONS

Potential Corps Jurisdiction

Although the ephemeral drainages within the BSA display visible OHWMs and have a direct connection to the Pacific Ocean, pursuant to current regulations and a June 19, 2020, court order (United States District Court Northern District of California, 2020), the Corps no longer regulates nonwetland ephemeral drainage features.

Potential RWQCB Jurisdiction

Features 1 through 4 are nonwetland waters of the State subject to the jurisdiction of the RWQCB. Table B displays the acreages of waters of the State present within the BSA.

Table B: Potential Waters of the State within the BSA

Feature	Linear Feet	Wetland Waters (acres)	Nonwetland Waters (acres)
1	34	—	0.007
2	307	—	0.025
3	184	—	0.008
4	671	—	0.062
Total	**1,196**	—	**0.099**

BSA = Biological Study Area

Potential CDFW Jurisdiction

All of the areas satisfying the RWQCB jurisdictional criteria for waters of the State, as described above, are also potentially subject to CDFW jurisdiction, pursuant to Section 1602 of the California Fish and Game Code. Table C displays the acreage of potential CDFW jurisdiction present within the BSA.

Table C: Potential CDFW Jurisdiction Within the BSA

Feature	Streambed/Banks and Riparian Vegetation (acres)
1	0.007
2	0.025
3	0.008
4	0.062
Total	**0.099**

CDFW = California Department of Fish and Wildlife BSA = Biological Study Area

San Diego County RPO Wetlands

The project site does not contain RPO wetlands as the features on site do not meet any of the following criteria:

- At least periodically, the land supports a predominance of hydrophytes (plants whose habitat is water or very wet places)—*the site does not contain a predominance of hydrophytes.*
- The substratum is predominantly undrained hydric soil—*the substratum of the on-site features is not predominantly undrained hydric soil.*
- An ephemeral or perennial stream is present, whose substratum is predominantly non-soil and such lands contribute substantially to the biological functions or values of wetlands in the drainage system—*an ephemeral or perennial stream whose substratum is predominantly non-soil is not present on site.*

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APPENDIX A

COPY OF WETLAND DATA FORMS

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Escondido Estates City/County: near Escondido / SD Sampling Date: 11/4/19

Applicant/Owner: Escondido Estates, LLC State: Ca Sampling Point: 1

Investigator(s): Jaime Morales Section, Township, Range: Rincon del Diablo Land Grant

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

Subregion (LRR): C Lat: 33.115478 Long: -117.057934 Datum: Nad83

Soil Map Unit Name: Ramona Sandy Loam 2-5 % slopes NWI classification:

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

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes ____ No ✓

Hydric Soil Present? Yes ____ No ✓

Wetland Hydrology Present? Yes ✓ No ____

Is the Sampled Area within a Wetland? Yes ____ No ✓

Remarks: Point recorded at area most likely to be a wetland. Area most likely to contain hydric soils due to no incised channel and high ponding potential.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 36 sq ft)	Absolute % Cover	Dominant Species?	Indicator Status
1. Salix goodingii	45	Y	FACW
2. Quercus agrifolia	20	Y	UPL
3. Washingtonia robusta	30	Y	FACW
4.			
	95	= Total Cover	
Sapling/Shrub Stratum (Plot size: 36 sq ft)			
1. Quercus agrifolia	5	Y	UPL
2.			
3.			
4.			
5.			
	5	= Total Cover	
Herb Stratum (Plot size: 36 sq ft)			
1. Bromus diandrus	90	Y	UPL
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	90	= Total Cover	
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	____	= Total Cover	

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

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.4 = 40% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species 0	x 1 = 0
FACW species 75	x 2 = 150
FAC species 0	x 3 = 0
FACU species 0	x 4 = 0
UPL species 115	x 5 = 575
Column Totals: 190 (A)	725 (B)

Prevalence Index = B/A = 3.8

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ____ No ✓

Remarks:

SOIL

Sampling Point: 1

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-14	10YR 3/3	100					Sandy loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11).
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ___ No ✓

Remarks: Soil quite sandy. No redox. Probably doesn't pond long enough and drains well.

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ✓ Drift Deposits (B3) (**Riverine**)
- ✓ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No ✓ Depth (inches): _____

Water Table Present? Yes ___ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ___ No ✓ Depth (inches): _____

Wetland Hydrology Present? Yes ✓ No ___

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

Remarks: Dead annual vegetation was more matted than surrounding areas. This demonstrates evidence of flow. No incised channel, but all areas funnel flows into this low area.

APPENDIX B

FUNCTIONS AND VALUES ANALYSIS

ANALYSIS OF FUNCTIONS AND VALUES OF POTENTIAL WATERS OF THE UNITED STATES

The following is an assessment of the functions and values attributable to the identified potential jurisdictional waters in the BSA. All waters have some degree of functionality, and no single drainage can perform all of the functions considered below. The following functions are analyzed at low, moderate, or high value levels. The individual drainages are analyzed in Table B-1 (provided at the end of this appendix) based on the criteria outlined below.

HYDROLOGIC REGIME

This function is the ability of a wetland or stream to absorb and store water belowground. The degree of this saturation is dependent on the soil composition and is affected by prior flooding events. For example, clay soils possess more pore space than sandy soils. However, because the smaller pore size slows the rate at which water is absorbed and released, clay soil has a lower capacity to store water than sandy soils. The storage of water belowground allows for the fluctuation between anaerobic and aerobic conditions that benefits environmental conditions necessary for microbial cycling.

FLOOD STORAGE AND FLOOD FLOW MODIFICATION

This function is determined based on the ability of a wetland or stream at which the peak flow in a watershed can be attenuated during major storm events and during peak domestic flows to take in surface water that may otherwise cause flooding. This is dependent on the size of the wetland or stream, the amount of water it can hold, and the location in the watershed. For instance, larger wetlands or streams that have a greater capacity to receive waters have a greater ability to reduce flooding. In addition, areas high in the watershed may have more ability to reduce flooding in downstream areas, but areas lower in the watershed may have greater benefits to a specific area. Vegetation, shape, and the configuration of the wetland or stream may also affect flood storage by dissipating the energy of flows during flood events.

SEDIMENT RETENTION

Removal of sediment is the process that keeps sediments from migrating downstream. This is accomplished through the natural process of sediment retention and entrapment. This function is dependent on the sediment load being delivered by runoff into the watershed. Similar to above, the vegetation, shape, and configuration of a wetland will also affect sediment retention if water is detained for long durations, as would be the case with dense vegetation, a bowl-shaped watershed, or slow-moving water. This function would be demonstrated (i.e., high) if the turbidity of the incoming water is greater than that of the outgoing water.

NUTRIENT RETENTION AND TRANSFORMATION

Nutrient cycling consists of two variables: uptake of nutrients by plants and detritus turnover, in which nutrients are released for uptake by plants downstream. Wetland systems in general are much more productive with regard to nutrients than upland habitats. The regular availability of

water associated with the wetland or stream may cause the growth of plants (nutrient uptake) and associated detritivores and generate nutrients that may be utilized by a variety of aquatic and terrestrial wildlife downstream.

TOXICANT TRAPPING

The major processes by which wetlands remove nutrients and toxicants are as follows: (1) by trapping sediments rich in nutrients and toxicants, (2) by absorption into soils high in clay content or organic matter, and (3) through nitrification and denitrification in alternating oxic and anoxic conditions. Removal of nutrients and toxicants is closely tied to the processes that provide for sediment removal.

SOCIAL SIGNIFICANCE

This is a measure of the probability that a wetland or stream will be utilized by the public for its natural features, economic value, official status, and/or location. This includes public use for recreational uses, such as boating, fishing, birding, walking, and other passive recreational activities. In addition, a wetland or stream that is utilized as an outdoor classroom, is a location for scientific study, or is near a nature center would have a higher social significance standing.

WILDLIFE HABITAT

General habitat suitability is the ability of a wetland to provide habitat for a wide range of wildlife. Vegetation is a large component of wildlife habitat. As plant community diversity increases along with connectivity with other habitats, so does potential wildlife diversity. In addition, a variety of open water, intermittent ponding, and perennial ponding is also an important habitat element for wildlife.

AQUATIC HABITAT

The ability of a wetland or stream to support aquatic species requires that there be ample food supply, pool and riffle complexes, and sufficient soil substrate. Food supply is typically in the form of aquatic invertebrates and detrital matter from nearby vegetation. Pool and riffle complexes provide a variety of habitats for species diversity as well as habitat for breeding and rearing activities. Species diversity is directly related to the complexity of the habitat structure.

Table B-1: Functions and Values of Features Within the BSA

Feature	Hydrologic Regime	Flood Storage and Flood Flow Modification	Sediment Retention	Nutrient Retention and Transformation	Toxicant Trapping	Social Significance	Wildlife Habitat	Aquatic Habitat
1	Moderate	Low	Low	Low	Low	Low	Low	Low
2	Moderate	Low	Low	Low	Low	Low	Low	Low
3	Moderate	Low	Low	Low	Low	Low	Low	Low
4	Moderate	Low	Low	Low	Low	Low	Low	Low