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ANIMUS 1 BIOLOGICAL RESOURCES REPORT



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TABLE OF CONTENTS

INTRODUCTION	1
PROJECT BOUNDARIES	1
PROJECT DESCRIPTION	1
PROJECT APPROVALS	5
METHODS	7
PERSONNEL AND SURVEY DATES.....	7
SPECIAL-STATUS SPECIES	7
SENSITIVE HABITATS	10
DATA SOURCES	10
<i>Botany</i>	11
<i>Wildlife</i>	11
REGULATORY SETTING	11
<i>Federal Regulations</i>	11
<i>State Regulations</i>	12
<i>Local Regulations</i>	14
RESULTS	15
VEGETATION TYPES	15
<i>Native Grassland</i>	15
<i>California Oat Grass Prairie</i>	15
<i>Purple Needle Grass Grassland</i>	16
<i>Non-Native Grassland</i>	16
<i>Wild Oats Grassland</i>	16
<i>Coyote Brush Scrub</i>	18
<i>Coast Live Oak Woodland</i>	18
PLANTS	18
WILDLIFE.....	19
<i>Monterey Dusky-Footed Woodrat</i>	19
<i>American Badger</i>	19
<i>Nesting Raptors and Other Protected Avian Species</i>	20
<i>California Tiger Salamander</i>	21
<i>California Red-Legged Frog</i>	22
<i>California Newt</i>	24
<i>Obscure Bumble Bee</i>	26
<i>Western Bumble Bee</i>	26
SENSITIVE HABITATS	26
IMPACTS AND MITIGATION.....	27
REFERENCES	31

APPENDICES

APPENDIX A: Special-Status Species Table

APPENDIX B: Project Plans

APPENDIX C: California Tiger Salamander Survey Results at the Malcolm Property and Adjacent Palo
Corona Regional Park – 2011-2013

FIGURES

Figure 1. Project Vicinity.....	2
Figure 2. Project Location.....	3
Figure 3. Site Plan.....	4
Figure 4. Vegetation Types Map.....	17
Figure 5. CTS Occurrences within 2 kilometers of Project Site	23
Figure 6. CRLF Occurrences within Project Vicinity.....	25

TABLES

Table 1. Homeland Components.....	5
Table 2. Biological Analyses and Surveys Conducted Within and Adjacent to the Project Site.....	8
Table 3. Vegetation Types Within the Project Site.....	15
Table 4. Potential for Special-Status Wildlife Species Presence within Animus 1	19

INTRODUCTION

DENISE DUFFY & ASSOCIATES, Inc. (DD&A) was contracted by Dris Uptis to prepare a biological resources report for the Animus 1 Project (project). The project is located within the Coastal Zone at 12 Rancho San Carlo Road in Monterey County, California (Figures 1 and 2). The project consists of the development a single-family residential home, a guest house, and improvement of an existing driveway (Figure 3). The residential development and most of the driveway improvements are located on assessor's parcel (APN) 157-131-002, or "Animus 1." Portions of the driveway improvements will occur on adjacent parcels (APN 157-131-010 and APN 239-021-004) within existing easements (Figure 2).

The project site is part of the Santa Lucia Preserve (SLP). The SLP is a 20,000-acre development. One ten-acre development envelope, henceforth referred to as the "homeland," is allowed within the project parcel. The remaining area of the parcel, henceforth referred to as "openlands," is under conservation easements held by the Santa Lucia Conservancy (SLC), an independent land conservation organization actively managing lands under their easements within the SLP.

This report describes the biological resources within and surrounding the project site, identifies any special-status species and sensitive habitats known or with the potential to occur within or adjacent to the project site, assesses potential impacts that may occur to biological resources as a result of development of the project, and recommends appropriate avoidance, minimization, and mitigation measures, if necessary, to reduce those impacts to less-than-significant in accordance with the California Environmental Quality Act (CEQA).

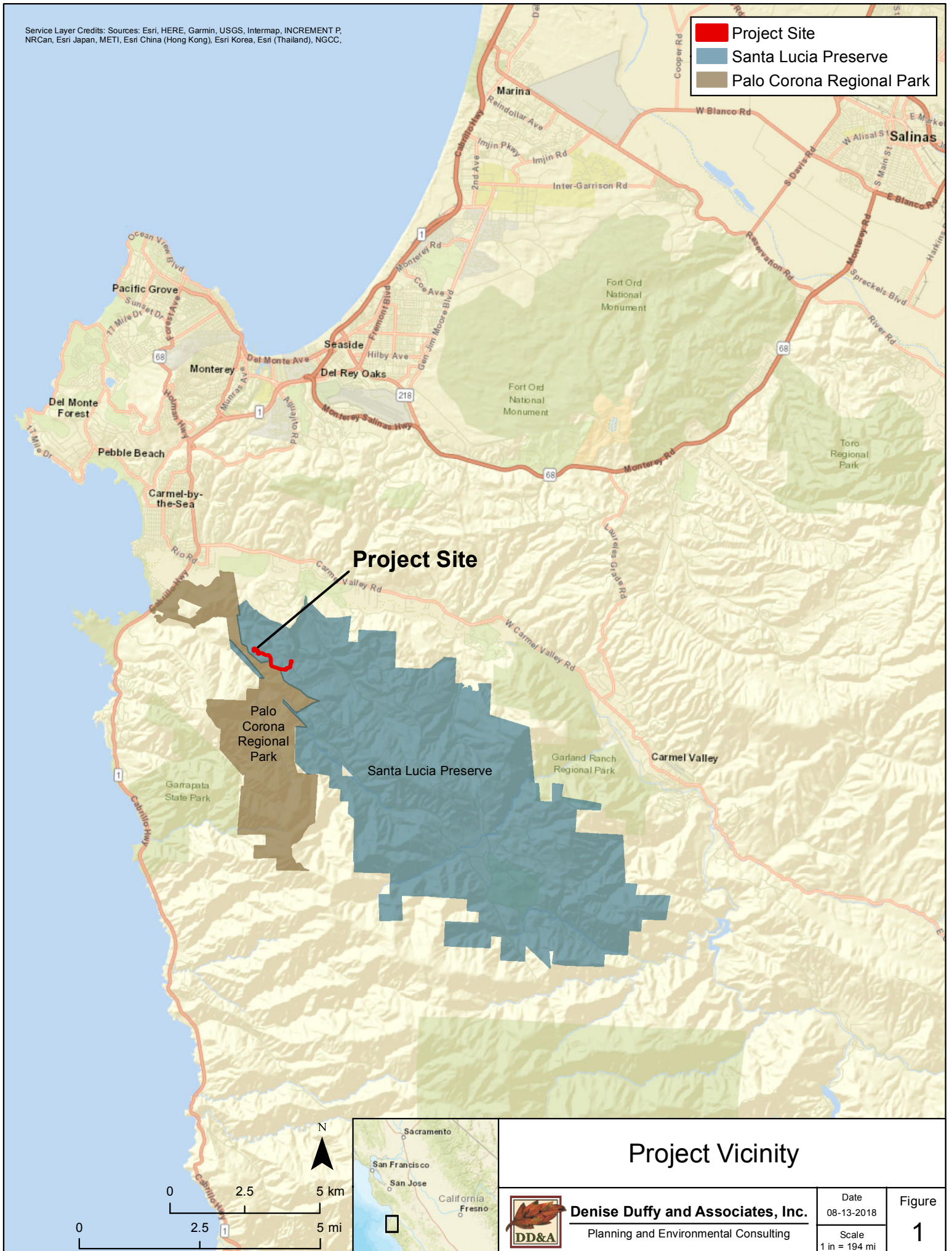
PROJECT BOUNDARIES

The project consists of a proposed development within the 10-acre homeland of a 1,757-acre parcel, and includes a driveway easement on adjacent parcels owned by Denise Malcom (APN 157-131-010) and the SLP (APN 239-021-004) (Figure 2). The project is bounded by the SLP on the east and Palo Corona Regional Park (PCRP) on the west (Figure 2).

PROJECT DESCRIPTION

The proposed development consists of a two-story single-family residence with an attached garage, a single-story guest house, patios, walkways, retaining walls, planters, terraces, and a vegetated guest parking area (Table 1; Figure 3). The proposed main residence will be situated on the flattest portion of a knoll, which generally has an east-west orientation; the main floor will be above grade, while the ground floor will be built into the hillside below grade. The main floor includes a great room, office, gym, a master bedroom, four bathrooms, and an entryway with an elevator. The ground floor includes a three-car garage, various utility and storage rooms and closets, a theater, and a hallway with an elevator. The proposed guest house will be located on the same knoll, approximately 100 feet to the south of the main residence and approximately 20 feet lower in elevation; the guest house will also be built into the hillside. The guest house includes one bedroom, one bathroom, a kitchenette, living space, storage, and an outdoor shower. A portion of the main house and the guest house will include a living roof, and landscaping will be installed immediately surrounding the living areas. Additional grassland areas will be restored around the landscaped area to blend into the surrounding openlands. Please refer to the Project Plans in Appendix B for more detail.

- Project Site
- Santa Lucia Preserve
- Palo Corona Regional Park



Project Vicinity



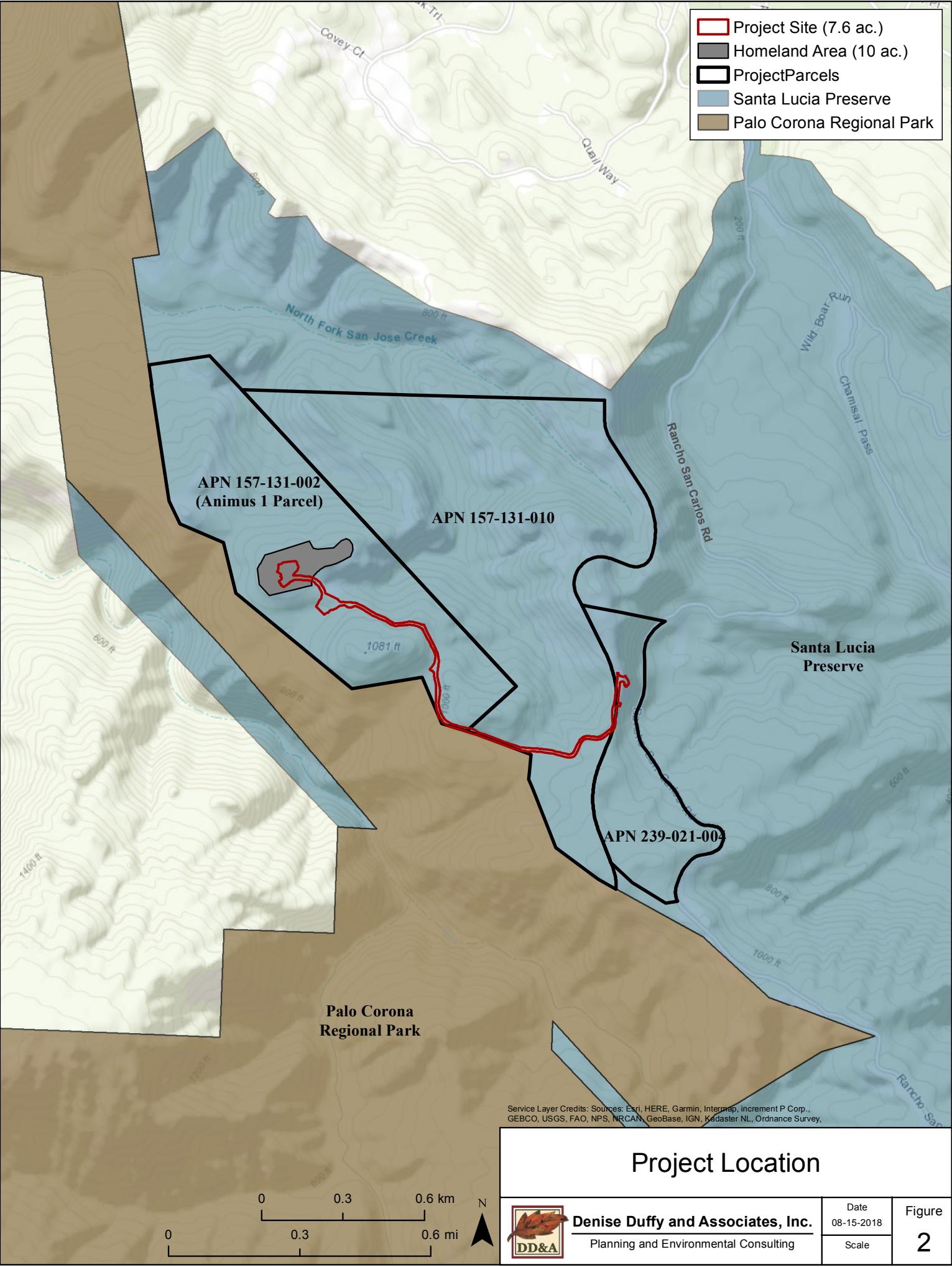
Denise Duffy and Associates, Inc.

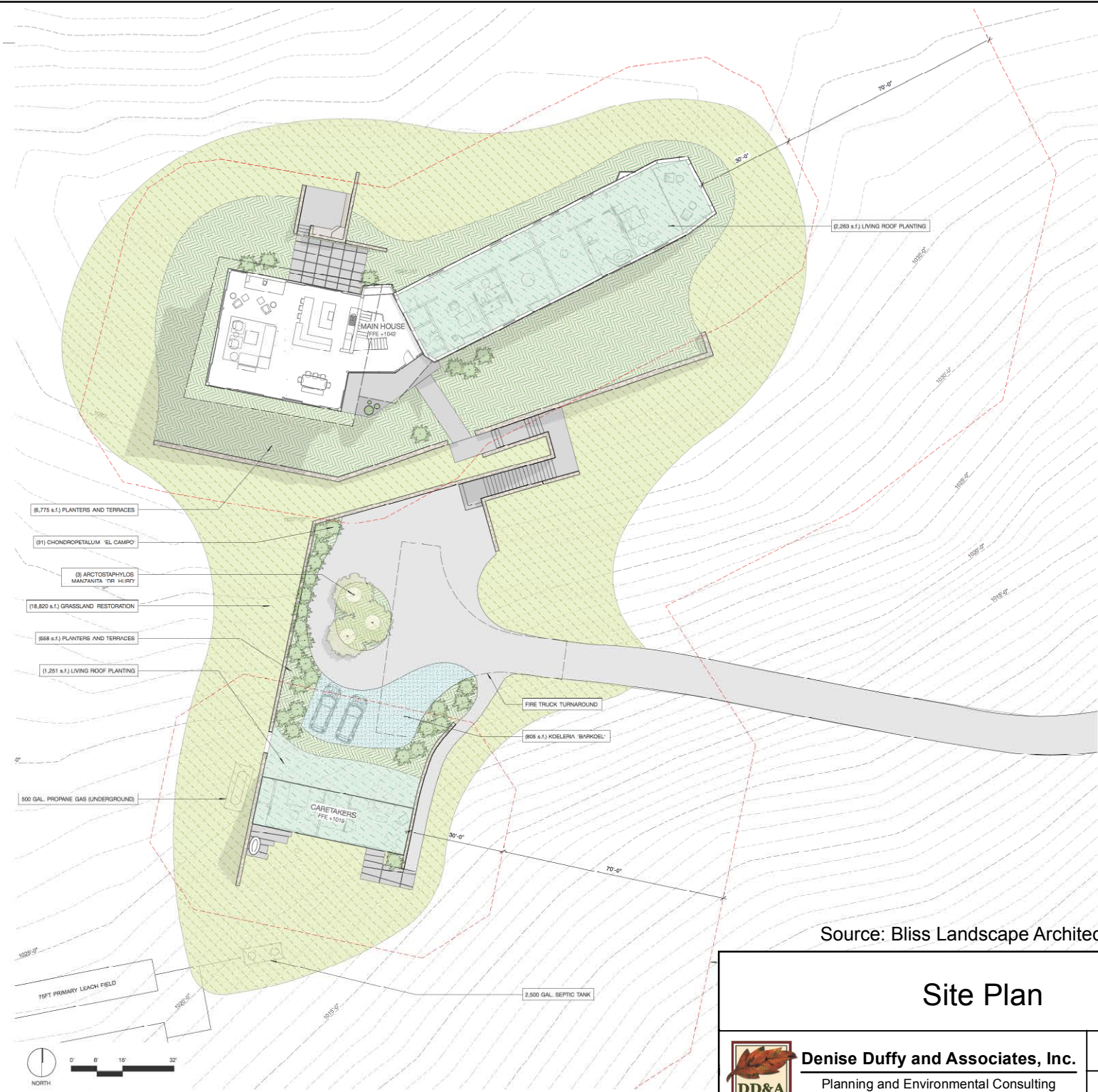
Planning and Environmental Consulting

Date
08-13-2018

Scale
1 in = 194 mi

Figure
1





Source: Bliss Landscape Architecture, July 2018

Site Plan



Denise Duffy and Associates, Inc.
Planning and Environmental Consulting

Date
08-13-2018
Scale
1 in=0.1 mi

Figure
3

Table 1. *Homeland Components*

Homeland Component	Area (Square Feet)
Two-story, single-family residence	6,800
<i>Ground floor</i>	2,276
<i>Main floor</i>	4,524
Guest house	800
Patios, walkways, and retaining walls	2,920
Planters, terraces, vegetated guest parking area	8,880

Infrastructure

An approximately 6,100 linear-foot paved driveway (approximately 3,100 square feet including turnarounds) will provide access from Rancho San Carlos Road to the homeland (Appendix B). The driveway would follow an existing ranch road for the majority of the alignment; however, the driveway would deviate somewhat from the current alignment near the homeland in order to improve the turns. Additionally, the driveway would be widened from the existing width of approximately eight to nine feet to approximately 12 to 18 feet wide. The project will also include installation of a 2,500-gallon septic tank, which will drain to two 75-foot leachfields, and a 500-gallon underground propane tank.

Grading

A Preliminary Grading Plan (Appendix B) has been developed by Bestor Engineers, Inc. showing areas to be graded and approximately cut and fill volumes. The grading area is 7.6 acres and will consist of 3,100 cubic yards of cut and 4,400 cubic yards of fill. Imported baserock and sub-base material will provide the additional fill to balance the grading on the site. The majority of grading will be for improvements to the existing ranch road for the driveway.

Openlands

Residential development is not allowed within the openlands of the property; however, the easements identified above allow for improvements to utility and sanitary systems, access, agricultural (grazing), and recreational uses.

PROJECT APPROVALS

The project will require the following approvals:

- Federal Approvals
 - U.S. Fish and Wildlife Service – Endangered Species Act Section 10 Take Permit
- State Approvals
 - California Coastal Commission – Coastal Development Permit
 - California Department of Fish and Wildlife – Section 2081 Take Permit
- Local Approvals
 - Monterey Bay Air Resources District – Authority to Construct
 - Monterey County – Encroachment Permit

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METHODS

PERSONNEL AND SURVEY DATES

Multiple biological surveys have been conducted on the project site and the adjacent PCRP and SLP since 1991. During this time all special-status plant and wildlife species identified on the SLP and the Animus have been documented and a comprehensive understanding of the biological resources present on the project site has been developed. Recent biological surveys by DD&A environmental scientists have been conducted to confirm or update existing biological survey information for the area. Available reference materials were reviewed prior to conducting the field surveys, including the California Department of Fish and Wildlife (CDFW) California Natural Diversity Database (CNDDDB) occurrence reports (CDFW, 2018a), the U.S. Fish and Wildlife Service (USFWS) IPaC Resource List (USFWS, 2018), numerous biological reports prepared for the Preserve (see “Data Sources” below), the *Malcolm Property Biological Resources Report* (DD&A, 2014), the *Biological Assessment for the Potrero Area Subdivision* (DD&A, 2003), and aerial photographs of the project site. Table 2 presents the known biological analyses and surveys conducted within and directly adjacent to the project site.

SPECIAL-STATUS SPECIES

Special-status species are those plants and animals that have been formally Listed or Proposed as Endangered or Threatened, or are Candidates for such listing under the federal Endangered Species Act (ESA) or the California Endangered Species Act (CESA). Listed and Proposed species are afforded legal protection under these acts. Species that meet the definition of rare or endangered under CEQA Section 15380 are also considered special-status species. State species of special concern meet this definition and are typically provided management consideration through the CEQA process, although they are not legally protected under the ESA or CESA. Additionally, the CDFW also includes some animal species that are not assigned any of the other status designations in the CNDDDB “Special Animals” list. The CDFW considers the taxa on this list to be those of greatest conservation need, regardless of their legal or protection status.

Plants listed under the California Native Plant Protection Act (CNPPA) or on the California Native Plant Society (CNPS) lists are also considered special-status species. In general, the CDFW considers plant species on List 1 (List 1A [Plants Presumed Extinct in California] and List 1B [Plants Rare, Threatened, or Endangered in California and Elsewhere]), or List 2 (Plants Rare, Threatened, or Endangered in California, But More Common Elsewhere) of the CNPS *Inventory of Rare and Endangered Vascular Plants of California* (CNPS, 2018) as qualifying for legal protection under this CEQA provision.¹ In addition, species of vascular plants, bryophytes, and lichens listed as having special-status by the CDFW are considered special-status plant species (CDFW, 2018a).

Raptors (e.g., eagles, hawks, and owls) and their nests are protected in California under Fish and Game Code Section 3503.5. Section 3503.5 states that it is “unlawful to take, possess, or destroy the nest or eggs of any such bird except otherwise provided by this code or any regulation adopted pursuant thereto.”

¹ Species on CNPS List 3 (Plants About Which We Need More Information - A Review List) and List 4 (Plants of Limited Distribution - A Watch List) may, but generally do not, qualify for protection under this provision.

Table 2. *Biological Analyses and Surveys Conducted Within and Adjacent to the Project Site*

Survey Type	Location	Year	Surveyors	Document Prepared
Habitat/Vegetation Characterization and Mapping	SLP (including the project site)	1990-1991	BioSystems Analysis Inc. and Habitat Restoration Group	<i>The Santa Lucia Preserve Comprehensive Development Plan – Technical Appendices 6.1 and 6.2</i>
Special-status Plant Species and Sensitive Plant Communities Surveys	SLP (including the project site)	1990-1991	BioSystems Analysis Inc. and Habitat Restoration Group	<i>Rancho San Carlos Special-Status Biological Resources Report</i>
Baseline Wildlife Survey	SLP (including the project site)	1990-1994	BioSystems Analysis Inc.	<i>The Santa Lucia Preserve Comprehensive Development Plan – Technical Appendices 6.1 and 6.3</i>
Special-Status Plant Species, Sensitive Plant Communities, and Dune Buckwheat Population Surveys	Greater Monterey Peninsula Area Plan area within SLP	1992-1993	BioSystems Analysis Inc. and Habitat Restoration Group	<i>Rancho San Carlos Special-Status Biological Resources Report</i>
CRLF Stream Habitat Assessment	SLP	2001	Wetlands Research Associates, Inc.	<i>California Red-Legged Frog Stream Habitat Assessment, Santa Lucia Preserve, Monterey County, California</i>
CRLF Upland Habitat Impact Assessment	SLP	2002	Wetlands Research Associates, Inc.	<i>California Red-Legged Frog Associated Uplands Impact Analysis, Santa Lucia Preserve, Monterey County, California</i>
Biological Resources Assessment	Potrero Area Subdivision	2003	DD&A	<i>Biological Assessment for the Potrero Area Subdivision Santa Lucia Preserve, Monterey County, California</i>
Aquatic and Upland Amphibian Surveys	SLP	2003-2008, 2009, 2011-2013	DD&A	<i>2008 Protocol-Level California Tiger Salamander Survey Report for the Santa Lucia Preserve, Monterey County, California;</i> 2009, 2011, & 2012 Data reported directly to SLC; <i>2013 Stock-Pond Survey Report for the Santa Lucia Preserve, Monterey County, California</i>
Aquatic Amphibian Surveys	PCRP	2004-2006	V. Hemingway & A. D'Amore	<i>Final Report for Amphibian Management and Monitoring at Palo Corona Regional Park, Monterey County, California</i>
Aquatic Amphibian Surveys	PCRP	2004, 2008, 2011-2013	DD&A	Data reported directly to Monterey Peninsula Regional Park District
Biological Resources Assessment	Animus parcels (including the project site)	2005	DD&A	Letter report to Maureen Wruck 6-8-05
Grassland Monitoring Study	PCRP	2008	J. Cushman	<i>Assessing the Influence of Cattle Grazing on Vegetation at Palo Corona Regional Park</i>
Biological Resources Assessment	Animus parcels (including the project site)	2008, 2009, 2014	DD&A	<i>Malcolm Property Biological Assessment (2008);</i> <i>Addendum to the Malcolm Property Biological Assessment (Letter to Denise Malcolm 5-22-09);</i> <i>Malcolm Property Biological Assessment (2014)</i>

Survey Type	Location	Year	Surveyors	Document Prepared
Grassland Mapping	Animus parcels (including the project site)	2009	DD&A	<i>Addendum to the Malcolm Property Biological Assessment (Letter to Denise Malcolm 5-22-09)</i>
CTS Drift Fence/Pitfall Trap Study	Salamander and Roadrunner Ponds on PCRCP	2011-2012	DD&A	<i>California Tiger Salamander Survey Results for Two Ponds at the Palo Corona Regional Park – 2011/2012 Season</i>
Grassland Monitoring Study	PCRCP	2012	DD&A	<i>2012 Grassland Monitoring Report Palo Corona Regional Park</i>
Vegetation Type Mapping	SLP (including the project site)	2012	Aerial Information Systems	GIS dataset prepared for SLC using 2010 aerials
CTS Drift Fence/Pitfall Trap Study	Selected upland areas of the Animus parcels (including the project site)	2012-2013	DD&A	<i>California Tiger Salamander Survey Results at the Malcolm Property and Adjacent Palo Corona Regional Park – 2011-2013</i>
Aquatic Amphibian Surveys	PCRCP	2014-2017	Rachel Anderson	Data reported directly to Monterey Peninsula Regional Park District
Aquatic Amphibian Surveys	SLP (select ponds)	2017 & 2018	DD&A	Data reported directly to SLC

In addition, fully protected species under the Fish and Game Code Section 3511 (birds), Section 4700 (mammals), Section 5515 (fish), and Section 5050 (reptiles and amphibians) are also considered special-status animal species. Species with no formal special-status designation but thought by experts to be rare or in serious decline are also considered special-status animal species (CDFW, 2018a).

SENSITIVE HABITATS

The project site was surveyed for sensitive habitats. Sensitive habitats include riparian corridors, wetlands, habitats for legally protected species, areas of high biological diversity, areas supporting rare or special-status wildlife habitat, and unusual or regionally restricted habitat types. Habitat types considered sensitive include those listed on the CDFW's *California Natural Communities List* (i.e., those habitats that are Rare or Endangered within the borders of California) (CDFW, 2018b), those that are occupied by species listed under the ESA or are critical habitat in accordance with ESA, and those that are defined as Environmentally Sensitive Habitat Areas (ESHA) under the Coastal Act (CCA). Specific habitats may also be identified as sensitive in City or County General Plans or ordinances. Sensitive habitats are regulated under federal regulations (such as the Clean Water Act and Executive Order 11990 – Protection of Wetlands), state regulations (such as CEQA and the CDFW's Streambed Alteration Program), or local ordinances or policies (such as City or County tree ordinances, Habitat Management Plan [HMP] habitat reserve areas, and General Plan elements).

DATA SOURCES

The primary literature and data sources reviewed in order to determine the occurrence or potential for occurrence of special-status species at the project site are as follows: the *Malcom Property Biological Resources Report* (DD&A 2014); the *Final Special-status Biological Resources Report for Rancho San Carlos* (BioSystems Analysis, Inc. 1994); technical appendices 6.1-List of Plant Species by Habitat Encountered at Rancho San Carlos and 6.2-Rancho San Carlos Habitat List and Descriptions from the *SLP Resource Management Plan* (The Rancho San Carlos Partnership, 1994a and b); the *Biological Assessment for the Potrero Area Subdivision Santa Lucia Preserve Monterey County, California* (DD&A, 2003); *Protocol-level California Tiger Salamander and California Red-legged Frog Survey Report for the Santa Lucia Preserve, Monterey County, California* (DD&A, 2008); *2013 Stock-Pond Survey Report for the Santa Lucia Preserve, Monterey County, California* (DD&A, 2013a); the *California Tiger Salamander Surveys Results at the Malcolm Property and Adjacent Palo Corona Regional Park 2011-2013* (DD&A, 2013b); current agency status information from the USFWS and CDFW for species Listed, Proposed for listing, or Candidates for listing as Threatened or Endangered under ESA or CESA, and those considered CDFW “species of special concern: (2018a); the CNPS *Inventory of Rare and Endangered Vascular Plants of California* (CNPS, 2018); and the CDFW CNDDDB occurrence reports (2018a). The Seaside and Monterey quadrangles and the six surrounding quadrangles (Carmel Valley, Marina, Mt. Carmel, Salinas, Soberanes Point, and Spreckels) from the CNDDDB were reviewed for documented special-status species occurrences on and in the vicinity of the project site.

From these resources a list of special-status plant and wildlife species known or with the potential to occur in the vicinity of the project site was created (Appendix A). The list presents these species along with their legal status, habitat requirements, and a brief statement of the likelihood to occur on the project site.

Botany

Vegetation on the project site was classified and mapped during surveys of the SLP before the property was annexed (Biosystems Analysis, Inc., 1994a and PMC, 2003). The vegetation classification schemes are based on those described by Holland (1986) and *A Manual of California Vegetation* (Sawyer et.al., 2009). The final classification and characterization of the vegetation of the project site is based on field observations. Each habitat type description (see below) lists both the *Manual of California Vegetation* (Sawyer et.al., 2009), the Holland types, and the 1994 Biosystems Analysis names for cross-reference purposes. Vegetation types identified in *A Manual of California Vegetation* (Sawyer et.al., 2009) were utilized to determine if vegetation types identified as sensitive on CDFW's *California Natural Communities List* (CDFW, 2018b) are present within the evaluation area.

Information regarding the distribution and habitats of local and state vascular plants were reviewed (Howitt and Howell, 1964 and 1973; Munz and Keck, 1973; Baldwin, et. al, 2012; Matthews and Mitchell, 2015; Jepson Flora Project, 2018). All plants observed within the project site were identified to species or intraspecific taxon using keys and descriptions in *The Jepson Manual: Vascular Plants of California, Edition 2* (Baldwin, et. al., 2012) and *The Plants of Monterey County an Illustrated Field Key* (Matthews and Mitchell, 2015). Scientific nomenclature for plants in this report follows Baldwin, et.al., (2012) and common names follow Matthews (2015).

In 2009 and 2018, the homeland was surveyed for botanical resources following the applicable guidelines outlined in *Guidelines for Conducting and Reporting Botanical Inventories for Federally listed, Proposed and Candidate Plants* (USFWS, 2000), *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities* (CDFW, 2009), and *CNPS Botanical Survey Guidelines* (CNPS, 2001). All plant species encountered were identified to species or intraspecific taxon necessary to eliminate them as being special-status species.

Wildlife

The following literature and data sources were reviewed: CDFW reports on special-status wildlife (Remsen, 1978; Williams, 1986; Jennings and Hayes, 1994; Thelander, 1994); California Wildlife Habitat Relationships Program species-habitat models (Zeiner et al., 1988 and Zeiner et al., 1990); and general wildlife references (Stebbins, 1985).

REGULATORY SETTING

The following regulatory discussion describes the major laws that may be applicable to the project.

Federal Regulations

Federal Endangered Species Act

Provisions of the ESA of 1973 (16 USC 1532 et seq., as amended) protect federally listed threatened or endangered species and their habitats from unlawful take. Listed species include those for which proposed and final rules have been published in the Federal Register. The ESA is administered by the USFWS or National Oceanic and Atmospheric Administration National Marine Fisheries Service (NOAA Fisheries). In general, NOAA Fisheries is responsible for the protection of ESA-listed marine species and anadromous fish, whereas other listed species are under USFWS jurisdiction.

Section 9 of ESA prohibits the take of any fish or wildlife species listed under ESA as endangered or threatened. Take, as defined by ESA, is “to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to engage in any such conduct.” Harm is defined as “any act that kills or injures the fish or wildlife...including significant habitat modification or degradation that significantly impairs essential behavioral patterns of fish or wildlife.” In addition, Section 9 prohibits removing, digging up, and maliciously damaging or destroying federally listed plants on sites under federal jurisdiction. Section 9 does not prohibit take of federally listed plants on sites not under federal jurisdiction. If there is the potential for incidental take of a federally listed fish or wildlife species, take of listed species can be authorized through either the Section 7 consultation process for federal actions or a Section 10 incidental take permit process for non-federal actions. Federal agency actions include activities that are on federal land, conducted by a federal agency, funded by a federal agency, or authorized by a federal agency (including issuance of federal permits).

Executive Order 13112-Invasive Species

Executive Order 13112 - Invasive Species requires the prevention of introduction and spread of invasive species. Invasive species are defined as “alien species whose introduction does or is likely to cause economic or environmental harm or harm to human health.” Each federal agency whose actions may affect the status of invasive species on a project site shall, to the extent practicable and permitted by law, subject to the availability of appropriations, use relevant programs and authorities to: 1) prevent the introduction of invasive species; 2) detect and respond rapidly to and control populations of such species in a cost-effective and environmentally sound manner; 3) monitor invasive species populations accurately and reliably; 4) provide for restoration of native species and habitat conditions in ecosystems that have been invaded; 5) conduct research on invasive species and develop technologies to prevent introduction and provide for environmentally sound control of invasive species; and 6) promote public education on invasive species and the means to address them. A national invasive species management plan was prepared by the National Invasive Species Council and the Invasive Species Advisory Committee (ISAC) that recommends objectives and measures to implement the Executive Order.

State Regulations

California Endangered Species Act

The CESA was enacted in 1984. The California Code of Regulations (Title 14, §670.5) lists animal species considered endangered or threatened by the state. Section 2090 of CESA requires state agencies to comply with endangered species protection and recovery and to promote conservation of these species. Section 2080 of the Fish and Game Code prohibits “take” of any species that the commission determines to be an endangered species or a threatened species. “Take” is defined in Section 86 of the Fish and Game Code as “hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill.” A Section 2081 Incidental Take Permit from the CDFW may be obtained to authorize “take” of any state listed species.

California Fish and Game Code

Birds: Section 3503 of the Fish and Game Code states that it is “unlawful to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation adopted pursuant thereto.” Section 3503.5 prohibits the killing, possession, or destruction of any birds in the orders Falconiformes or Strigiformes (birds-of-prey). Section 3511 prohibits take or possession of fully protected

birds. Section 3513 prohibits the take or possession of any migratory nongame birds designated under the federal Migratory Bird Treaty Act. Section 3800 prohibits take of nongame birds.

Fully Protected Species: The classification of fully protected was the state's initial effort in the 1960's to identify and provide additional protection to those animals that were rare or faced possible extinction. Lists were created for fish (§5515), mammals (§4700), amphibians and reptiles (§5050), and birds (§3511). Most fully protected species have also been listed as threatened or endangered species under the more recent endangered species laws and regulations. Fully protected species may not be taken or possessed at any time and no licenses or permits may be issued for their take except for collecting these species for necessary scientific research and relocation of the bird species for the protection of livestock.

Species of Special Concern: As noted above, the CDFW also maintains a list of animal “species of special concern.” Although these species have no legal status, the CDFW recommends considering these species during analysis of project impacts to protect declining populations and avoid the need to list them as endangered in the future.

Native Plant Protection Act

The CNPPA of 1977 directed the CDFW to carry out the legislature’s intent to “preserve, protect and enhance rare and endangered plants in the state.” The CNPPA prohibits importing rare and endangered plants into California, taking rare and endangered plants, and selling rare and endangered plants. The CESA and CNPPA authorized the Fish and Game Commission to designate endangered, threatened and rare species and to regulate the taking of these species (§2050-2098, Fish and Game Code). Plants listed as rare under the CNPPA are not protected under CESA.

California Coastal Act

The California Coastal Commission was established by voter initiative in 1972 (Proposition 20) and later made permanent by the California State Legislature through adoption of the California Coastal Act of 1976. The Coastal Commission, in partnership with coastal cities and counties, plans and regulates the use of land and water in the coastal zone. Development activities, which are broadly defined by the Coastal Act to include (among others) construction of buildings, divisions of land, and activities that change the intensity of use of land or public access to coastal waters, generally require a coastal permit from either the Coastal Commission or the local government. After certification of a Local Coastal Plan (LCP), coastal development permit authority is delegated to the appropriate local government, but the Commission retains original permit jurisdiction over certain specified lands (such as tidelands and public trust lands). The Commission also has appellate authority over development approved by local governments in specified geographic areas as well as certain other developments. The Commission may designate areas of rare or unique biological value, such as wetland and riparian habitat and habitats for special-status species, as Environmentally Sensitive Habitat Areas (ESHA). Development is restricted within the coastal zone and prohibited within designated ESHA, unless the development is coastal dependent and does not have a significant effect on the resources. Coastal Act Section 30240 states that “environmentally sensitive habitat areas shall be protected against any significant disruption of habitat values, and only uses dependent on those resources shall be allowed within those areas.” This section also states that “development in areas adjacent to environmentally sensitive habitat areas and parks and recreation areas shall be sited and

designed to prevent impacts which would significantly degrade those areas, and shall be compatible with the continuance of those habitat and recreation areas.”

Local Regulations

Habitat Conservation Plans or NCCP

There are no adopted Habitat Conservation Plans (HCP) or Natural Community Conservation Plans (NCCP) associated with the project site.

RESULTS

VEGETATION TYPES

Four vegetation units are mapped within the project site (Table 3, Figure 4). Additionally, a small portion of the project site is developed (paved road). The mapped units are underlined below and the constituent vegetation associations bolded.

Table 3. *Vegetation Types Within the Project Site*

Vegetation Type within Project Site	Permanent Impact	Temporary Impact	Total
<u>Native Grassland</u>	0.8 ac	1.6 ac	2.4 ac
<u>Non-native Grassland</u>	0.1 ac	0.1 ac	0.2 ac
<u>Coyote Brush Scrub</u>	0.7 ac	2.8 ac	3.5 ac
<u>Coast Live Oak Woodland</u>	0 ac	0.2 ac	0.2 ac
<u>Ruderal (Dirt Road)</u>	1.1 ac	0.1 ac	1.2 ac
<u>Developed (Paved Road)</u>	0.1 ac	0 ac	0.1 ac
Total	2.8 ac	4.8 ac	7.6 ac

Native Grassland

California Oat Grass Prairie

- ♦ *A Manual of California Vegetation* 2009 classification: California oat grass prairie (*Danthonia californica* herbaceous association)
- ♦ Holland 1986 classification: Bald hills prairie
- ♦ 1994 BioSystems Analysis classification: Coastal terrace prairie
- ♦ CDFW *California Natural Communities List*: Sensitive
- ♦ ESHA: Potential

Holland describes this vegetation type (identified as bald hills prairie) as an edaphically (soil) determined grassland found on fine-textured soils on ridge crests, usually a few miles back from the coast. Within the project site, the dominant species in this grassland type are foothill sedge (*Carex tumulicola*), California wild oat (*Danthonia californica*), and leafy bent-grass (*Agrostis pallens*). Native and non-native forb species present within this habitat type include Pacific sanicle (*Sanicula crassicaulis*), California acana (*Acaena pinnatifida* var. *californica*), common fiddleneck (*Amsinckia intermedia*), sandmat (*Cardionema ramosissimum*), soap plant (*Chlorogalum pomeridianum*), common hareleaf (*Lagophylla ramosissima*), meadow foam (*Limnanthes douglasii* var. *douglasii*), California poppy (*Eschscholzia californica*), holly-leaved navarretia (*Navarretia atractylodes*), pretty face (*Triteleia ixioides*), Fremont's star lily (*Toxicoscordion fremontii*), windmill pink (*Silene gallica*), sheep sorrel (*Rumex acetosella*), and red-stemmed filaree (*Erodium cicutarium*).

Several special-status wildlife species are known or have the potential to occur in or disperse through the California oat grass prairie within the project site, including American badger (*Taxidea taxus*), long-eared owl (*Asio otus*), burrowing owl (*Athene cunicularia*), white-tailed kite (*Elanus leucurus*), California horned lark (*Eremophila alpestris actia*), California tiger salamander (CTS; *Ambystoma californiense*), California

red-legged frog (CRLF; *Rana draytonii*), California newt (*Taricha torosa torosa*), western bumble bee (*Bombus occidentalis*), and obscure bumble bee (*Bombus caliginosus*).

Purple Needle Grass Grassland

- ♦ *A Manual of California Vegetation* 2009 classification: Purple needle grass grassland (*Nassella pulchra* herbaceous association)
- ♦ Holland 1986 classification: Valley needlegrass grassland
- ♦ 1994 BioSystems Analysis classification: Coastal terrace prairie
- ♦ CDFW *California Natural Communities List*: Sensitive
- ♦ ESHA: Potential

The dominant species in this vegetation type is purple needle grass (*Stipa pulchra*), with introduced annual grasses occurring between the perennials. Forb species present within this vegetation type are comparable to those listed above for California oat grass prairie. Special-status wildlife species that may occur within this vegetation type are comparable to those identified above for California oat grass prairie.

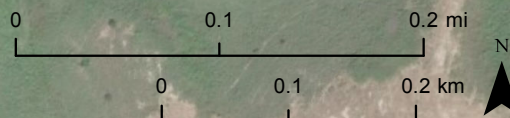
Non-Native Grassland

Wild Oats Grassland

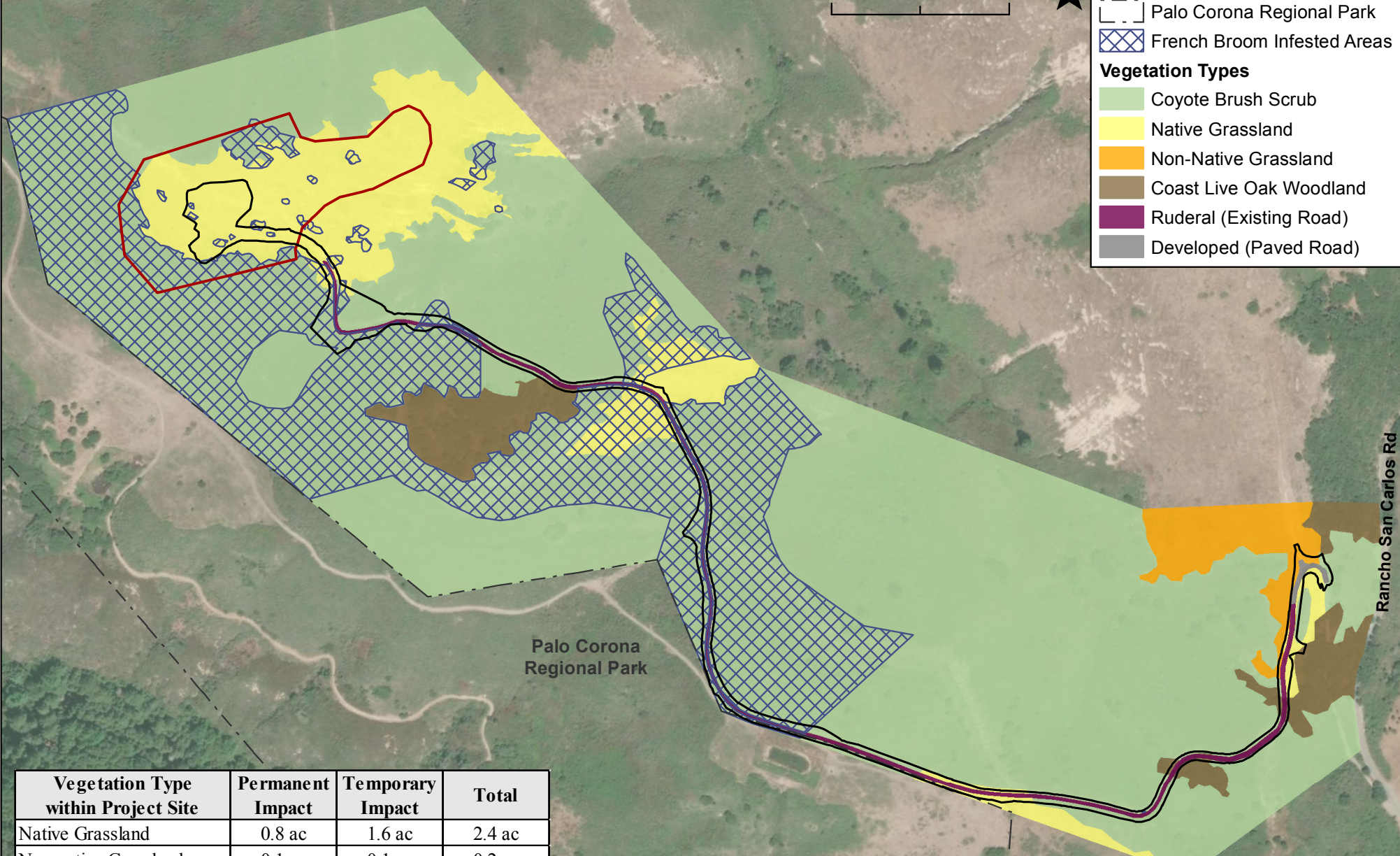
- ♦ *A Manual of California Vegetation* 2009 classification: Wild oats grasslands (*Avena* [*barbata*, *fatua*] semi-natural herbaceous stands)
- ♦ Holland 1986 classification: Non-native grassland
- ♦ 1994 BioSystems Analysis classification: Ruderal grassland
- ♦ CDFW *California Natural Communities List*: Not sensitive
- ♦ ESHA: No

Throughout California, wild oats grasslands typically occur in open areas of valleys and foothills, usually on fine-textured clay or loam soils that are somewhat poorly drained (Holland, 1986). They are dominated by non-native annual grasses and forbs along with scattered native grasses and wildflowers. Within the project site, this community is dominated by non-native annual grass species and weedy forbs such as slender wild oat (*Avena barbata*), ripgut brome (*Bromus diandrus*), soft chess (*B. hordeaceus*), silvery hair-grass (*Aira caryophyllea*), rat-tail fescue (*Festuca myuros*), summer mustard (*Hirschfeldia incana*), windmill pink, sheep sorrel, bull thistle (*Cirsium vulgare*), and red-stemmed filaree. A few native grass and forb species such as purple needle grass, California poppy, holly-leaved navarretia, pretty face, and Fremont's star lily occur mixed within the non-native species.

Special-status wildlife species that may occur within this vegetation type are comparable to those identified above for California oat grass prairie.



- Project Site (Grading Limits)
 - Homeland Area
 - Palo Corona Regional Park
 - French Broom Infested Areas
- Vegetation Types**
- Coyote Brush Scrub
 - Native Grassland
 - Non-Native Grassland
 - Coast Live Oak Woodland
 - Ruderal (Existing Road)
 - Developed (Paved Road)



Palo Corona Regional Park

Rancho San Carlos Rd

Vegetation Type within Project Site	Permanent Impact	Temporary Impact	Total
Native Grassland	0.8 ac	1.6 ac	2.4 ac
Non-native Grassland	0.1 ac	0.1 ac	0.2 ac
Coyote Brush Scrub	0.7 ac	2.8 ac	3.5 ac
Coast Live Oak Woodland	0 ac	0.2 ac	0.2 ac
Ruderal (Dirt Road)	1.1 ac	0.1 ac	1.2 ac
Developed (Paved Road)	0.1 ac	0 ac	0.1 ac
Total	2.8 ac	4.8 ac	7.6 ac

Vegetation Types Map



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Date
08-14-2018
Scale
1 in=0.1 mi

Figure
4

Coyote Brush Scrub

- ◆ *A Manual of California Vegetation* 2009 classification: Coyote brush scrub (*Baccharis pilularis* shrubland alliance)
- ◆ Holland 1986 classification: Northern coyote brush scrub
- ◆ 1994 BioSystems Analysis classification: Coastal scrub and Coyote brush scrub
- ◆ CDFW *California Natural Communities List*: Not sensitive
- ◆ ESHA: No

This community is composed of several shrub species that form a canopy of approximately one to five feet high with a sparse understory. Coyote brush (*Baccharis pilularis*) is dominant or co-dominant in the canopy with coast sagebrush (*Artemisia californica*), chamise (*Adenostoma fasciculatum*), blue blossom (*Ceanothus thyrsiflorus*), coast ceanothus (*C. cuneatus* var. *fascicularis*), toyon (*Heteromeles arbutifolia*), ocean spray (*Holodiscus discolor*), California coffeeberry (*Frangula californica*), poison oak (*Toxicodendron diversilobum*), blue elderberry (*Sambucus nigra* ssp. *caerulea*), common snowberry (*Symphoricarpos albus*), and pink flowering currant (*Ribes sanguineum* var. *glutinosum*).

Several special-status wildlife species are known or have the potential to occur within the coyote brush scrub in the project site, including CTS, CRLF, California newt, Monterey dusky-footed woodrat (*Neotoma macrotis luciana*), and white-tailed kite.

Coast Live Oak Woodland

- ◆ *A Manual of California Vegetation* 2009 classification: Coast live oak woodland (*Quercus agrifolia*/Toxicodendron diversilobum/grass association)
- ◆ Holland 1986 classification: Coast live oak woodland
- ◆ 1994 BioSystems Analysis classification: Coast live oak woodland
- ◆ CDFW *California Natural Communities List*: Not sensitive
- ◆ ESHA: No

Within this vegetation type, coast live oak trees (*Quercus agrifolia*) create a dense canopy over an understory dominated by poison oak and sparse coyote brush scrub species.

Several special-status species are known or have the potential to occur within this vegetation type: Monterey dusky-footed woodrat, white-tailed kite, and California newt.

PLANTS

Suitable habitat for several special-status plant species is present within the site, including Jolon clarkia (*Clarkia jolonensis*), San Francisco collinsia (*Collinsia multicolor*), Hospital Canyon California larkspur (*Delphinium californicum* ssp. *interius*), Pinnacles buckwheat (*Eriogonum nortonii*), fragrant fritillary (*Fritillaria liliacea*), Carmel Valley bush mallow (*Malacothamnus palmeri* var. *involucratus*), Carmel Valley malacothrix (*Malacothrix saxatilis* var. *arachnoidea*), Santa Cruz microseris (*Stebbinsoseris decipiens*), California screw moss (*Tortula californica*), and Santa Cruz clover (*Trifolium buckwestiorum*) (Appendix A). However, no impacts will occur to special-status plants as a result of the project because none of these species were observed within or adjacent to the project boundaries during focused, protocol-level botanical surveys.

WILDLIFE

The project area was evaluated for the presence or potential presence of special-status wildlife species (Appendix A). The following species are discussed because they are known or have a moderate or high potential to occur within or adjacent to the project area (Table 4). All other species presented in Appendix A are assumed “unlikely to occur” or have a low potential to occur but are unlikely to be impacted for the species-specific reasons presented in Appendix A.

Table 4. *Potential for Special-Status Wildlife Species Presence within the Project site*

Species	Homeland and Driveway
Monterey dusky-footed woodrat	Moderate
American badger	Moderate
Long-eared owl	Moderate
Western burrowing owl	Moderate
White-tailed kite	High
California horned lark	Moderate
California tiger salamander	Known
California red-legged frog	High
California newt	High
Obscure bumble bee	Moderate
Western bumble bee	Moderate

Monterey Dusky-Footed Woodrat

The Monterey dusky-footed woodrat is a CDFW species of special concern. This is a subspecies of the dusky-footed woodrat (*Neotoma macrotis*), which is common to oak woodlands throughout California. Dusky-footed woodrats are frequently found in forest habitats with moderate canopy cover and a moderate to dense understory; however, they may also be found in chaparral and scrub communities. Relatively large nests are constructed of grass, leaves, sticks, and feathers and are built in protected spots, such as rocky outcrops or dense brambles of blackberry and/or poison oak. Typical food sources for this species include leaves, flowers, nuts, berries, and truffles. Dusky-footed woodrats may be a significant food source for small- to medium-sized predators. Populations of this species may be limited by the availability of nest material. Within suitable habitat, nests are often found in close proximity to each other.

The CNDDDB does not report any occurrences of Monterey dusky-footed woodrat within the eight quadrangles reviewed; however, woodrat nests were observed within the openlands on the Animus during several biological surveys. Woodrat nests were not observed within the project homeland; however, this species has the potential use the project site where suitable habitat is present prior to construction. Therefore, Monterey dusky-footed woodrat has a high potential to occur within the project site where suitable habitat is present.

American Badger

The American badger is a CDFW species of special concern. Badgers occupy a diversity of habitats within California. The principal requirements seem to be sufficient food, friable soils, and relatively open, uncultivated grounds. Grasslands, savannas, and mountain meadows near timberline are preferred. Badgers feed primarily on burrowing rodents such as gophers, squirrels, mice, and kangaroo rats, as well as some

insects and reptiles. Badgers also break open bee hives to eat both the brood and honey. They are active all year long and are nocturnal and diurnal. Mating occurs in summer and early fall, and two to five young are born in burrows that are dug in relatively dry, often sandy soil, usually with sparse overstory cover.

The CNDDDB reports nine occurrences of American badger within the eight quadrangles reviewed, with the nearest occurrence approximately 6.2 miles northeast of the project site. The 1994 BioSystems Analysis Inc. report also notes an occurrence on the adjacent SLP, although it does not indicate the location of the observation. No suitable badger burrows were observed within the homeland during biological surveys; however, this species has the potential to move into the area prior to construction. Therefore, the American badger has a moderate potential to occur within the project site.

Nesting Raptors and Other Protected Avian Species

Raptors, their nests, and other nesting birds are protected under California Fish and Game Code. While the life histories of these species vary, overlapping nesting and foraging similarities (approximately February through August) allow for their concurrent discussion. Many raptor species are breeding residents throughout most of the wooded portions of the state. Stands of live oak, riparian deciduous, or other forest habitats, as well as open grasslands, are used most frequently for nesting. Breeding occurs February through August, with peak activity May through July. Prey for these species includes small birds, small mammals, and some reptiles and amphibians. Many raptor species hunt in open woodland and habitat edges.

Suitable habitat is also present on the site for several other special-status avian species, including the long-eared owl, western burrowing owl, white-tailed kite, and California horned lark.

Long-eared Owl

The long-eared owl is a CDFW Species of Special Concern. It is usually found in open areas with few trees, such as annual and perennial grasslands, prairies, meadows, dunes, irrigated lands, and saline and freshwater emergent marshes. Dense vegetation, including tall grasses, brush, ditches, or wetlands, is required for roosting and nesting cover.

Suitable foraging habitat for this species is present within the grassland and prairie habitats in the homeland, and suitable nesting habitat is present within the coyote scrub in the adjacent openlands. Two occurrences of the long-eared owl are known on the SLP, the nearest on the north side of Chamisal Ridge, approximately 1.2 miles east of the project site (SLC, 2006).

Western Burrowing Owl

The western burrowing owl is a CDFW Species of Special Concern. It is found in open, dry grassland and desert habitats, and uses rodent burrows (often those of California ground squirrels) for roosting and nesting cover.

Suitable foraging habitat for the owl is present within the grassland habitats within the homeland. No suitable burrows were observed within the homeland during biological surveys; however, this species may move into the area prior to construction. The CNDDDB reports seven occurrences of the owl near the project site, the nearest approximately 5.5 miles north of the site.

White-tailed Kite

The white-tailed kite is a California Fully Protected Species. It is a small raptor which forages in open groves, river valleys, marshes, and grasslands, and nests in shrubs and trees adjacent to grasslands.

Suitable foraging habitat for the kite is present within the grassland habitats in the homeland, and suitable nesting habitat is present within the coyote scrub in the adjacent openlands. The CNDDDB does not report any occurrences of the white-tailed kite within the eight quadrangles reviewed; however, this species has been observed within the immediate project vicinity during several biological surveys.

California Horned Lark

The California horned lark is on the CNDDDB list of “special animals”. It is found in a variety of open habitats, usually where large trees and shrubs are absent, and it builds open, cup-like nests on the ground. Suitable nesting and foraging habitat for the lark is present within the grassland habitats in the homeland. The CNDDDB reports two occurrences of the lark near the project site, both approximately 13.2 miles north of the site. This species is also known from the Potrero subdivision area of the SLP, located to the east of the site (DD&A, 2003).

California Tiger Salamander

CTS was listed as a federally threatened species on August 4, 2004 (69 FR 47211-47248). Critical habitat was designated for CTS on August 23, 2005 (70 FR 49379-49458), and went into effect on September 22, 2005. Additionally, CTS was listed as a state threatened species on March 3, 2010.

The CTS is a large, stocky salamander most commonly found in annual grassland habitat, but also occurring in the grassy understory of valley-foothill hardwood and chaparral habitats, and uncommonly along stream courses in valley-foothill riparian habitats (USFWS, 2004). Adults spend most of their lives underground, typically in burrows of ground squirrels and other animals (USFWS, 2004). The CTS has been eliminated from an estimated 55 percent of its documented historic breeding sites. Currently, about 150 known populations of CTS remain. The CTS persists in disjunct remnant vernal pool complexes in Sonoma County and Santa Barbara County, in vernal pool complexes and isolated stockponds scattered along a narrow strip of rangeland on the fringes of the Central Valley from southern Colusa County south to northern Kern County, and in sag ponds and human-maintained stockponds in the coast ranges from the San Francisco Bay Area south to the Temblor Range.

Above-ground migratory and breeding activity may occur under suitable environmental conditions from mid-October through May. Adults may travel long distances between upland and breeding sites; adults have been found more than two kilometers (1.24 miles) from breeding sites (USFWS, 2004). Breeding occurs from November to February, following relatively warm rains (Stebbins, 2003). The CTS breeds and lays eggs primarily in vernal pools and other temporary rainwater ponds. Permanent human-made ponds are sometimes utilized if predatory fishes are absent; streams are rarely used for reproduction. Eggs are laid singly or in clumps on both submerged and emergent vegetation and on submerged debris in shallow water (Stebbins, 1972; Jennings and Hayes, 1994). Males typically spend 6-8 weeks at breeding ponds, while females typically spend only 1-2 weeks (Loredo et al., 1996). Eggs hatch within 10-14 days (USFWS, 2004) and a minimum of 10 weeks is required to complete development through metamorphosis (Jennings and

Hayes, 1994), although the larval stage may last up to six months and some larvae in Contra Costa and Alameda Counties may remain in their breeding sites over the summer (USFWS, 2004).

Figure 5 shows the known CTS occurrences within two kilometers of the project site. The occurrences come from the following sources: DD&A, 2008; DD&A, 2013a (Appendix C); and CNDDDB, 2018a. Aquatic and upland data has been collected on the SLP and PCRPs on and off for over a decade, resulting in a data set that identifies ponds that are known to support CTS breeding activity now, or have in the past. The result of this data confirms that a localized metapopulation of CTS currently occupy an area associated with a cluster of eight ponds near the project site. Within this cluster area there are ponds that likely never have supported CTS, ponds which likely did in the past but do not now, and one pond that is currently being used as a breeding resource by CTS.

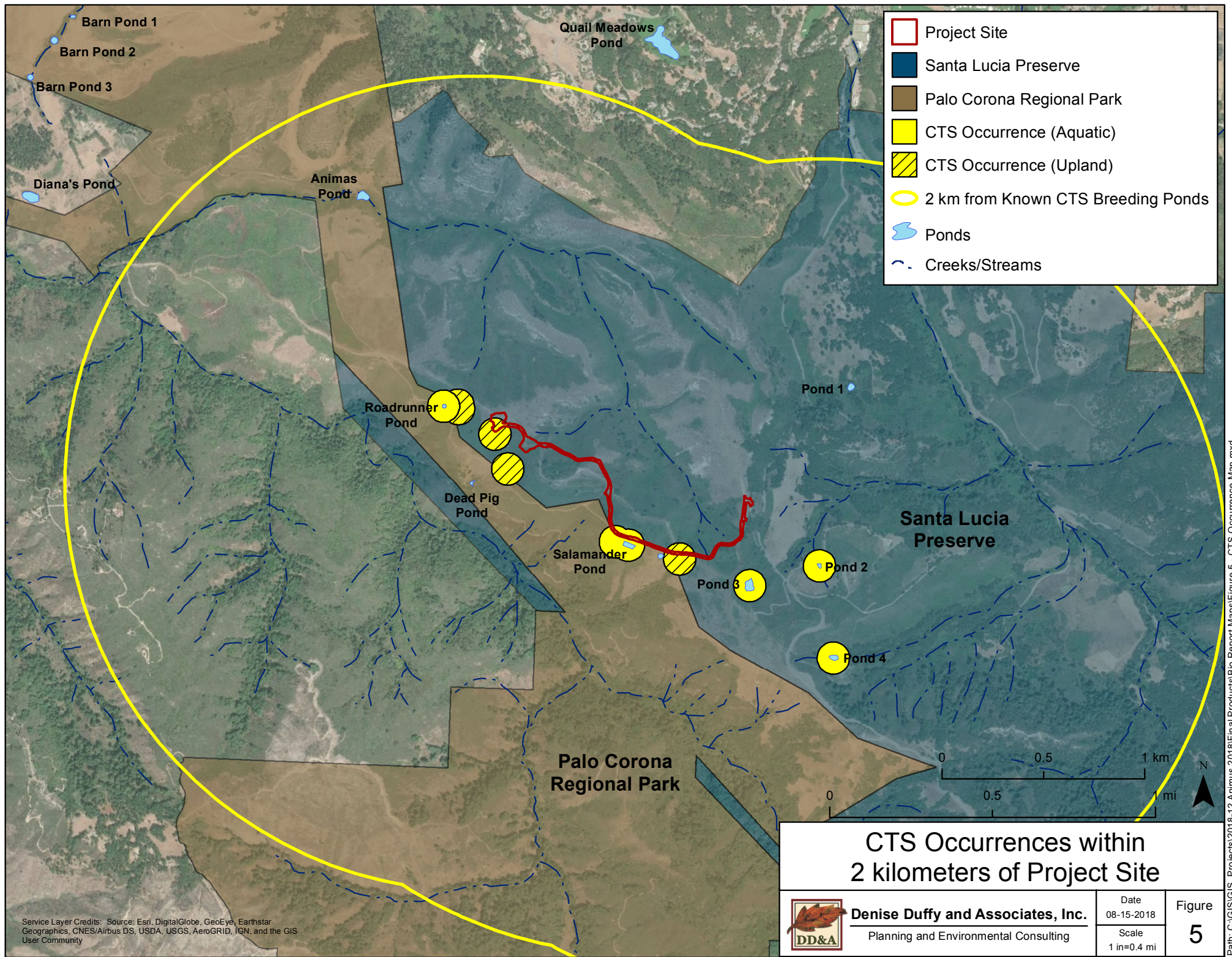
While no aquatic resources are located on the project site, the site is a significant upland resource associated with this localized CTS metapopulation. CTS were observed utilizing the grassland and scrub habitats on the homeland during upland drift fence/pitfall trap surveys conducted in 2012/13 (Appendix C).

California Red-Legged Frog

The California red-legged frog (*Rana draytonii*, CRLF) was listed as a federally Threatened species on June 24, 1996 (61 FR 25813-25833) and is also a CDFW species of special concern. Critical habitat was designated for CRLF on April 13, 2006 (71 FR 19244-19346) and revised on March 17, 2010 (75 FR 12816-12959). The revised critical habitat went into effect on April 16, 2010.

The CRLF is the largest native frog in California (44-131 mm snout-vent length) and was historically widely distributed in the central and southern portions of the state (Jennings & Hayes, 1994). Adults generally inhabit aquatic habitats with riparian vegetation, overhanging banks, or plunge pools for cover, especially during the breeding season (Jennings and Hayes, 1988). They may take refuge in small mammal burrows, leaf litter, or other moist areas during periods of inactivity or to avoid desiccation (Rathbun, et al., 1993; Jennings and Hayes, 1994). Radio telemetry data indicates that adults engage in straight-line breeding season movements irrespective of riparian corridors or topography and they may move up to two miles between non-breeding and breeding sites (Bulger et. al., 2003). During the non-breeding season, a wider variety of aquatic habitats are used, including small pools in coastal streams, springs, water traps, and other ephemeral water bodies (USFWS, 1996). CRLF may also move up to 100 meters from aquatic habitats into surrounding uplands, especially following rains, where individuals may spend days or weeks (Bulger et al., 2003).

This species requires still or slow-moving water during the breeding season where it can deposit large egg masses, which are most often attached to submergent or emergent vegetation. Breeding typically occurs between December and April depending on annual environmental conditions and locality. Eggs require six to 12 days to hatch and metamorphosis generally occurs after 3.5 to seven months, although larvae are also capable of over-wintering. Following metamorphosis, generally between July and September, juveniles are 25-35 mm in size. Juvenile CRLF appear to have different habitat needs than adults. Jennings and Hayes (1988) recorded juvenile frogs mostly from sites with shallow water and limited shoreline or emergent vegetation. Additionally, it was important that there be small one-meter breaks in the vegetation or clearings in the dense riparian cover to allow juveniles to sun themselves and forage, but to also have close escape



CTS Occurrences within 2 kilometers of Project Site



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Date
08-15-2018

Scale
1 in=0.4 mi

Figure

5

cover from predators. Jennings and Hayes also noted that tadpoles have different habitat needs and that in addition to vegetation cover, tadpoles use mud. It is speculated that CRLF larvae are algae grazers; however, foraging larval ecology remains unknown (Jennings, et. al., 1993).

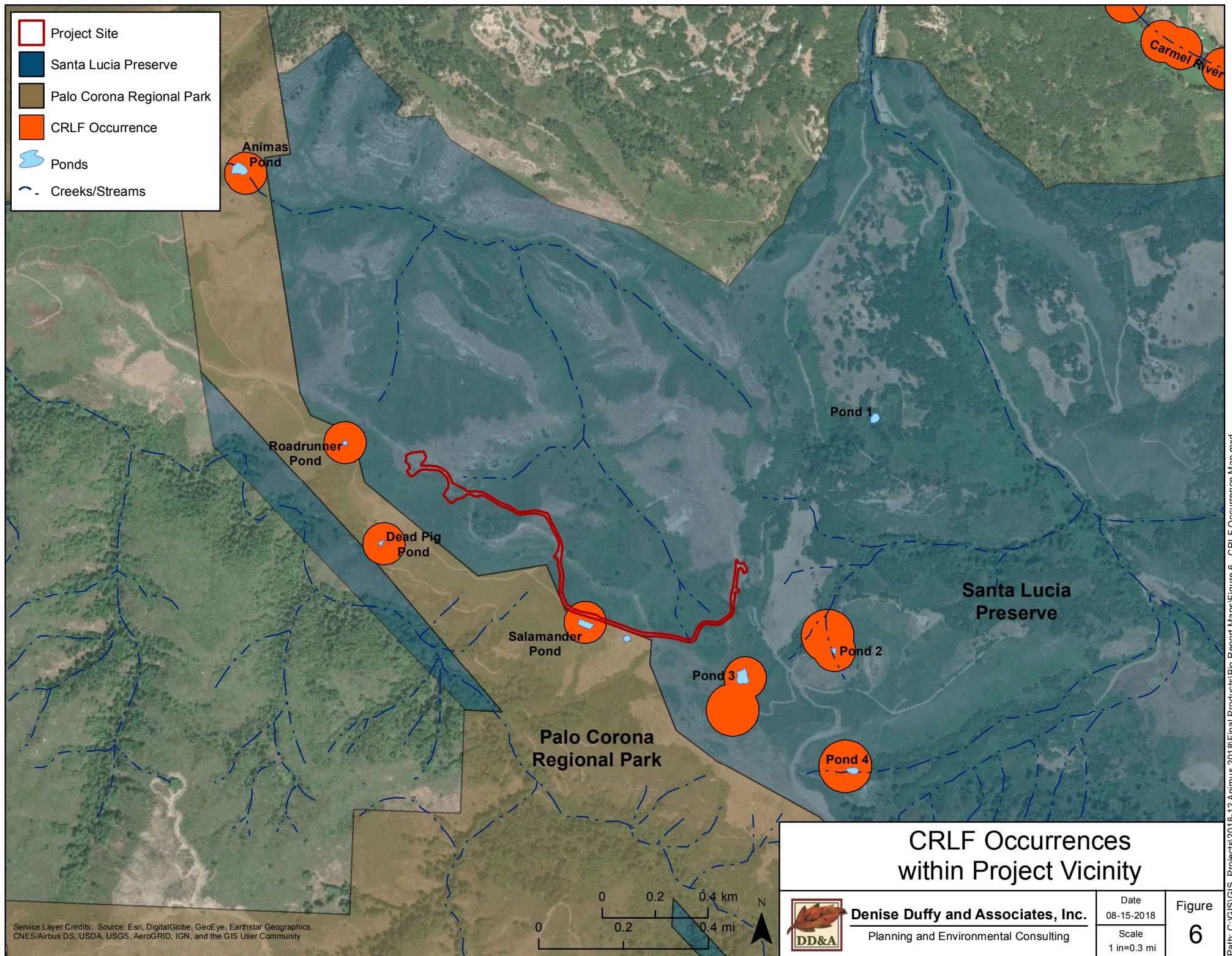
It has been shown that occurrences of CRLF are negatively correlated with presence of non-native bullfrogs (Moyle, 1973; Jennings and Hayes, 1986 and 1988), although both species are able to persist at certain locations, particularly in the coastal zone. It is estimated that CRLF has disappeared from approximately 75% of its former range and has been nearly extirpated from the Sierra Nevada, Central Valley, and much of southern California (USFWS, 1996).

Figure 6 shows the known occurrences of CRLF within the vicinity of the project site. Aquatic data has been collected on the SLP and PCRP on and off for over a decade, resulting in a data set that identifies ponds that are known to support CRLF breeding activity now, or have in the past. The result of this data confirms that CRLF currently occupy multiple ponds on the SLP and PCRP, including the cluster of eight ponds near the project site. Within this cluster area there are several ponds that are currently being used as a breeding resource by CRLF, some ponds which supported CRLF breeding in the past but may not now, and one pond that likely never supported CRLF. Although no aquatic resources are located on the project site, CRLF may use the habitats within the site as upland refugia from the surrounding ponds. The project site is located within CRLF critical habitat mapping unit MNT-2.

California Newt

The California newt is a CDFW species of special concern. This species occurs commonly in the Coast Ranges from central Mendocino County south to northern San Diego County, primarily in valley-foothill hardwood, valley-foothill hardwood-conifer, coastal scrub, and mixed chaparral, but is also known from annual grassland and mixed conifer habitat types. The elevation range extends from sea level to 6,000 feet. Juveniles and terrestrial adults prey on earthworms, snails, slugs, sowbugs, and insects (Stebbins, 1972). Adults at breeding ponds have been observed to take the eggs of their own species and other amphibians, as well as trout, adult and larval aquatic insects, small crustaceans, snails, and clams. Aquatic larvae eat many small aquatic organisms, especially crustaceans. Terrestrial individuals seek cover under surface objects, such as rocks and logs, or in mammal burrows, rock fissures, or human-made structures, such as wells. Aquatic larvae find cover beneath submerged rocks, logs, debris, and undercut banks. Breeding and egg-laying occur in intermittent streams, rivers, permanent and semi-permanent ponds, lakes, and large reservoirs. Eggs are laid in small clusters on the submerged portion of emergent vegetation, on submerged vegetation, and on the underside of rocks off the bottom. Terrestrial individuals are relatively inactive in subterranean refuges most of the year. Migrations to and from breeding areas usually occur at night during or just following rains.

The CNDDDB reports two occurrences of the California newt near the project site, both of which occur within the project parcel. Although these occurrences are outside the homeland, one occurrence intersects the driveway easement near Salamander Pond. This species is known to breed in several ponds within the adjacent SLP and PCRP. Additionally, this species was observed within the homeland and the openlands during upland drift-fence/pitfall trap surveys in 2012/13.



Obscure Bumble Bee

The obscure bumble bee is on the CNDDDB list of “special animals.” Native to the west coast of the United States, this species occurs primarily along the coast in grassy prairies and meadows within the Coast Ranges. It can nest both under and above ground, and is found in areas which are relatively humid or frequently foggy. Recent data suggest that the obscure bumble bee is currently experiencing very high population decline throughout its entire range (Hatfield et al, 2014). However, this species can be easily overlooked because of its close resemblance to other common bees, which may be a factor in its apparent decline. Therefore, there is uncertainty if the species is truly experiencing a population decline.

Suitable habitat for this species is present within the grassland habitats in the homeland. The CNDDDB reports four occurrences of the species within the quadrangles reviewed, the nearest occurrence approximately two miles west of the project site.

Western Bumble Bee

The western bumble bee is on the CNDDDB list of “special animals.” This species occurs in open grassy areas, urban parks, urban gardens, chaparral, and meadows, and it generally nests underground. Like *B. caliginosus*, it has been experiencing recent population decline throughout most of its range, much of it caused by pathogens and parasites. Other stressors include habitat loss and alteration due to agricultural intensification, urban development, conifer encroachment, grazing, logging, and climate change.

Suitable habitat for this species is present within the grassland habitats in the homeland. The CNDDDB reports six occurrences of the species within the quadrangles reviewed, the nearest occurrence approximately 2.4 miles northwest of the project site.

SENSITIVE HABITATS

The project site was evaluated for the presence of sensitive habitats. As identified above, native grasslands are present within the site and would be impacted by the project (Figure 4). The vegetation alliances identified within the native grassland habitat are identified as sensitive on the CDFW *California Natural Communities List* (CDFW, 2018). This vegetation type may also be considered ESHA under the California Coastal Act.

In addition, the site supports habitat for special-status species that may also be considered ESHA under the California Coastal Act. These include upland aestivation habitat for CTS and critical upland and dispersal habitat for CRLF.

IMPACTS AND MITIGATION

Suitable habitat for special-status plant species is present within the project site (Appendix A); however, special-status plants were not observed on the project site during focused botanical surveys and are not expected to occur on the site. Therefore, the project will not result in impacts to special-status plants.

Special-status wildlife and sensitive habitats that are known or have the potential to occur within the project site are identified in *Results* above. Impacts to these sensitive resources may occur as a result of the project. The following identifies the project impacts and mitigation measures to reduce these potentially significant impacts to a less-than-significant level.

Impact 1: *Special-status wildlife species, including the Monterey dusky-footed woodrat, American badger, long-eared owl, western burrowing owl, white-tailed kite, California horned lark, California newt, obscure bumble bee, western bumble bee, and nesting birds, have the potential to occur within the project site. Construction activities may result in direct mortality of individuals and loss of habitat. This is a potentially significant impact that can be reduced to a less-than-significant level with implementation of the mitigation measures recommended below.*

Mitigation 1a: A qualified biologist will conduct an Employee Education Program for the construction crew prior to any construction activities. A qualified biologist will meet with the construction crew at the onset of construction at the project site to educate the construction crew on the following: 1) the appropriate access route(s) in and out of the construction area and review project boundaries; 2) how a biological monitor will examine the area and agree upon a method which will ensure the safety of the monitor during such activities, 3) the special-status species that may be present; 4) the specific mitigation measures that will be incorporated into the construction effort; 5) the general provisions and protections afforded by the USFWS and CDFW; and 6) the proper procedures if a special-status species is encountered within the project site.

Mitigation 1b: To avoid and reduce impacts to the Monterey dusky-footed woodrat, the project applicant will retain a qualified biologist to conduct pre-construction surveys in suitable habitat proposed for construction. Surveys will be done within three days prior to construction for woodrat nests within the project site and in a buffer zone 25 feet out from the limit of disturbance. All woodrat nests within the buffer zone will be flagged and avoided. Nests that cannot be avoided will be manually deconstructed prior to land clearing activities to allow animals to escape harm. If a litter of young is found or suspected, nest material will be replaced, and the nest left alone for 2-3 weeks before a re-check to verify that young are capable of independent survival before proceeding with nest dismantling.

Mitigation 1c: To avoid and reduce impacts to the American badger, the project applicant will retain a qualified biologist to conduct focused pre-construction surveys for badger dens in all suitable habitat proposed for construction, ground disturbance, or staging no more than two weeks prior to construction. If no potential badger dens are present, no further mitigation is required. If potential dens are observed, the following measures are required to avoid potential significant impacts to the American badger:

- If the qualified biologist determines that potential dens are inactive, the biologist shall excavate these dens by hand with a shovel to prevent badgers from re-using them during construction.
- If the qualified biologist determines that potential dens may be active, the entrances of the dens shall be blocked with soil, sticks, and debris for three to five days to discourage the use of these dens prior to project disturbance. The den entrances shall be blocked to an incrementally greater degree over the three to five day period. After the qualified biologist determines that badgers have stopped using active dens within the project boundary, the dens shall be hand-excavated with a shovel to prevent re-use during construction.

Mitigation 1d: In order to avoid impacts to active burrowing owl nests, a qualified biologist will conduct pre-construction surveys in suitable habitat within the construction footprint and within 250 feet of the footprint no more than 30 days prior to the start of construction. If ground disturbing activities are delayed or suspended for more than 30 days after the pre-construction survey, the site shall be resurveyed. The survey shall conform to the CDFW 1995 Staff Report protocol. If no burrowing owls are found, no further mitigation is required. If it is determined that burrowing owls occupy the site during the non-breeding season (September 1 through January 31), then a passive relocation effort (e.g., blocking burrows with one-way doors and leaving them in place for a minimum of three days) may be necessary to ensure that the owls are not harmed or injured during construction. Once it has been determined that the owls have vacated the site, the burrows can be collapsed, and ground disturbance can proceed. If burrowing owls are detected within the construction footprint or immediately adjacent lands (i.e. within 250 feet of the footprint) during the breeding season (February 1 to August 31), a construction-free buffer of 250 feet will be established around all active owl nests. The buffer area will be enclosed with temporary fencing, and construction equipment and workers will not enter the enclosed setback areas. Buffers will remain in place for the duration of the breeding season or until it has been confirmed by a qualified biologist that all chicks have fledged and are independent of their parents. After the breeding season, passive relocation of any remaining owls may take place as described above.

Mitigation 1e: To avoid and reduce impacts to nesting raptors and other nesting avian species including the, but not limited to; the long-eared owl, white-tailed kite, and California horned lark, construction activities can be timed to avoid the nesting season period. Specifically, tree and vegetation removal can be scheduled after September 1 and before January 31 to avoid impacts to these species. Alternatively, if avoidance of the nesting period is not feasible, a qualified biologist shall be retained to conduct pre-construction surveys for nesting raptors and other protected avian species within 250 feet of proposed construction activities if construction occurs between February 1 and August 31. Pre-construction surveys will be conducted no more than 14 days prior to the start of construction activities during the early part of the breeding season (February through April) and no more than 30 days prior to the initiation of these activities during the late part of the breeding season (May through August). Because some bird species nest early in spring and others nest later in summer, some breed multiple times in a season, surveys for nesting birds may be required to continue during construction to address new arrivals. The necessity and timing of these continued surveys will be determined by the qualified biologist based on review of the final construction plans.

If raptors or other protected avian species nests are identified during the pre-construction surveys, the qualified biologist will notify the project applicant and an appropriate no-disturbance buffer will be imposed within which no construction activities or disturbance should take place as determined by the qualified biologist to ensure avoidance of impacts to the individuals. The buffer will remain in place until the young of the year have fledged and are no longer reliant upon the nest or parental care for survival, as determined by a qualified biologist.

Mitigation 1f: Following construction, disturbed areas will be restored to pre-project contours to the maximum extent possible and revegetated using locally-occurring native species and native erosion control seed mix, per the recommendations of a qualified biologist.

Mitigation 1g: Grading, excavating, and other activities that involve substantial soil disturbance will be planned and carried out in consultation with a qualified hydrologist, engineer, or erosion control specialist, and will utilize standard erosion control techniques to minimize erosion and sedimentation to native vegetation (pre-, during, and post-construction).

Mitigation 1h: All food-related and other trash will be disposed of in closed containers and removed from the project area at least once a week during the construction period, or more often if trash is attracting avian or mammalian predators. Construction personnel will not feed or otherwise attract wildlife to the area.

Mitigation 1i: No firearms will be allowed on the project site at any time.

Impact 2: *CTS are known to occur within the project site. This species is listed as Threatened under ESA and CESA. Construction-phase activities associated with the development of the homeland and the driveway have the potential to impact (take) individual CTS. This may include direct injury or mortality as a result of vegetation removal, ground disturbance, and construction vehicle traffic. The project would result in the permanent loss of CTS upland habitat. On-going impacts to CTS may result from the operation of the residences, such as mowing and residential traffic. This is a potentially significant impact that can be reduced to a less-than-significant-level with the implementation of Mitigation Measures 1a, 1f-h, and the mitigation presented below.*

Mitigation 2: The project applicant will comply with the ESA and CESA and consult with the Service and CDFW to determine whether authorization for the incidental take of CTS is required prior to issuance of a grading permit. If it is determined that authorization for the incidental take of CTS is required from the Service and/or CDFW, the project applicant will comply with the ESA and/or CESA to obtain an incidental take permit at the project-level prior to the issuance of a grading permit. Permit requirements typically involve the preparation and implementation of a mitigation plan and mitigating impacted habitat at a 3:1 ratio through preservation and/or restoration. The project applicant would be required to retain a qualified biologist to prepare a mitigation plan, which will include, but is not limited to identifying: avoidance and minimization measures; mitigation strategy, including a take assessment, avoidance and minimization measures, compensatory mitigation lands, and success criteria; and funding assurances. The project applicant would be required to implement the approved plan and any additional permit requirements.

Impact 3: CRLF are known to occur adjacent the project site. This species is listed as Threatened under the ESA and is a CDFW species of special concern. Construction-phase activities associated with the development of the homeland and the driveway have the potential to impact (take) individual CRLF and their designated critical habitat. This may include direct injury or mortality as a result of vegetation removal, ground disturbance, and construction vehicle traffic. The project would result in the permanent loss of CRLF upland habitat and dispersal habitat. On-going impacts to CRLF may result from the operation of the residences, such as mowing and residential traffic. ***This is a potentially significant impact that can be reduced to a less-than-significant-level with the implementation of Mitigation Measures 1a, 1f-h, and the mitigation presented below.***

Mitigation 3: The project applicant will comply with the ESA and consult with USFWS to determine whether authorization for the incidental take of CRLF is required prior to issuance of a grading permit. If it is determined that authorization for the incidental take of CRLF is required from USFWS, the project applicant will comply with the ESA to obtain an incidental take permit at the project-level prior to the issuance of a grading permit. Permit requirements typically involve the preparation and implementation of a mitigation plan and mitigating impacted habitat at a 3:1 ratio through preservation and/or restoration. The project applicant would be required to retain a qualified biologist to prepare a mitigation plan, which will include, but is not limited to identifying: avoidance and minimization measures; mitigation strategy, including a take assessment, avoidance and minimization measures, compensatory mitigation lands, and success criteria; and funding assurances. The project applicant would be required to implement the approved plan and any additional permit requirements.

Impact 4: The project will impact a number of habitats potentially considered ESHA under the California Coastal Act. Impacts may include the construction related disturbance or permanent loss of: native grassland, CRLF critical upland and dispersal habitat, and upland habitat presumed to be occupied by CTS. ***This is a potentially significant impact that can be reduced to a less-than-significant-level with the implementation of Mitigation Measures 1a, 1g-i, 2, and 3, and the mitigation measures included below.***

Mitigation 4: The project applicant will comply with the California Coastal Act (CCA) and consult with the California Coastal Commission (CCC) to determine whether authorization for Coastal Development Permit (CDP) is required prior to issuance of a grading permit. If it is determined that a CDP is required from the CCC, the project applicant will comply with the CCA to obtain a CDP at the project-level prior to the issuance of a grading permit. Permit requirements typically involve the preparation and implementation of a mitigation plan and mitigating impacted habitat at a 3:1 ratio through preservation and/or restoration. The project applicant would be required to retain a qualified biologist to prepare a mitigation plan, which will include, but is not limited to identifying: avoidance and minimization measures; mitigation strategy (including a take assessment, avoidance and minimization measures, compensatory mitigation lands, and success criteria); and funding assurances. The project applicant would be required to implement the approved plan and any additional permit requirements.

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APPENDIX A

Special-Status Species Table

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Special-Status Species Table

USGS quadrangles: Carmel Valley, Marina, Monterey, Mt. Carmel, Salinas, Seaside, Soberanes Point, and Spreckels.

Species	Status (USFWS/ CDFW/ CNPS)	General Habitat	Occurrence Potential within the Homeland and Driveway	Occurrence Potential within Openlands
MAMMALS				
<i>Antrozous pallidus</i> Pallid bat	-- / CSC / --	Occurs in a wide variety of habitats including grasslands, shrublands, arid desert areas, oak savanna, coastal forested areas, and coniferous forests of the mountain regions of California. Most common in open, dry habitats with rocky areas for roosting. Day roosts include caves, crevices, mines, and occasionally hollow trees and buildings. Seems to prefer rocky outcrops, cliffs, and crevices with access to open habitats for foraging. Similar structures are used for night roosting and will also use more open sites such as eaves, awnings, and open areas under bridges for feeding roosts.	Low: May forage over open areas; however, no suitable roosting habitat is present.	Low: May forage over open areas; however, no suitable roosting habitat is present.
<i>Corynorhinus townsendii</i> Townsend's big-eared bat	-- / CSC / --	Found primarily in rural settings from inland deserts to coastal redwoods, oak woodland of the inner Coast Ranges and Sierra foothills, and low to mid-elevation mixed coniferous-deciduous forests. Typically roost during the day in limestone caves, lava tubes, and mines, but can roost in buildings that offer suitable conditions. Night roosts are in more open settings and include bridges, rock crevices, and trees.	Low: May forage over open areas; however, no suitable roosting habitat is present.	Low: May forage over open areas; however, no suitable roosting habitat is present.
<i>Lasiurus cinereus</i> Hoary bat	-- / CNDDDB / --	Prefers open habitats or habitat mosaics with access to trees for cover and open areas or edge for feeding. Generally, roosts in dense foliage of trees; does not use buildings for roosting. Winters in California and Mexico and often migrates towards summer quarters in the north and east during the spring. Young are born and reared in summer grounds, which is unlikely to occur in California.	Low: May forage over open areas; however, no suitable roosting habitat is present.	Low: May forage over open areas; however, no suitable roosting habitat is present.
<i>Neotoma macrotis luciana</i> Monterey dusky-footed woodrat	-- / CSC / --	Forest and oak woodland habitats of moderate canopy with moderate to dense understory. Also occurs in chaparral habitats.	Moderate: Most of the homeland is defined by grassland, but suitable some coyote brush habitat is present.	Moderate: Suitable habitat is present within the coyote brush scrub habitat.
<i>Reithrodontomys megalotis distichlis</i> Salinas harvest mouse	-- / CNDDDB / --	Known only to occur from the Monterey Bay region. Occurs in fresh and brackish water wetlands and probably in the adjacent uplands around the mouth of the Salinas River.	Unlikely: No suitable habitat present.	Unlikely: No suitable habitat present.

<i>Taxidea taxus</i> American badger	-- / CSC / --	Dry, open grasslands, fields, pastures savannas, and mountain meadows near timberline are preferred. The principal requirements seem to be sufficient food, friable soils, and relatively open, uncultivated grounds.	Moderate: Suitable habitat is present. The nearest CNDDDB occurrence is approximately 6.2 miles northeast of the property. One occurrence is also known on the adjacent SLP (BioSystems Analysis Inc., 1994). This species has not been previously identified on the property.	Moderate: Suitable habitat is present.
BIRDS				
<i>Accipiter cooperii</i> Cooper's hawk (nesting)	-- / CNDDDB / --	Resident throughout most of the wooded portion of the state. Dense stands of live oak, riparian deciduous, or other forest habitats near water used most frequently. Seldom found in areas without dense tree stands, or patchy woodland habitats.	Low: May forage over open areas in the winter; however, no suitable nesting habitat is present.	Low: May forage over open areas in the winter; however, no suitable nesting habitat is present.
<i>Agelaius tricolor</i> Tricolored blackbird (nesting colony)	-- / CSC / --	Nest in colonies in dense riparian vegetation, along rivers, lagoons, lakes, and ponds. Forages over grassland or aquatic habitats.	Low: May be present within the driveway adjacent to Salamander Pond; however, suitable nesting habitat is not present within this area.	Low: Some foraging habitat is present, but nesting habitat is not present
<i>Aquila chrysaetos</i> Golden eagle (nesting & wintering)	-- / CFP / --	Use rolling foot-hills, mountain terrain, wide arid plateaus deeply cut by streams and canyons, open mountain slopes, cliffs, and rocky outcrops. Nest in secluded cliffs with overhanging ledges as well as large trees.	Low: Suitable foraging habitat is present; however, no suitable nesting habitat is present.	Low: Suitable foraging habitat is present; however, no suitable nesting habitat is present.
<i>Asio otus</i> Long-eared owl	-- / CSC / --	Usually found in open areas with few trees, such as annual and perennial grasslands, prairies, meadows, dunes, irrigated lands, and saline and freshwater emergent marshes. Dense vegetation is required for roosting and nesting cover. This includes tall grasses, brush, ditches, and wetlands. Open, treeless areas containing elevated sites for perching, such as fence posts or small mounds, are also needed. Some individuals breed in northern California.	Moderate: Suitable habitat is present. Two occurrences are known on the adjacent SLP, the nearest on the north side of Chamisal Ridge, approximately 1.2 miles east of the property (SLC, 2006).	Moderate: Suitable habitat is present.

<i>Athene cunicularia</i> Western burrowing owl	-- / CSC / --	Year-round resident of open, dry grassland and desert habitats, and in grass, forb and open shrub stages of pinyon-juniper and ponderosa pine habitats. Frequent open grasslands and shrublands with perches and burrows. Use rodent burrows (often California ground squirrel) for roosting and nesting cover. Pipes, culverts, and nest boxes may be substituted for burrows in areas where burrows are not available.	Moderate: Suitable habitat is present. The nearest CNDDDB occurrence is approximately 4.7 miles north of the property. Two additional occurrences are also known on the adjacent SLP; the nearest is at Mesa Pasture, approximately 2.6 miles southeast of the property (BioSystems Analysis Inc., 1994).	Moderate: Suitable habitat is present.
<i>Brachyramphus marmoratus</i> Marbled murrelet (nesting)	FT / SE / --	Occur year-round in marine subtidal and pelagic habitats from the Oregon border to Point Sal. Partial to coastlines with stands of mature redwood and Douglas-fir. Requires dense mature forests of redwood and/or Douglas-fir for breeding and nesting.	Unlikely: No suitable habitat present.	Unlikely: No suitable habitat present.
<i>Buteo regalis</i> Ferruginous hawk	-- / CNDDDB / --	An uncommon winter resident and migrant at lower elevations and open grasslands in the Modoc Plateau, Central Valley, and Coast Ranges and a fairly common winter resident of grassland and agricultural areas in southwestern California. Frequent open grasslands, sagebrush flats, desert scrub, low foothills surrounding valleys, and fringes of pinyon-juniper habitats. Does not breed in California.	Low: Suitable foraging habitat is present. Does not nest in California	Low: Suitable foraging habitat is present. Does not nest in California
<i>Charadrius alexandrinus nivosus</i> Western snowy plover	FT / CSC / --	Sandy beaches on marine and estuarine shores, also salt pond levees and the shores of large alkali lakes. Requires sandy, gravelly or friable soil substrate for nesting.	Unlikely: No suitable habitat present.	Unlikely: No suitable habitat present.
<i>Coturnicops noveboracensis</i> Yellow rail	-- / CSC / --	Wet meadows and coastal tidal marshes. Occurs year round in California, but in two primary seasonal roles: as a very local breeder in the northeastern interior and as a winter visitor (early Oct to mid-Apr) on the coast and in the Suisun Marsh region	Unlikely: No suitable habitat present.	Unlikely: No suitable habitat present.
<i>Cypseloides niger</i> Black swift	-- / CSC / --	Regularly nests in moist crevice or cave on sea cliffs above the surf, or on cliffs behind, or adjacent to, waterfalls in deep canyons. Forages widely over many habitats.	Unlikely: No suitable habitat present.	Unlikely: No suitable habitat present.
<i>Dendroica petechia brewsteri</i> Yellow warbler	-- / CSC / --	Usually found in riparian deciduous habitats in summer; cottonwoods, willows, alders, and other small trees and shrubs typical of low, open-canopy riparian woodland. Visits woodland, forest, and shrub habitats.	Unlikely: No suitable habitat present.	Unlikely: No suitable habitat present.

<i>Elanus leucurus</i> White-tailed kite	-- / CFP / --	Open groves, river valleys, marshes, and grasslands. Prefer such area with low roosts (fences etc.). Nest in shrubs and trees adjacent to grasslands.	High: Suitable foraging habitat is present. May nest within the coyote brush scrub habitat.	High: Suitable foraging habitat is present. May nest within the coyote brush scrub habitat.
<i>Empidonax traillii extimus</i> Southwestern willow flycatcher (nesting)	FE / SE / --	Breeds in riparian habitat in areas ranging in elevation from sea level to over 2,600 meters. Builds nest in trees in densely vegetated areas. This species establishes nesting territories and builds, and forages in mosaics of relatively dense and expansive areas of trees and shrubs, near or adjacent to surface water or underlain by saturated soils. Not typically found nesting in areas without willows (<i>Salix sp.</i>), tamarisk (<i>Tamarix ramosissima</i>), or both.	Unlikely: No suitable habitat present.	Unlikely: No suitable habitat present.
<i>Eremophila alpestris actia</i> California horned lark	-- / CNDDB / --	Variety of open habitats, usually where large trees and/or shrubs are absent. Found from grasslands along the coast to deserts at sea-level and alpine dwarf-shrub habitats are higher elevations. Builds open cup-like nests on the ground.	Moderate: Appropriate nesting and foraging habitat is present within the grassland. The CNDDB reports the nearest occurrence as approximately 13.2 miles north of the property. This species is also known from the Potrero subdivision area of the SLP, located to the east of the property (DD&A, 2003).	Moderate: Suitable habitat is present within grassland areas.
<i>Falco mexicanus</i> Prairie falcon	-- / CNDDB / --	Associated primarily with perennial grasslands, savannas, rangeland, some agricultural fields, and desert scrub areas. Uses open terrain for foraging; nests in open terrain with canyons, cliffs, escarpments, and rock outcrops.	Low: Suitable foraging habitat present. No suitable nesting habitat present.	Low: Suitable foraging habitat present. No suitable nesting habitat present.
<i>Falco peregrinus anatum</i> American peregrine falcon	-- / CFP / --	Forages for other birds over a variety of habitats. Breeds primarily on rocky cliffs. Frequents bodies of water in open areas with cliffs and canyons nearby for cover and nesting.	Low: Low quality foraging habitat present. No suitable nesting habitat is present.	Low: Low quality foraging habitat present. No suitable nesting habitat is present.
<i>Gymnogyps californianus</i> California condor	FE / SE / --	Roosting sites in isolated rocky cliffs, rugged chaparral, and pine covered mountains 2000-6000 feet above sea level. Foraging area removed from nesting/roosting site (includes rangeland and coastal area - up to 19 mile commute one way). Nest sites in cliffs, crevices, potholes.	Unlikely: No suitable habitat is present.	Unlikely: No suitable habitat is present.
<i>Haliaeetus leucocephalus</i> Bald eagle	-- / SE / --	Nests in large, old-growth, or dominant live tree with open branchwork, especially ponderosa pine, most frequently in stands with less than 40% canopy, but usually some foliage shading the nest. 87% of nest sites in CA are within one mile of water.	Unlikely: No suitable habitat is present.	Unlikely: No suitable habitat is present.

<i>Icteria virens</i> Yellow-breasted chat	-- / CSC / --	Frequents dense, brushy thickets and tangles near water, and thick understory in riparian woodland.	Unlikely: No suitable habitat is present.	Unlikely: No suitable habitat is present.
<i>Laterallus jamaicensis coturniculus</i> California black rail	-- / ST&CFP / --	Inhabits freshwater marshes, wet meadows & shallow margins of saltwater marshes bordering larger bays. Needs water depths of about 1 inch that does not fluctuate during the year & dense vegetation for nesting habitat.	Unlikely: No suitable habitat is present.	Unlikely: No suitable habitat is present.
<i>Oceanodroma homochroa</i> Ashy storm-petrel	-- / CSC / --	Tied to land only to nest, otherwise remains over open sea. Nests in natural cavities, sea caves, or rock crevices on offshore islands and prominent peninsulas of the mainland.	Unlikely: No suitable habitat is present.	Unlikely: No suitable habitat is present.
<i>Pelecanus occidentalis californicus</i> California brown pelican (nesting colony & communal roosts)	-- / CFP / --	Found in estuarine, marine subtidal, and marine pelagic waters along the California coast. Usually rests on water or inaccessible rocks, but also uses mudflats, sandy beaches, wharfs, and jetties.	Unlikely: No suitable habitat is present.	Unlikely: No suitable habitat is present.
<i>Progne subis</i> purple martin	-- / CSC / --	Frequents old-growth, multi-layered, open forest and woodland with snags in breeding season. Woodlands and low-elevation coniferous forest of Douglas-fir, ponderosa pine, and Monterey pine provide cover. Often nests in tall, old trees near a body of water. Also nests occasionally in residential areas.	Unlikely: No suitable habitat is present.	Unlikely: No suitable habitat is present.
<i>Riparia riparia</i> bank swallow	-- / ST / --	Nest colonially in sand banks. Found near water, fields, marshes, streams, and lakes.	Unlikely: No suitable habitat is present.	Unlikely: No suitable habitat is present.
<i>Sterna antillarum browni</i> California least tern (nesting colony)	FE / SE&CFP / --	Sea beaches, bays; large rivers, bars.	Unlikely: No suitable habitat is present.	Unlikely: No suitable habitat is present.
<i>Strix occidentalis occidentalis</i> California spotted owl	-- / CSC / --	In northern California, resides in dense, old-growth, multi-layered mixed conifer, redwood, and Douglas-fir habitats, from sea level up to approximately 2300 meters, preferring narrow, steep-sided canyons with north-facing slopes.	Unlikely: No suitable habitat is present.	Unlikely: No suitable habitat is present.
<i>Vireo bellii pusillus</i> Least Bell's vireo (nesting)	FE / SE / --	Riparian areas and drainages. Breed in willow riparian forest supporting a dense, shrubby understory. Oak woodland with a willow riparian understory is also used in some areas, and individuals sometimes enter adjacent chaparral, coastal sage scrub, or desert scrub habitats to forage.	Low: Suitable foraging habitat is present; however, no suitable breeding habitat is present.	Low: Suitable foraging habitat is present; however, no suitable breeding habitat is present.

REPTILES AND AMPHIBIANS

<i>Ambystoma californiense</i> California tiger salamander	FT / ST / --	Annual grassland and grassy understory of valley-foothill hardwood habitats in central and northern California. Need underground refuges and vernal pools or other seasonal water sources.	High: CTS were observed within the homeland during upland drift fence surveys in 2012/13. Additional occurrences are known from several ponds on the adjacent SLP and PCRP. Three occurrences on the SLP are located less than 0.3 mile from the eastern border of the property. Two occurrences at PCRP are located less than 100 feet from the southwestern border of the property. Appropriate upland aestivation habitat present. Additionally, Salamander Pond is located less than 100 feet from the associated driveway. No aquatic resources suitable for CTS breeding are present.	Known: Suitable habitat is present, and species has been known to occur in the area.
<i>Anniella pulchra</i> California legless lizard (includes <i>A. p. nigra</i> and <i>A. p. pulchra</i> as recognized by the Department)	-- / CSC / --	Requires moist, warm habitats with loose soil for burrowing and prostrate plant cover. Often forages in leaf litter at plant bases. May be found on beaches, sandy washes, and in woodland, chaparral, and riparian areas.	Unlikely: No appropriate soils present.	Unlikely: No appropriate soils present.
<i>Emys marmorata</i> western pond turtle	-- / CSC / --	Associated with permanent or nearly permanent water in a wide variety of habitats including streams, lakes, ponds, irrigation ditches, etc. Require basking sites such as partially submerged logs, rocks, mats of vegetation, or open banks.	Unlikely: No suitable habitat is present.	Unlikely: No suitable habitat is present.
<i>Phrynosoma blainvillii</i> coast horned lizard	-- / CSC / --	Associated with open patches of sandy soils in washes, chaparral, scrub, and grasslands.	Unlikely: No suitable habitat is present.	Unlikely: No suitable habitat is present.
<i>Rana boylei</i> Foothill yellow-legged frog	-- / CSC / --	Partly-shaded, shallow streams and riffles with a rocky substrate in a variety of habitats, including hardwood, pine, and riparian forests, scrub, chaparral, and wet meadows. Rarely encountered far from permanent water.	Unlikely: No suitable habitat is present.	Unlikely: No suitable habitat is present.

<p><i>Rana draytonii</i> California red-legged frog</p>	<p>FT / CSC / --</p>	<p>Lowlands and foothills in or near permanent or late-season sources of deep water with dense, shrubby, or emergent riparian vegetation. During late summer or fall adults are known to utilize a variety of upland habitats with leaf litter or mammal burrows.</p>	<p>High: Appropriate dispersal habitat is present. Appropriate upland habitat is also present within the associated driveway within 100 meters of Salamander Pond. No suitable aquatic breeding or non-breeding habitat is present. CNDDDB occurrences are known from several ponds on the adjacent SLP and PCR. Four occurrences on the SLP are located less than 0.3 mile from the eastern border of the property. Two occurrences at PCR are located less than 350 feet from the southwestern border of the property. The homeland and the associated driveway are within CRLF critical habitat unit MNT-2.</p>	<p>High: Suitable habitat is present, and species has been known to occur in the area.</p>
<p><i>Taricha torosa torosa</i> California newt (Monterey County south only)</p>	<p>-- / CSC / --</p>	<p>Occur mainly in valley-foothill hardwood, valley-foothill hardwood-conifer, coastal scrub, and mixed chaparral, but is known to occur in grasslands and mixed conifer types. Seek cover under rocks and logs, in mammal burrows, rock fissures, or man-made structures such as wells. Breed in intermittent ponds, streams, lakes, and reservoirs.</p>	<p>High: Coast range newt was observed within the homeland during upland drift fence surveys in 2012/13. Additionally, appropriate upland and dispersal habitat is present within the associated driveway. No suitable aquatic breeding habitat is present. Coast range newt was also observed breeding in the adjacent Salamander Pond on PCR and within three ponds on the adjacent SLP. The CNDDDB does not report any occurrences of this species.</p>	<p>High: Suitable habit is present, and species has been known to occur in the area.</p>
<p><i>Thamnophis hammondi</i> two-striped garter snake</p>	<p>-- / CSC / --</p>	<p>Associated with permanent or semi-permanent bodies of water bordered by dense vegetation in a variety of habitats from sea level to 2,400m elevation.</p>	<p>Low: Low quality habitat is present within the associated driveway near Salamander Pond. No suitable habitat is present within the homeland.</p>	<p>Low: Low quality habitat is present near Salamander and Roadrunner ponds.</p>

FISH				
<i>Eucyclogobius newberryi</i> tidewater goby	FE / CSC / --	Brackish water habitats. Found in shallow lagoons and lower stream reaches.	Not Present: No suitable habitat is present.	Not Present: No suitable habitat is present.
<i>Oncorhynchus mykiss irideus</i> steelhead-central California coast.	FT / -- / --	Coastal perennial and near perennial streams, with suitable spawning and rearing habitat and no major barriers.	Not Present: No suitable habitat is present.	Not Present: No suitable habitat is present.
INVERTEBRATES				
<i>Bombus caliginosus</i> Obscure bumble bee	-- / CNDDDB / --	Native to the West Coast of the United States. Occurs primarily along the coast in grassy prairies and meadows within the Coast Range. This species can nest both under and above ground. When nesting above ground the species may utilize abandoned bird nests. Found in areas that are relatively humid including areas that are frequently foggy.	Moderate: Suitable habitat is present.	Moderate: Suitable habitat is present.
<i>Bombus occidentalis</i> Western bumble bee	-- / CNDDDB / --	Occurs in open grassy areas, urban parks, urban gardens, chaparral, and meadows. This species generally nests underground.	Moderate: Suitable habitat is present.	Moderate: Suitable habitat is present.
<i>Branchinecta lynchi</i> Vernal pool fairy shrimp	FT / -- / --	Require ephemeral pools with no flow. Associated with vernal pool/grasslands from near Red Bluff (Shasta County), through the central valley, and into the South Coast Mountains Region.	Unlikely: No suitable habitat is present.	Unlikely: No suitable habitat is present.
<i>Coelus globosus</i> Globose dune beetle	-- / CNDDDB / --	Coastal dunes. These beetles are primarily subterranean, tunneling through sand underneath dune vegetation.	Unlikely: No suitable habitat is present.	Unlikely: No suitable habitat is present.
<i>Danaus plexippus</i> Monarch butterfly	-- / CNDDDB / --	Overwinters in coastal California using colonial roosts generally found in eucalyptus, pine, and acacia trees. Overwintering habitat for this species within the Coastal Zone represents ESHA. Local ordinances often protect this species as well.	Unlikely: No suitable habitat is present.	Unlikely: No suitable habitat is present.
<i>Euphilotes enoptes smithi</i> Smith's blue butterfly	FE / -- / --	Most commonly associated with coastal dunes and coastal sage scrub plant communities in Monterey and Santa Cruz Counties. Plant hosts are <i>Eriogonum latifolium</i> and <i>E. parvifolium</i> .	Not Present: No host plants were observed during focused SBB habitat surveys.	Low: Suitable habitat is present. Several occurrences are known on the adjacent SLP.
<i>Linderiella occidentalis</i> California linderiella	-- / CNDDDB / --	Ephemeral ponds with no flow. Generally associated with hardpans.	Unlikely: No suitable habitat is present.	Low: Habitat is present, but the species has never been found during surveys.

PLANTS

<i>Agrostis lacuna-vernalis</i> Vernal pool bent grass	-- / -- / 1B	Vernal pools (mima mounds) at elevations of 115-145 meters. Annual herb in the Poaceae family; blooms April-May.	Not Present: Species was not identified during biological surveys. No suitable habitat is present, and the homeland is above elevation range for this species.	Unlikely: No suitable habitat is present, and the site is above the known elevation range for this species.
<i>Allium hickmanii</i> Hickman's onion	-- / -- / 1B	Closed-cone coniferous forests, maritime chaparral, coastal prairie, coastal scrub, and valley and foothill grasslands at elevations of 5-200 meters. Bulbiferous perennial herb in the Alliaceae family; blooms March-May.	Not Present: Species was not identified during botanical surveys, and the homeland is above elevation range for this species.	Unlikely: Site is above the known elevation range for this species.
<i>Arctostaphylos edmundsii</i> Little Sur manzanita	-- / -- / 1B	Coastal bluff scrub and chaparral on sandy soils at elevations 30-105 meters. Evergreen shrub in the Ericaceae family; blooms November-April.	Not Present: Species was not identified during botanical surveys. No suitable habitat is present, and the homeland is above elevation range for this species.	Unlikely: Site is above the known elevation range for this species.
<i>Arctostaphylos hookeri</i> ssp. <i>hookeri</i> Hooker's manzanita	-- / -- / 1B	Closed-cone coniferous forest, chaparral, cismontane woodland, and coastal scrub on sandy soils at elevations of 85-536 meters. Evergreen shrub in the Ericaceae family; blooms January-June.	Not Present: Species was not identified during biological surveys, and no suitable habitat is present.	Unlikely: No suitable habitat is present.
<i>Arctostaphylos montereyensis</i> Monterey manzanita	-- / -- / 1B	Maritime chaparral, cismontane woodland, and coastal scrub on sandy soils at elevations of 30-730 meters. Evergreen shrub in the Ericaceae family; blooms February-March.	Not Present: Species was not identified during biological surveys, and no suitable habitat is present.	Unlikely: No suitable habitat is present.
<i>Arctostaphylos pajaroensis</i> Pajaro manzanita	-- / -- / 1B	Chaparral on sandy soils at elevations of 30-760 meters. Evergreen shrub in the Ericaceae family; blooms December-March.	Not Present: Species was not identified during biological surveys, and no suitable habitat is present.	Unlikely: No suitable habitat is present.
<i>Arctostaphylos pumila</i> sandmat manzanita	-- / -- / 1B	Openings of closed-cone coniferous forests, maritime chaparral, cismontane woodland, coastal dunes, and coastal scrub on sandy soils at elevations of 3-205 meters. Evergreen shrub in the Ericaceae family; blooms February-May.	Not Present: Species was not identified during biological surveys, and no suitable habitat is present.	Unlikely: No suitable habitat is present.
<i>Arenaria paludicola</i> Marsh sandwort	FE / SE / 1B	Known from only two natural occurrences in Black Lake Canyon and at Oso Flaco Lake. Sandy openings of freshwater of brackish marshes and swamps at elevations of 3-170 meters. Stoloniferous perennial herb in the Caryophyllaceae family; blooms May-August.	Not Present: Species was not observed during biological surveys, and the homeland is above its known elevation range.	Unlikely: No suitable habitat is present, and the site is above the known elevation range for this species.

<i>Astragalus tener</i> var. tener Alkali milk-vetch	-- / -- / 1B	Playas, valley and foothill grassland on adobe clay, and vernal pools on alkaline soils at elevations of 1-60 meters. Annual herb in the Fabaceae family; blooms March-June.	Not Present: Species was not observed during biological surveys, and the homeland is above its known elevation range.	Unlikely: Site is above the known elevation range for this species.
<i>Astragalus tener</i> var. titi coastal dunes milk-vetch	FE / SE / 1B	Often found in vernal mesic, sandy areas of coastal bluff scrub, coastal dunes, and coastal prairie at elevations of 1-50 meters. Annual herb in the Fabaceae family; blooms March-May.	Not Present: Species was not observed during biological surveys, and the homeland is above its known elevation range.	Unlikely: No suitable habitat is present, and the site is above the known elevation range for this species.
<i>Bryoria spiralifera</i> Twisted horsehair lichen	-- / -- / 1B.1	California North Coast coniferous forest at elevations of 0-30 meters. Often found on conifers, including <i>Picea sitchensis</i> , <i>Pinus contorta</i> var. <i>contorta</i> , <i>Pseudotsuga menziesii</i> , <i>Abies grandis</i> , and <i>Tsuga heterophylla</i> . Fruticose lichen in the Parmeliaceae family.	Not Present: Species was not observed during biological surveys, and the homeland is above its known elevation range.	Unlikely: No suitable habitat is present, and the site is above the known elevation range for this species.
<i>Castilleja ambigua</i> var. insalutata Pink johnny-nip	-- / -- / 1B	Coastal prairie and coastal scrub at elevations of 0-100 meters. Annual herb in the Orobanchaceae family; blooms May-August.	Not Present: Species was not observed during biological surveys, and the homeland is above its known elevation range.	Unlikely: Site is above the known elevation range for this species.
<i>Centromadia parryi</i> ssp. congdonii Congdon' tarplant	-- / -- / 1B	Valley and foothill grassland on alkaline soils at elevations of 0-230 meters. Annual herb in the Asteraceae family; blooms May-November.	Not Present: Species was not observed during biological surveys.	Unlikely: No suitable habitat is present.
<i>Chorizanthe minutiflora</i> Fort Ord spineflower	-- / -- / 1B	Sandy openings of maritime chaparral and coastal scrub at elevations of 55-150 meters. Only known occurrences on Fort Ord National Monument. Annual herb in the Polygonaceae family; blooms April-July.	Not Present: Species was not observed during biological surveys, and the homeland is outside of its known elevation and distribution range.	Unlikely: No suitable habitat is present, and the site is outside of the known elevation and distribution range for this species.
<i>Chorizanthe pungens</i> var. pungens Monterey spineflower	FT / -- / 1B	Maritime chaparral, cismontane woodland, coastal dunes, coastal scrub, and valley and foothill grassland on sandy soils at elevations of 3-450 meters. Annual herb in the Polygonaceae family; blooms April-July.	Not Present: Species was not observed during biological surveys, and no suitable habitat is present on the homeland.	Unlikely: No suitable habitat is present.
<i>Chorizanthe robusta</i> var. robusta Robust spineflower	FE / -- / 1B	Openings in cismontane woodland, coastal dunes, maritime chaparral, and coastal scrub on sandy or gravelly soils at elevations of 3-300 meters. Annual herb in the Polygonaceae family; blooms April-September.	Not Present: Species was not observed during biological surveys, and no suitable habitat is present on the homeland.	Unlikely: No suitable habitat is present.
<i>Clarkia jolonensis</i> Jolon clarkia	-- / -- / 1B	Cismontane woodland, chaparral, riparian woodland, and coastal scrub at elevations of 20-660 meters. Annual herb in the Onagraceae family; blooms April-June.	Not Present: Species was not observed during biological surveys.	Low: Marginal habitat is present within the coyote brush scrub habitat.

<i>Collinsia multicolor</i> San Francisco collinsia	-- / -- / 1B	Closed-cone coniferous forest and coastal scrub, sometimes on serpentinite soils, at elevations of 30-250 meters. Annual herb in the Plantaginaceae family; blooms March-May.	Not Present: Species was not observed during biological surveys.	Low: Marginal habitat is present within the coyote brush scrub habitat.
<i>Cordylanthus rigidus</i> ssp. <i>littoralis</i> Seaside bird's-beak	-- / SE / 1B	Closed-cone coniferous forests, maritime chaparral, cismontane woodlands, coastal dunes, and coastal scrub on sandy soils, often on disturbed sites, at elevations of 0-425 meters. Annual hemi-parasitic herb in the Orobanchaceae family; blooms April-October.	Not Present: Species was not observed during biological surveys, and no suitable habitat is present on the homeland.	Unlikely: No suitable habitat is present.
<i>Delphinium californicum</i> ssp. <i>interius</i> Hospital Canyon California larkspur	-- / -- / 1B	Openings in chaparral, coastal scrub, and mesic areas of cismontane woodland at elevations of 230-1095 meters. Perennial herb in the Ranunculaceae family; blooms April-June.	Not Present: Species was not observed during biological surveys.	Low: Marginal habitat is present within the coyote brush scrub habitat.
<i>Delphinium hutchinsoniae</i> Hutchinsons' larkspur	-- / -- / 1B	Broadleaved upland forest, chaparral, coastal scrub, and coastal prairie at elevations of 0-427 meters. Perennial herb in the Ranunculaceae family; blooms March-June.	Not Present: Species was not observed during biological surveys.	Moderate: Suitable habitat is present.
<i>Delphinium umbraculorum</i> Umbrella larkspur	-- / -- / 1B	Cismontane woodland at elevations of 400-1600 meters. Perennial herb in the Ranunculaceae family; blooms April-June.	Not Present: Species was not observed during biological surveys, and the homeland is outside its known elevation range.	Unlikely: The site is outside the known elevation range for this species.
<i>Ericameria fasciculata</i> Eastwood's goldenbush	-- / -- / 1B	Openings in closed-cone coniferous forest, maritime chaparral, coastal dunes, and coastal scrub on sandy soils at elevations of 30-275 meters. Evergreen shrub in the Asteraceae family; blooms July-October.	Not Present: Species was not identified during biological surveys.	Unlikely: No suitable habitat is present.
<i>Eriogonum nortonii</i> Pinnacles buckwheat	-- / -- / 1B	Chaparral and valley and foothill grassland on sandy soils, and often on recent burns, at elevations of 300-975 meters. Annual herb in the Polygonaceae family; blooms May-September.	Not Present: Species was not observed during biological surveys.	Low: Marginal habitat is present within the coyote brush scrub habitat.
<i>Erysimum ammophilum</i> Coast wallflower	-- / -- / 1B	Openings in maritime chaparral, coastal dunes, and coastal scrub on sandy soils at elevations of 0-60 meters. Perennial herb in the Brassicaceae family; blooms February-June.	Not Present: Species was not observed during biological surveys, and the homeland is outside its known elevation range.	Unlikely: The site is outside the known elevation range for this species.
<i>Erysimum menziesii</i> Menzies' wallflower	FE / SE / 1B	Coastal dunes at elevations of 0-35 meters. Perennial herb in the Brassicaceae family; blooms March-September.	Not Present: Species was not observed during biological surveys, and the homeland is outside its known elevation range.	Unlikely: No suitable habitat is present, and the site is outside the known elevation range for this species.

<i>Fritillaria liliacea</i> Fragrant fritillaria	-- / -- / 1B	Cismontane woodland, coastal prairie, coastal scrub, and valley and foothill grassland, often serpentinite, at elevations of 3-410 meters. Bulbiferous perennial herb in the Liliaceae family; blooms February-April.	Not Present: Species was not observed during biological surveys.	Low: Marginal habitat is present.
<i>Gilia tenuiflora ssp. arenaria</i> sand gilia	FE / ST / 1B	Openings in maritime chaparral, cismontane woodland, coastal dunes, and coastal scrub on sandy soils at elevations of 0-45 meters. Annual herb in the Polemoniaceae family; blooms April-June.	Not Present: Species was not observed during biological surveys, and the homeland is outside its known elevation range.	Unlikely: No suitable habitat is present, and the site is outside the known elevation range for this species.
<i>Hesperocyparis goveniana</i> Gowen cypress	FT / -- / 1B	Closed-cone coniferous forest and maritime chaparral at elevations of 30-300 meters. Evergreen tree in the Cupressaceae family. Natively occurring only at Point Lobos near Gibson Creek and the Huckleberry Hill Nature Preserve near Highway 68.	Not Present: Species was not identified during biological surveys.	Unlikely: No suitable habitat is present.
<i>Hesperocyparis macrocarpa</i> Monterey cypress	-- / -- / 1B	Closed-cone coniferous forest at elevations of 10-30 meters. Evergreen tree in the Cupressaceae family. Natively occurring only at Cypress Point in Pebble Beach and Point Lobos State Park; widely planted and naturalized elsewhere.	Not Present: Species was not observed during biological surveys, and the homeland is outside its known elevation range.	Unlikely: No suitable habitat is present, and the site is outside the known elevation range for this species.
<i>Horkelia cuneata ssp. sericea</i> Kellogg's horkelia	-- / -- / 1B	Closed-cone coniferous forests, maritime chaparral, and openings in coastal scrub on sandy or gravelly soils at elevations of 10-200 meters. Perennial herb in the Rosaceae family; blooms April-September.	Not Present: Species was not observed during biological surveys.	Moderate: Suitable habitat is present.
<i>Horkelia marinensis</i> Point Reyes horkelia	-- / -- / 1B	Coastal dunes, coastal prairie, and coastal scrub on sandy soils at elevations of 5-350 meters. Perennial herb in the Rosaceae family; blooms May-September.	Not Present: Species was not observed during biological survey, and no suitable habitat is present.	Unlikely: No suitable habitat is present.
<i>Lasthenia conjugens</i> Contra Costa goldfields	FE / -- / 1B	Mesic areas of valley and foothill grassland, alkaline playas, cismontane woodland, and vernal pools at elevations of 0-470 meters. Annual herb in the Asteraceae family; blooms March-June.	Not Present: Species was not observed during biological surveys, and no suitable habitat is present.	Unlikely: No suitable habitat is present.
<i>Layia carnosa</i> Beach layia	FE / SE / 1B	Coastal dunes and coastal scrub on sandy soils at elevations of 0-60 meters. Annual herb in the Asteraceae family; blooms March-July.	Not Present: Species was not observed during biological surveys, and the homeland is outside its known elevation range.	Unlikely: No suitable habitat is present, and the site is outside the known elevation range for this species.
<i>Legenere limosa</i> Legenere	-- / -- / 1B	Vernal pools at elevations of 1-880 meters. Annual herb in the Campanulaceae family; blooms April-June.	Not Present: Species was not observed during biological surveys, and no suitable habitat is present.	Unlikely: No suitable habitat is present.

<i>Lupinus tidestromii</i> Tidestrom's lupine	FE / SE / 1B	Coastal dunes at elevations of 0-100 meters. Perennial rhizomatous herb in the Fabaceae family; blooms April-June.	Not Present: Species was not observed during biological surveys, and the homeland is outside its known elevation range.	Unlikely: No suitable habitat is present, and the site is outside the known elevation range for this species.
<i>Malacothamnus palmeri</i> var. <i>involucratus</i> Carmel Valley bush mallow	-- / -- / 1B	Chaparral, cismontane woodland, and coastal scrub at elevations of 30-1100 meters. Deciduous shrub in the Malvaceae family; blooms May-August.	Not Present: Species was not observed during biological surveys.	Moderate: Suitable habitat is present.
<i>Malacothamnus palmeri</i> var. <i>palmeri</i> Santa Lucia bush mallow	-- / -- / 1B	Chaparral on rocky soils at elevations of 60-360 meters. Deciduous shrub in the Malvaceae family; blooms May-July.	Not Present: Species was not observed during biological surveys, and no suitable habitat is present.	Unlikely: No suitable habitat is present.
<i>Malacothrix saxatilis</i> var. <i>arachnoidea</i> Carmel Valley malacothrix	-- / -- / 1B	Chaparral and coastal scrub on rocky soils at elevations of 25-1036 meters. Perennial rhizomatous herb in the Asteraceae family; blooms June-December.	Not Present: Species was not observed during biological surveys.	Low: Marginal habitat is present.
<i>Meconella oregana</i> Oregon meconella	-- / -- / 1B	Coastal prairie and coastal scrub at elevations of 250-620 meters. Annual herb in the Papaveraceae Family; blooms March-April.	Not Present: Species was not observed during biological surveys.	Moderate: Suitable habitat is present.
<i>Microseris paludosa</i> marsh microseris	-- / -- / 1B	Mesic areas of closed-cone coniferous forest, cismontane woodland, coastal scrub, and valley and foothill grasslands at elevations of 3-300 meters. Perennial herb in the Asteraceae family; blooms April-June (July).	Not Present: Species was not observed during biological surveys, and no suitable habitat is present.	Unlikely: No suitable habitat is present.
<i>Monardella sinuata</i> ssp. <i>nigrescens</i> Northern curly-leaved monardella	-- / -- / 1B	Chaparral, coastal dunes, coastal scrub, and lower montane coniferous forest (ponderosa pine sandhills) on sandy soils at elevations of 0-300 meters. Annual herb in the Lamiaceae family; blooms April-September.	Not Present: Species was not observed during biological surveys, and no suitable habitat is present.	Unlikely: No suitable habitat is present.
<i>Monolopia gracilens</i> Woodland wollythreads	-- / -- / 1B	Chenopod scrub and valley and foothill grassland on sandy soils at elevations of 60-800 meters. Annual herb in the Asteraceae family; blooms: February-May.	Not Present: Species was not observed during biological surveys, and no suitable habitat is present.	Unlikely: No suitable habitat is present.
<i>Pinus radiata</i> Monterey pine	-- / -- / 1B	Closed-cone coniferous forest at elevations of 25-185 meters. Evergreen tree in the Pinaceae family. Only three native stands in CA, at Ano Nuevo, Cambria, and the Monterey Peninsula; introduced in many areas.	Not Present: Species was not observed during biological surveys, and the homeland is outside its known elevation range.	Unlikely: No suitable habitat is present, and the site is outside the known elevation range for this species.

<i>Piperia yadonii</i> Yadon's rein orchid	FE / -- / 1B	Sandy soils in coastal bluff scrub, closed-cone coniferous forest, and maritime chaparral at elevations of 10-510 meters. Annual herb in the Orchidaceae family; blooms May-August.	Not Present: Species was not observed during biological surveys, and no suitable habitat is present.	Unlikely: No suitable habitat is present.
<i>Plagiobothrys chorisianus</i> var. <i>chorisianus</i> Choris' popcorn-flower	-- / -- / 1B	Mesic areas of chaparral, coastal prairie, and coastal scrub at elevations of 15-160 meters. Annual herb in the Boraginaceae family; blooms March-June.	Not Present: Species was not observed during biological surveys, and the homeland is outside its known elevation range.	Unlikely: Site is outside the known elevation range for this species.
<i>Plagiobothrys uncinatus</i> hooked popcorn flower	-- / -- / 1B	Chaparral, cismontane woodlands, valley and foothill grasslands on sandy soils; elevation 300-760 meters. Annual herb in the Boraginaceae family, blooms April-May.	Not Present: Species was not observed during biological surveys, and no suitable habitat is present.	Unlikely: No suitable habitat is present.
<i>Potentilla hickmanii</i> Hickman's cinquefoil	FE / SE / 1B	Coastal bluff scrub, closed-cone coniferous forests, vernal mesic meadows, and freshwater marshes and swamps at elevations of 10-149 meters. Perennial herb in the Rosaceae family; blooms April-August.	Not Present: Species was not observed during biological surveys, and the homeland is outside its known elevation range.	Unlikely: No suitable habitat is present, and the site is outside the known elevation range for this species.
<i>Ramalina thrausta</i> Angel's hair lichen	-- / -- / 2B	North coast coniferous forest on dead twigs and other lichens. Epiphytic fructose lichen in the Ramalinaceae family. In northern CA it is usually found on dead twigs, and has been found on <i>Alnus rubra</i> , <i>Calocedrus decurrens</i> , <i>Pseudotsuga menziesii</i> , <i>Quercus garryana</i> , and <i>Rubus spectabilis</i> . In Sonoma County it grows on and among dangling mats of <i>R. menziesii</i> and <i>Usnea</i> spp.	Not Present: Species was not observed during biological surveys, and no suitable habitat is present.	Unlikely: No suitable habitat is present.
<i>Rosa pinetorum</i> Pine rose	-- / -- / 1B	Closed-cone coniferous forest at elevations of 2-300 meters. Shrub in the Rosaceae family; blooms May-July. Possible hybrid of <i>R. spithamea</i> , <i>R. gymnocarpa</i> , or others; further study needed.	Not Present: Species was not observed during biological surveys, and no suitable habitat is present.	Unlikely: No suitable habitat is present.
<i>Sidalcea malachroides</i> Maple-leaved checkerbloom	-- / -- / 4	Broadleaved upland forest, coastal prairie, coastal scrub, North Coast coniferous forest, and riparian woodlands, often in disturbed areas, at elevations of 2-730 meters. Perennial herb in the Malvaceae family; blooms March-August.	Not Present: Species was not observed during biological surveys.	Moderate: Suitable habitat is present.
<i>Stebbinsoseris decipiens</i> Santa Cruz microseris	-- / -- / 1B	Broadleaved upland forest, closed-cone coniferous forest, chaparral, coastal prairie, coastal scrub, and openings in valley and foothill grassland, sometimes on serpentinite, at elevations of 10-500 meters. Annual herb in the Asteraceae family; blooms April-May.	Not Present: Species was not observed during biological surveys.	Low: Marginal habitat is present.
<i>Tortula californica</i> California screw moss	-- / -- / 1B	Valley and foothill grassland and chenopod scrub on sandy soils at elevations of 10-1460. Moss in the Pottiaceae family.	Not Present: Species was not observed during biological surveys.	Low: Marginal habitat is present.

<i>Trifolium buckwestiorum</i> Santa Cruz clover	-- / -- / 1B	Broadleaved upland forest, cismontane woodland, and margins of coastal prairie on gravelly soils at elevations of 105-610 meters. Annual herb in the Fabaceae family; blooms April-October.	Not Present: Species was not observed during biological surveys.	Low: Marginal habitat is present.
<i>Trifolium hydrophilum</i> Saline clover	-- / -- / 1B	Marshes and swamps, valley and foothill grassland (mesic, alkaline), and vernal pools at elevations of 0-300 meters. Annual herb in the Fabaceae family; blooms April-June.	Not Present: Species was not observed during biological surveys, and no suitable habitat is present.	Unlikely: No suitable habitat is present.
<i>Trifolium polyodon</i> Pacific Grove clover	-- / SR / 1B	Closed-cone coniferous forest, coastal prairie, meadows and seeps, and mesic areas in valley and foothill grassland at elevations of 5-120 meters. Annual herb in the Fabaceae family; blooms April-June.	Not Present: Species was not observed during biological surveys, and the homeland is outside its known elevation range.	Unlikely: No suitable habitat is present, and the site is outside the known elevation range for this species.
<i>Trifolium trichocalyx</i> Monterey clover	FE / SE / 1B	Sandy openings and burned areas of closed-cone coniferous forest at elevations of 30-240 meters. Annual herb in the Fabaceae family; blooms April-June.	Not Present: Species was not observed during biological surveys, and no suitable habitat is present.	Unlikely: No suitable habitat is present.

STATUS DEFINITIONS:**Federal**

FE = listed as Endangered under ESA

FT = listed as Threatened under ESA

-- = not listed

State

SE = listed as Endangered under CESA

ST = listed as Threatened under CESA

SR = listed as Rare under CESA

CSC = VDFW Species of Special Concern

CFP = California Fully Protected Species

-- = not listed

California Native Plant Society

1B = List 1B species; rare, threatened, or endangered in California

POTENTIAL TO OCCUR

Present – known occurrence of species within the site; presence of suitable habitat conditions; or observed during field surveys

High – known occurrence of species in the vicinity from the CNDDDB or other documentation; presence of suitable habitat conditions

Moderate – known occurrence of species in the vicinity from the CNDDDB or other documentation; presence of marginal habitat conditions

Low – species known to occur in the vicinity from the CNDDDB or other documentation; presence of low quality habitat conditions

Unlikely – species not known to occur in the vicinity from the CNDDDB or other documentation; no suitable habitat is present

Not Present – species not observed during surveys

APPENDIX B

Project Plans

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UPITIS (ANIMUS 1)
VOL 620 O.R. PG 213
APN 157-131-002
172.09 AC.
ZONING: WSC/40 (CZ)

PROPOSED
RESIDENCE

HOMELAND
BOUNDARY

PROPOSED
DRIVEWAY

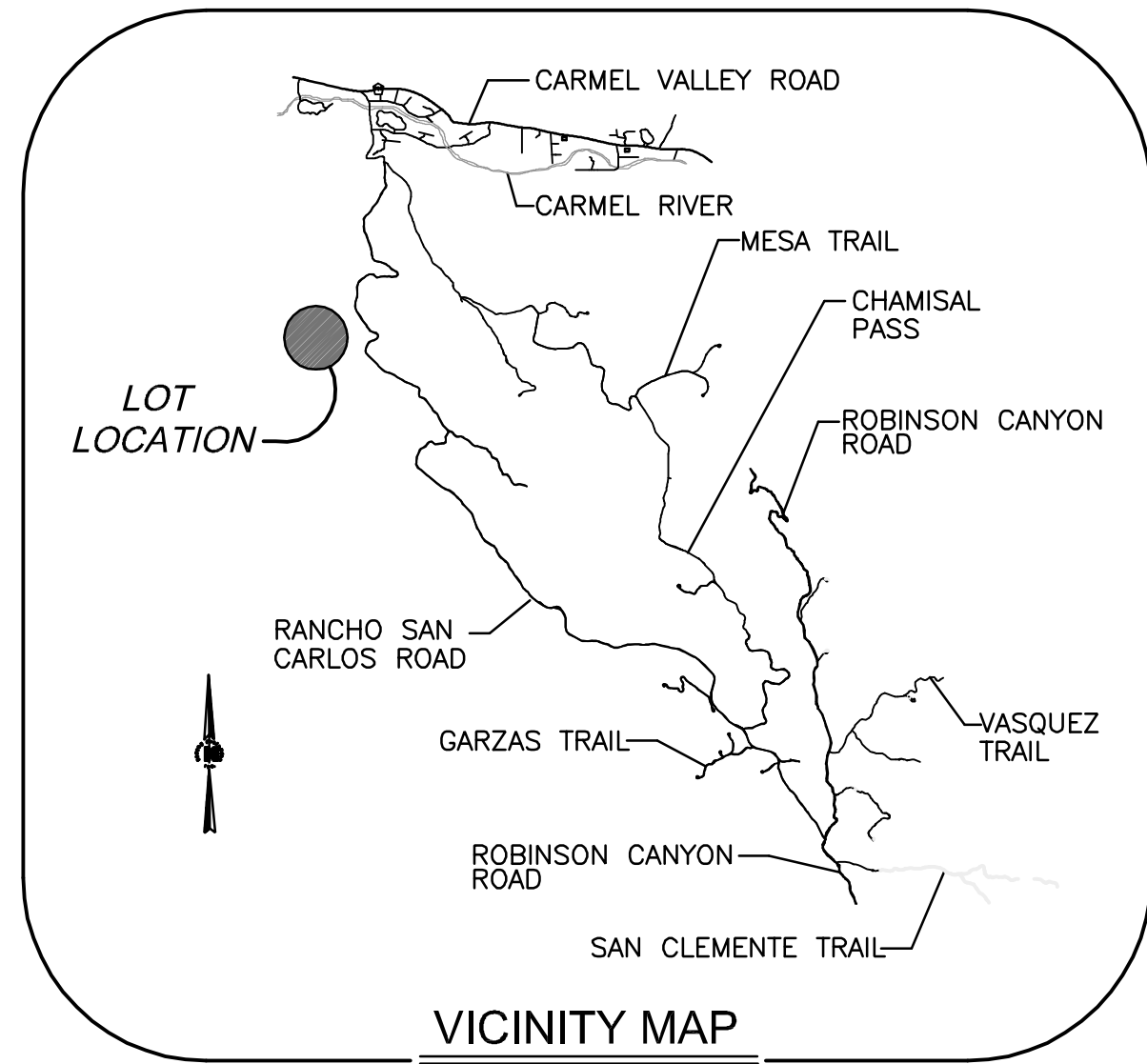
DENISE MALCOM (ANIMUS 2)
VOL 18 SUR. PG 93
APN 157-131-010
274.25 AC.
ZONING: WSC/40 (CZ) & RG/10-D-S

APN 239-021-011
SANTA LUCIA CONSERVANCY

NOTES

AERIAL IMAGERY WAS COMPILED FROM PUBLICLY AVAILABLE PHOTOGRAPHY DATED AUGUST OF 2003.
PROPERTY LINES SHOWN HEREON ARE SCHEMATIC ONLY, AS COMPILED FROM PUBLIC RECORD
AVAILABLE FROM THE MONTEREY COUNTY ASSESSORS OFFICE.

THIS EXHIBIT IS FOR ILLUSTRATIVE PURPOSES ONLY. THE TRUE LOCATIONS OF PROPERTY LINES,
PHYSICAL FEATURES, AND THEIR RELATIONSHIPS CAN ONLY BE DETERMINED BY A FIELD SURVEY.
BESTOR ENGINEERS ASSUMES NO RESPONSIBILITY FOR ANY MISREPRESENTATIONS OF SUCH SHOWN
ON THIS EXHIBIT.



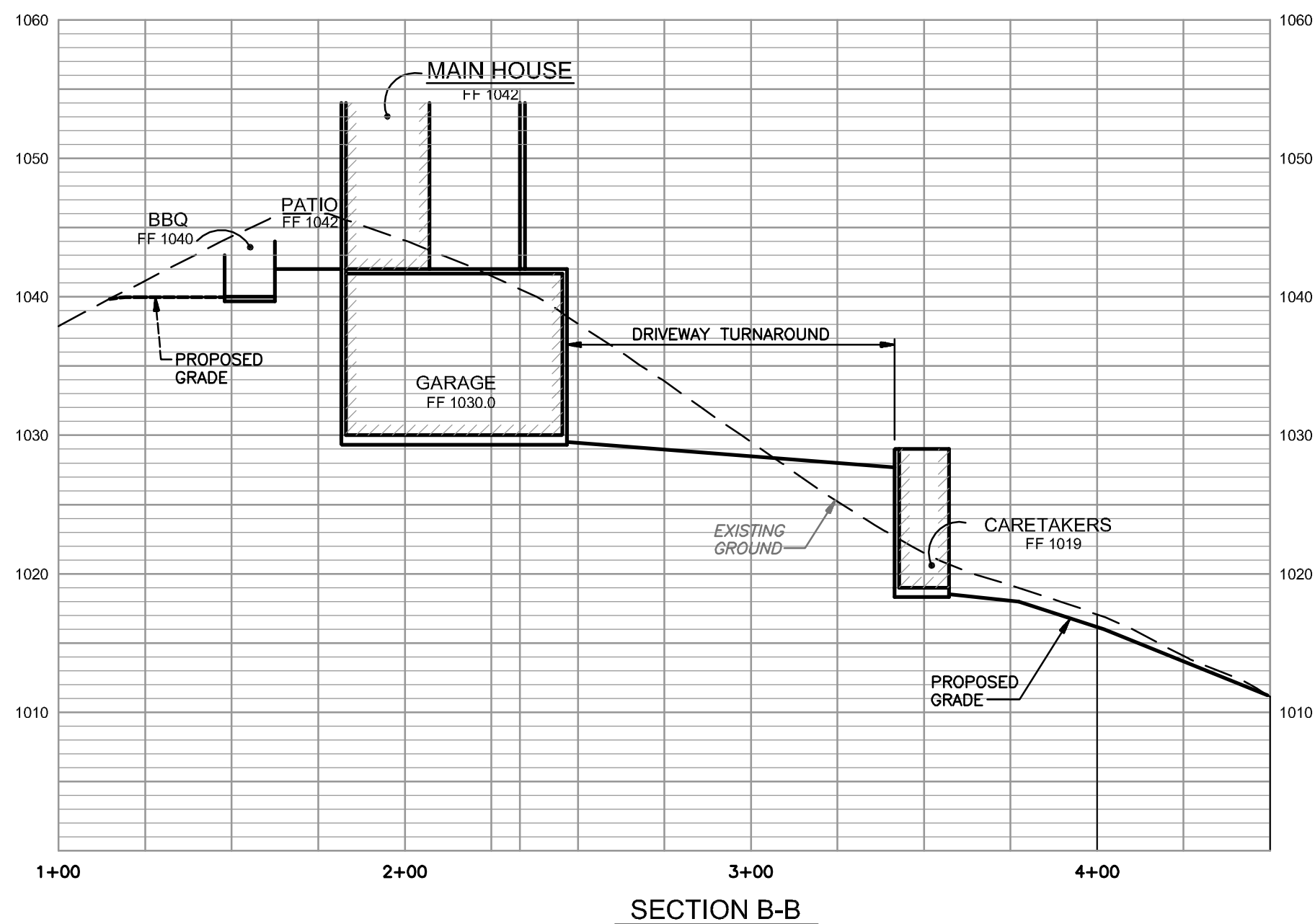
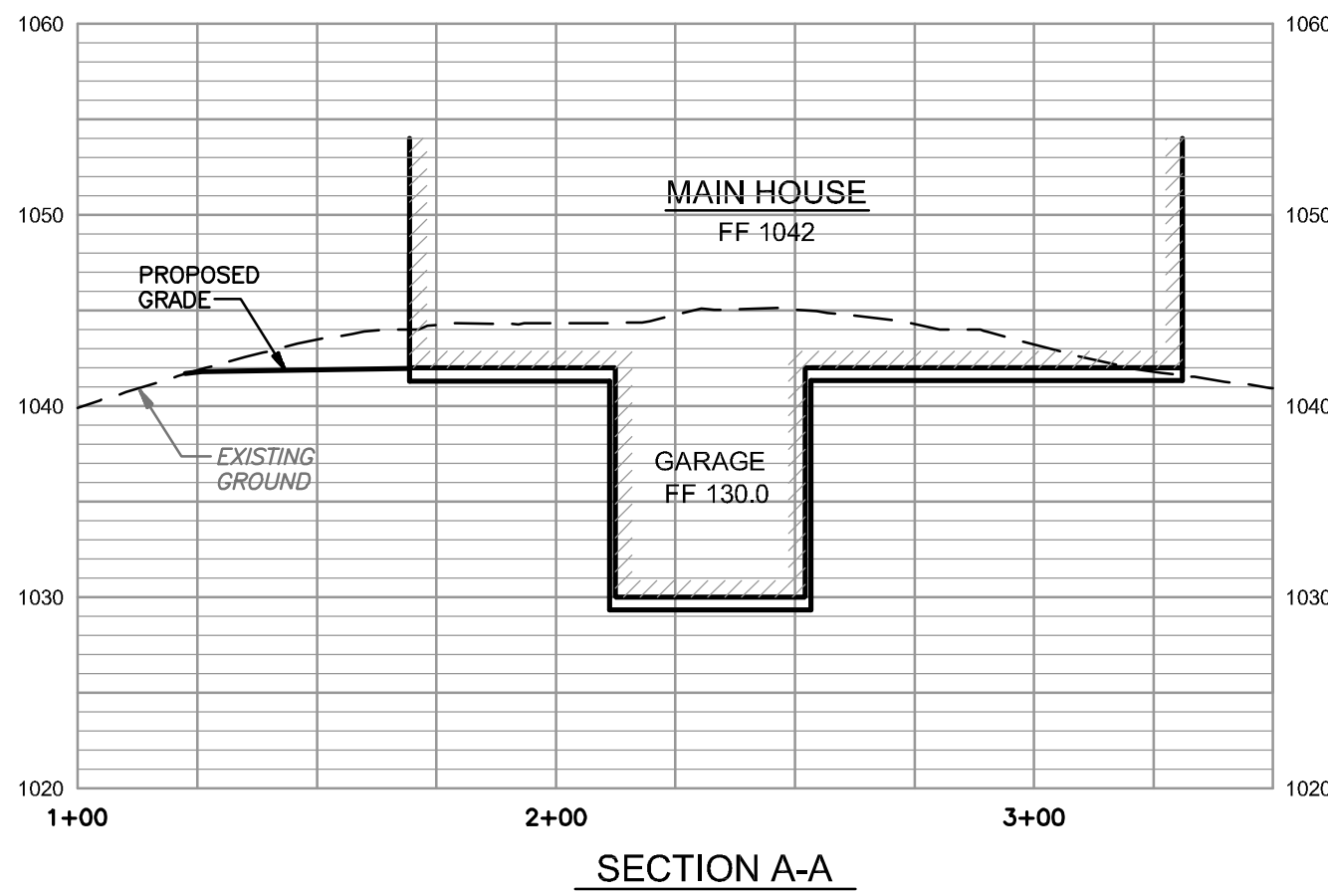
LEGEND

AB	AGGREGATE BASE	UON	UNLESS OTHERWISE NOTED
AC	ASPHALT CONCRETE	W	WATER
AD	AREA DRAIN	WM	WATER METER
ADA	DISABLED ACCESS	WV	WATER VALVE
BF	BACKFLOW PREVENTOR		GUY WIRE
CB	CATCH BASIN		BACK OF CURB
CO	CLEANOUT		FACE OF CURB
△	CONTROL POINT		GB
DI	DRAIN INLET		ELEC
EL	ELEVATION		FD
(E)	EXISTING		SD
EP	EDGE OF PAVEMENT		RD
DWSP	DRY WATER STAND PIPE		SS
FD	FOUND		TEL
FD	FOUNDATION DRAIN		W
FDC	FIRE DEPT. CONNECTION		EP
FES	FLARED END SECTION		FLOW LINE
FW	FIRE WATER		CHAIN LINK FENCE
GB	GRADE BREAK		RETAINING WALL
GR	GRATE		45
INV	INVERT		EXISTING CONTOUR
IP	IRON PIPE		PROPOSED CONTOUR
LP	LIGHT POLE		2% SLOPE DIRECTION
MB	MAIL BOX		x 45.0 SPOT ELEVATION
MH	MANHOLE		>30% SLOPE
(N)	NEW		
PG&E	PACIFIC GAS & ELECTRIC		
POC	POINT OF CONNECTION		
PP	POWER POLE		
RD	ROOF DRAIN		
SS	SANITARY SEWER		
TEL	TELEPHONE		
TBM	TOP BENCH MARK		

TREE LEGEND	
⊗	TREE
T	TREE
J	JUNIPER
P	PINE

SHEET INDEX

SHEET NO.	DESCRIPTION
C-1	COVER SHEET
C-2	GRADING & EROSION CONTROL
C-3	GRADING & EROSION CONTROL
C-4	GRADING & EROSION CONTROL
C-5	GRADING & EROSION CONTROL



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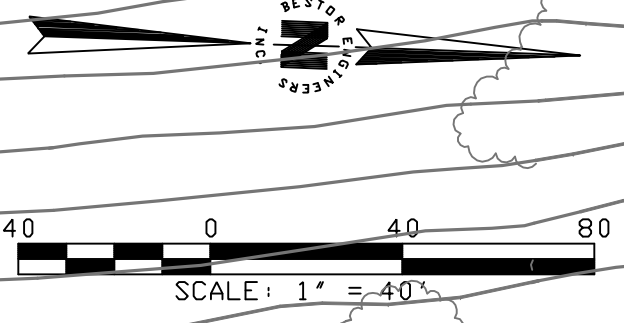
BESTOR ENGINEERS, INC.
CIVIL ENGINEERING - SURVEYING - LAND PLANNING
9701 BLUE LARKSPUR LANE, MONTEREY, CALIFORNIA 93940

COVER SHEET
UPITIS RESIDENCE
SANTA LUCIA PRESERVE
COUNTY OF MONTEREY, CALIFORNIA

PREPARED FOR: UPITIS

SCALE:	AS SHOWN
DATE:	8/13/18
SHEET:	C-1
WO:	1740.19

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GROSS CUT	5,274 CU. YARDS
GROSS FILL*	7,567 CU. YARDS
NET FILL*	2,292 CU. YARDS
IMPORTED BASEROCK/SUBBASE WILL PROVIDE ADDITIONAL FILL	

*ASSUMED FILL FACTOR = 10%

- NO VEGETATION REMOVAL OR GRADING WILL BE ALLOWED WHICH WILL RESULT IN SILTATION OF WATER COURSES OR UNCONTROLLABLE EROSION.

REVISIONS					
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; padding: 5px;">DESIGNED BY</td> <td style="width: 50%; padding: 5px;"></td> </tr> <tr> <td style="padding: 5px;">DRAWN BY</td> <td style="padding: 5px;"></td> </tr> </table>	DESIGNED BY		DRAWN BY		DATE: <u>PRELIMINARY</u> <u> </u> ENGINEER RCE: <u> </u> EXP: <u> </u>
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DATE:	8/13/18
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WO:	1740.19

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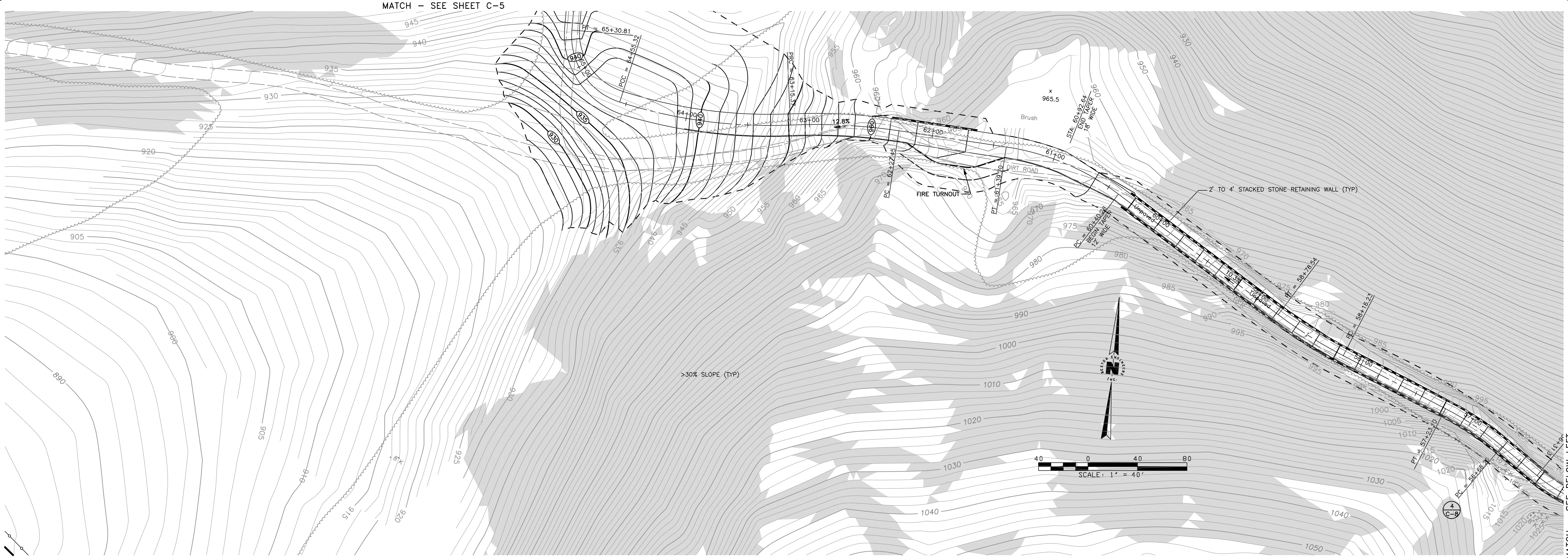
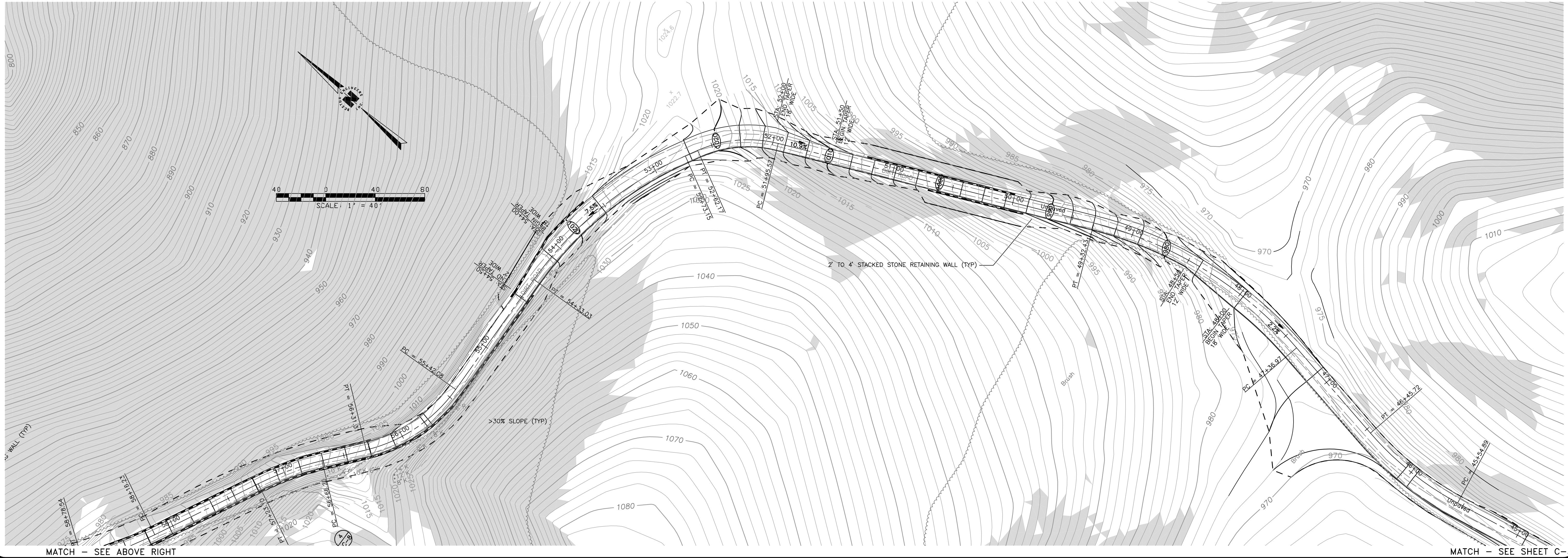
**PRELIMINARY
NOT FOR CONSTRUCTION**

GRADING & EROSION CONTROL PLAN
UPITIS RESIDENCE
SANTA LUCIA PRESERVE
COUNTY OF MONTEREY, CALIFORNIA

SCALE:	1" = 40'
DATE:	8/13/18
SHEET:	C-3
WO:	1740.19

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9701 BLUE LARKSPUR LANE, MONTEREY, CALIFORNIA 93940	

GRADING & EROSION CONTROL PLAN	
UPTIS RESIDENCE	
SANTA LUCIA PRESERVE	
COUNTY OF MONTEREY, CALIFORNIA	

PREPARED FOR: UPTIS	
SCALE:	1" = 40'
DATE:	8/13/18
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PREPARED FOR: UPTIS
GRADING & EROSION CONTROL PLAN
UPTIS RESIDENCE
SANTA LUCIA PRESERVE
COUNTY OF MONTEREY, CALIFORNIA

SCALE:	1" = 40'
DATE:	8/13/18
SHEET:	C-5
WO:	1740.19

APPENDIX C

**California Tiger Salamander Survey Results at the Malcolm Property
and Adjacent Palo Corona Regional Park – 2011-2013**

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Denise Duffy & Associates, Inc.

PLANNING AND ENVIRONMENTAL CONSULTING

CALIFORNIA TIGER SALAMANDER SURVEY RESULTS AT THE MALCOLM PROPERTY AND ADJACENT PALO CORONA REGIONAL PARK –2011-2013

December 2013

Prepared for:

U.S. Fish and Wildlife Service
California Department of Fish and Wildlife

Prepared by:

Denise Duffy & Associates, Inc.
947 Cass Street, Suite 5
Monterey, California 93940
(831)-373-4341
CONTACT: Josh Harwayne

TABLE OF CONTENTS

INTRODUCTION	II
Summary of Results.....	1
California Tiger Salamander Life History.....	2
Project Site Description.....	4
METHODS	5
Drift Fence/Pitfall Trapping Study	5
Aquatic Surveys.....	5
Climate Information	7
RESULTS	8
2011/12 Drift Fence/Pitfall and Aquatic Study	8
2012/13 Drift Fence/Pitfall and Aquatic Study	8
ANALYSIS.....	14
Salamander Pond	14
Roadrunner Pond.....	14
Uplands.....	15
IMPACTS	16
DISCUSSION	18
Localized CTS Habitat Trends	18
RECOMMENDATIONS	20
REFERENCES	22
APPENDIX A. Drift Fence/Pitfall Trap Survey Results	

FIGURES

Figure 1. Project Vicinity 2

Figure 3. Malcolm Property Upland Drift Fence Arrays 6

Figure 4. Palo Corona Regional Park 2011/12 CTS Capture Frequency per Trap 9

Figure 5. CTS Encounter Locations..... 10

Figure 6. Distance From Known Breeding Ponds 17

TABLES

Table 1: Drift Fence/Pitfall Trapping Array Measurements 5

Table 2. CTS Capture Results 2013 Malcolm Upland Study 11

INTRODUCTION

Denise Duffy & Associates, Inc. (DD&A) was contracted by Michael and Denise Malcolm to conduct protocol-level surveys and population studies for the federal and state threatened California tiger salamander (*Ambystoma californiense*, CTS) on the Malcolm Property and at two aquatic resources located on the Palo Corona Regional Park (PCRP), adjacent to the Malcolm property, in Monterey County, California (Figure 1). The purpose of the study was to provide baseline CTS demographic data that will inform the preparation of a Habitat Conservation Plan (HCP) for proposed development of three development envelopes (Homelands) totaling 30 acres of the 668-acre property (Figure 2). The HCP is being prepared as part of a Section 10 Incidental Take Permit application with the U.S. Fish and Wildlife Service (Service) and a Section 2081 Incidental Take Permit application for the California Department of Fish and Wildlife (Department). The Service and Department reviewed and approved these studies prior to their implementation.

The studies included a number of drift fence/pitfall trap and aquatic surveys as detailed below:

- Winter 2011/12: drift fence/pitfall trap study at Salamander and Roadrunner Ponds on the PCRP,
- Spring 2012: aquatic surveys at Salamander and Roadrunner Ponds on the PCRP,
- Spring 2012: aquatic population census at Roadrunner Pond on the PCRP.
- Summer 2012: metamorph dispersal study at Roadrunner Pond on the PCRP,
- Winter 2012/13: drift fence/pitfall trap study within upland areas associated with three proposed development envelopes on the Malcolm property,
- Spring 2013: aquatic surveys at Salamander and Roadrunner Ponds on the PCRP, and
- Spring 2013: aquatic population census at Roadrunner Pond on the PCRP.

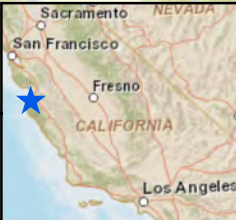
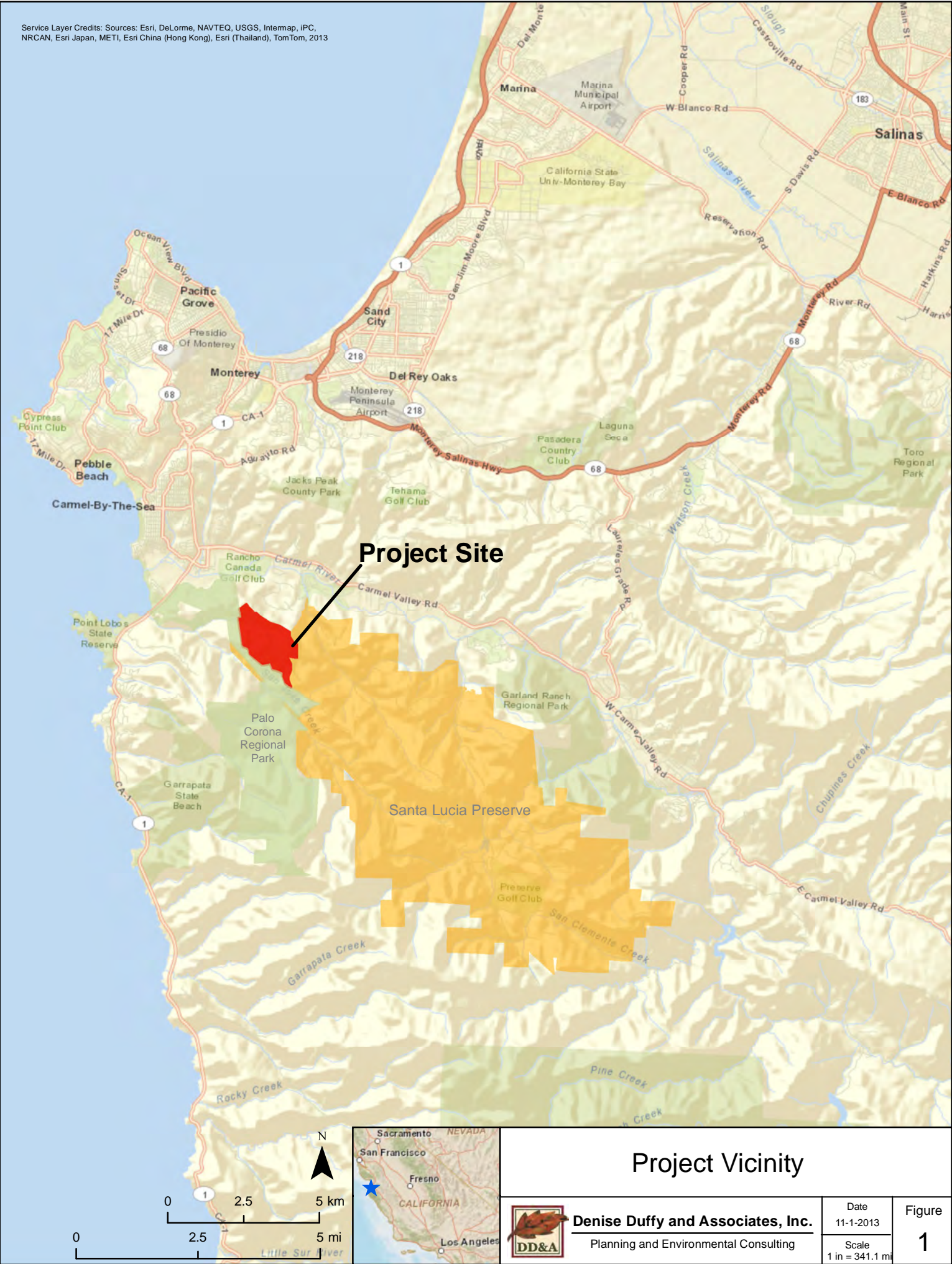
In the fall of 2012 a survey results report was prepared for the studies conducted from the winter of 2011 through the summer of 2012 (*California Tiger Salamander Survey Results for Two Ponds at the Palo Corona Regional Park –2011/2012 Season*). While this 2013 document provides the methods, raw data, and results of the surveys conducted from the winter of 2012 through the spring of 2013, it only carries over the results for the 2012 report. For complete methods of the 2011/12 surveys refer to the 2012 report.

Summary of Results

During the winter 2011/12 pitfall traps were opened 43 times at the ponds between October 15, 2011 and April 27, 2012. Additionally, the pitfall traps at Roadrunner Pond were open for 53 days between May 9, 2012 and July 1, 2012. A total of 30 CTS adults or juveniles were caught at Roadrunner Pond and two adults were caught at Salamander Pond during the upland surveys. An additional 23 CTS metamorphs were caught at Roadrunner Pond between May and July dispersing as the pond dried. Aquatic surveys were conducted in April and May at both Roadrunner and Salamander Ponds in the spring of 2012¹. No CTS larvae were captured at Salamander Pond; however, 45 CTS larvae were captured at Roadrunner Pond during the larval census in May.

During the 2012/13 breeding season pitfall traps were opened 28 times in selected upland locations between October 15, 2012 and March 15, 2013. A total of five CTS were caught during the study. Aquatic surveys were conducted in March, April, and May at both the Roadrunner and Salamander Ponds in the spring of 2013. No CTS larvae were captured at Salamander Pond; however, a total of 341 CTS larvae were captured at Roadrunner Pond during the larval census in April.

¹ Surveys were attempted in March 2012, but stopped due to the presence and potential impacts native amphibian eggs.



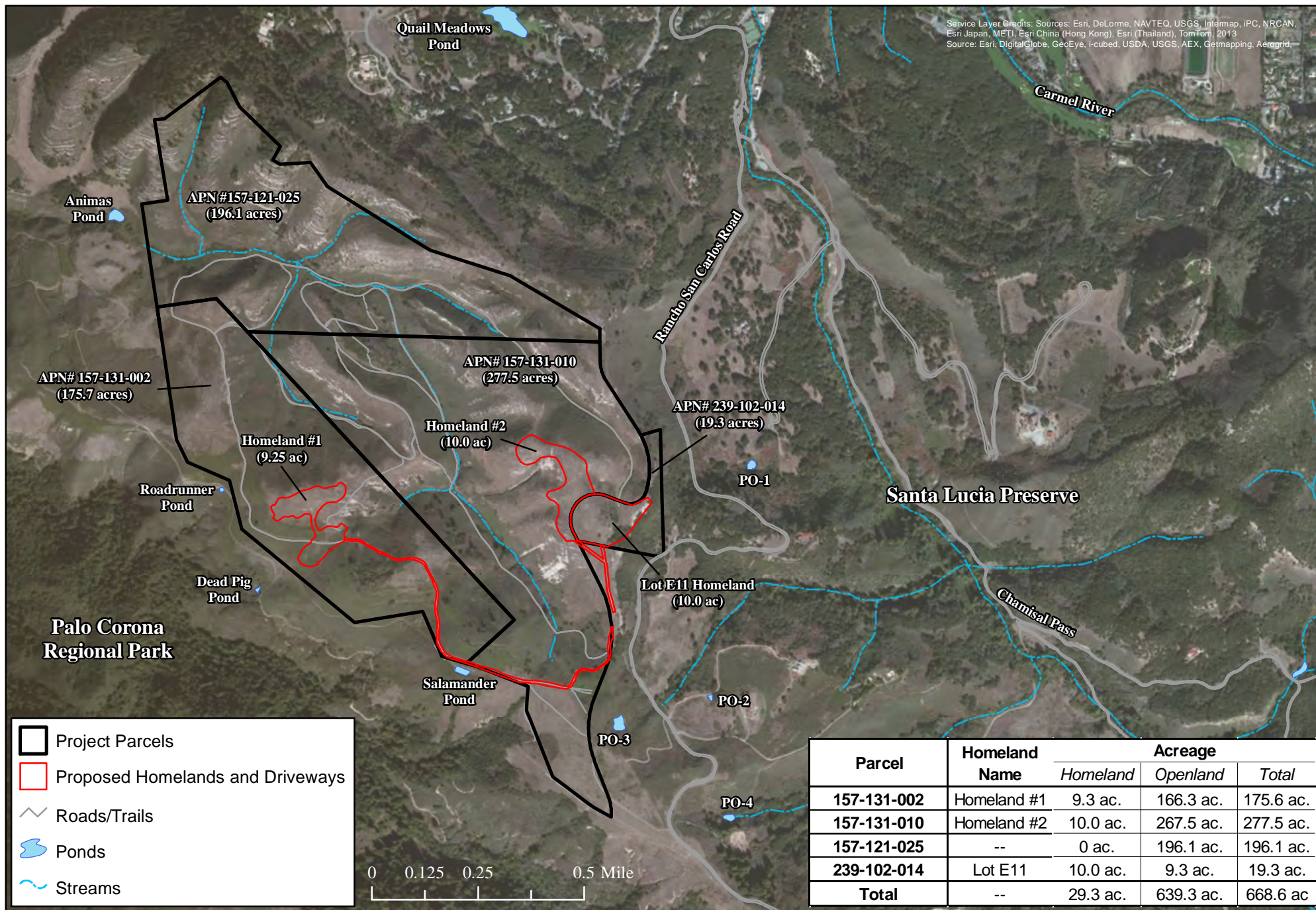
Project Vicinity



Denise Duffy and Associates, Inc.
Planning and Environmental Consulting

Date
11-1-2013
Scale
1 in = 341.1 m

Figure
1



California Tiger Salamander Life History

CTS was listed as a federally Threatened species on August 4, 2004 (69 FR 47211-47248) and was listed as state Threatened on March 3, 2010. Critical Habitat was designated for CTS on August 23, 2005 (70 FR 49379-49458), and went into effect on September 22, 2005. Additionally, CTS was listed as a state threatened species on March 3, 2010.

CTS persist in disjunct remnant vernal pool complexes in Sonoma County and Santa Barbara County, in vernal pool complexes and isolated stockponds scattered along a narrow strip of rangeland on the fringes of the Central Valley from southern Colusa County south to northern Kern County, and in sag ponds and human maintained stockponds in the coast ranges from the San Francisco Bay Area south to the Temblor Range. Tiger salamanders breed and lay eggs primarily in vernal pools and other temporary rainwater ponds following relatively warm rains in November to February. Adults have been found more than two km (1.24 miles) from breeding sites (Service, 2004). Permanent human-made ponds are sometimes utilized if predatory fishes are absent; streams are rarely used for reproduction. Males typically spend six to eight weeks at breeding ponds, while females typically spend only one to two weeks (Loredo et al., 1996). Eggs are laid singly or in clumps on both submerged and emergent vegetation and on submerged debris in shallow water (Stebbins, 2003; Jennings and Hayes, 1994). In years of below average rainfall, or when rains occur late in the season, females may forego breeding (Trehnam et al., 2000). CTS have been eliminated from an estimated 55-58 percent of its documented historic breeding sites. Currently, about 150 known local populations of CTS are extant.

Project Site Description

The 668-acre Malcolm property is located in the foothills on the southern side of Carmel Valley bordered to the east by the Santa Lucia Preserve (SLP) and the west and south by the PCRP (Figures 1 and 2). A relatively small portion of the Malcolm property is bordered to the north by the private residential community of Quail Meadows. The property is comprised of four parcels: 157-131-002, 157-131-010, and 157-121-025 (collectively referred to as “the Animus” and 239-102-014 (referred to as “Lot 11”). Two of the three Animus parcels and the Lot 11 Parcel each include a 10-acre Homeland in which development is allowed. The remaining 638 acres outside of the Homelands are covered under conservation easements, in place to mitigate for the allowable development. The easement is held by Santa Lucia Conservancy; an independent conservation and land management entity and precluded from development in perpetuity.

Eight habitat types are present within the Malcolm property, including ruderal and native grasslands and coyote brush scrub, which may support CTS upland aestivation. Dominant species within the grasslands include wild oat (*Avena barbata*), ripgut brome (*Bromus diandrus*), soft chess (*B. hordeaceus*), silvery hair-grass (*Aira caryophyllea*), rat-tail fescue (*Vulpia myuros* var. *myuros*), purple needlegrass (*Stipa pulchra*), California oat-grass (*Danthonia californica*), foothill sedge (*Carex tumicola*), and leafy bentgrass (*Agrostis pallens*). Dominant species within the coyote bush scrub habitat include coyote bush (*Baccharis pilularis*), French broom (*Genista monspessulana*), poison oak (*Toxicodendron diversilobum*), coast sagebrush (*Artemisia californica*), blue blossom (*Ceanothus thyrsiflorus*), toyon (*Heteromeles arbutifolia*), ocean spray (*Holodiscus discolor*), and California coffeeberry (*Rhamnus californica*).

While there are no ponds on the Malcolm property, there are a number of ponds adjacent to the property on the SLP and PCRP that support native amphibian populations. Additionally, there is a pond located to the north between the Malcolm property and the Carmel River riparian corridor, within the Quail Meadows subdivision; however, this pond is located in a heavily wooded area, is permanent, and is very likely to contain fish and bullfrog, precluding it from supporting CTS breeding.

METHODS

The following describes the methods used during the 2012/13 study. For a complete description of the 2011/12 survey methods please refer the 2012 survey report cited above.

Drift Fence/Pitfall Trapping Study

Silt-fencing (woven nylon fabric with pre-attached stakes) was installed at several upland locations between the off-site ponds and the proposed homelands (Figure 3). The fencing was buried at least six inches deep, with at least two feet above ground. Pitfall traps (two-gallon plastic buckets) were arranged in pairs, one on either side of the fence, in order to capture animals migrating towards and away from the property. Please refer to Table 1 for specifics regarding drift fence/pitfall trapping arrays.

Table 1: Drift Fence/Pitfall Trapping Array Measurements

Length of Fencing (ft)	# of Fence Segments	Length of Breaks Between Segment (ft)	Total # of Traps	Trap Intervals (ft)	# of Traps per Segment
33-66	25	variable	148	33	4-6*

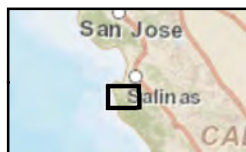
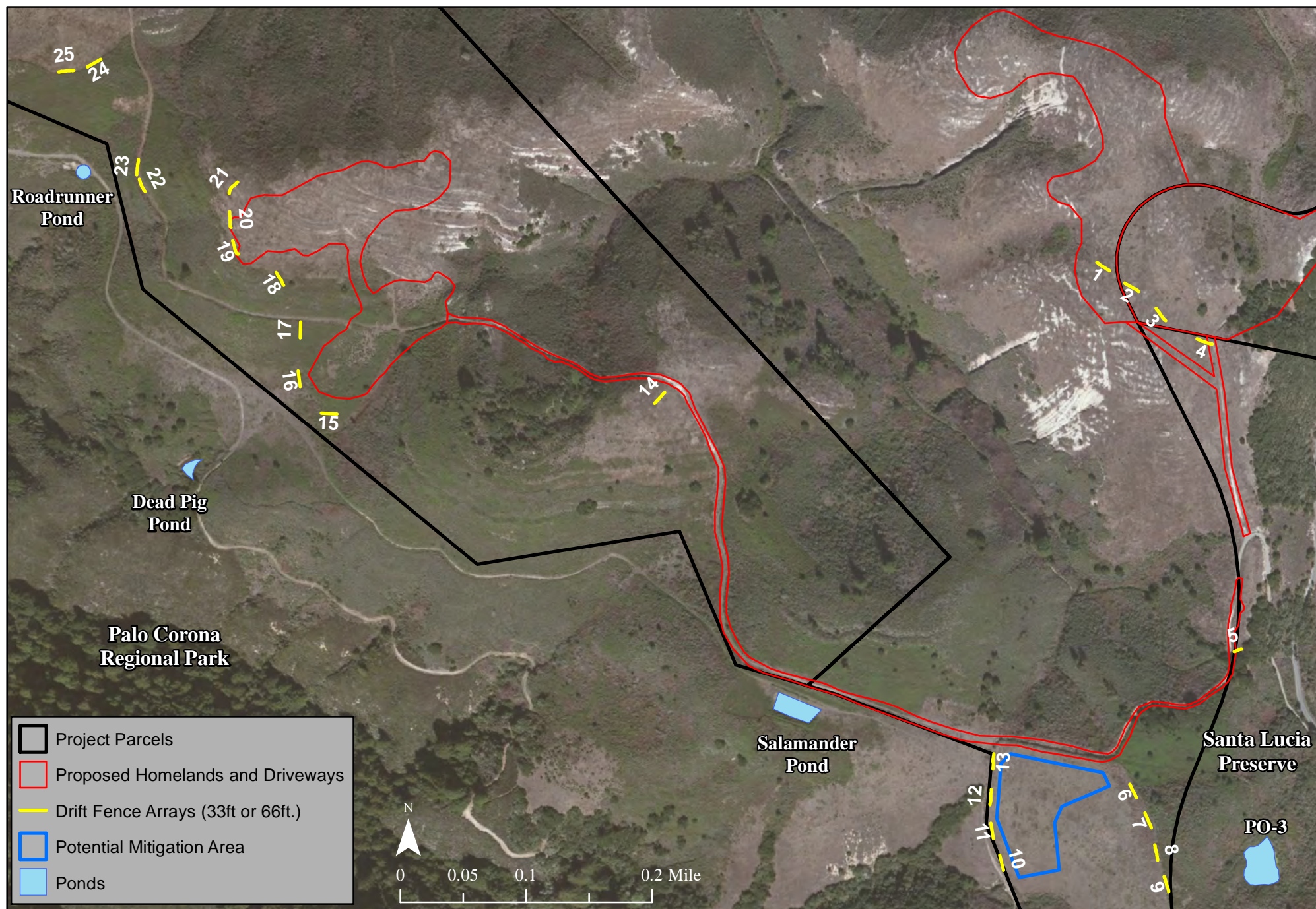
*One fence segment (33 ft. long) had 4 traps, and 24 fence segments (66 ft. long each) had 6 traps

During the survey season drift fences and pitfall traps were in place and opened (under appropriate conditions described below) from October 15, 2012 to March 15, 2013. On days when it was raining or if at 2:00PM rain was the forecast for the remainder of the day or subsequent night ($\geq 70\%$ probability of precipitation based on the National Weather Service web-site), pitfall traps were opened before sunset and checked the following morning. Traps remained open until no rain had fallen and/or no CTS were captured in the preceding 24 hours. Open traps were shaded with an elevated piece of plywood and pieces of foam were used to keep the traps moist. When not in use, traps were closed and the inverted shades were then weighted with bricks, to prevent entry. All amphibians captured were identified to species and the number captured was recorded for each day. All captured CTS were measured (snout-vent length and total length in mm), weighed (in grams), aged (juvenile, sub-adult, adult), sexed, and inspected for malformations, injuries, and general health. All individuals were digitally photographed in a standardized manner. Spot patterns (dorsal views) were checked against a log of photographs, from both the 2012/13 and 2011/12 studies, to uniquely identify captured individuals and to document any and all recaptures. No toe-clipping or marking occurred in 2012/13. All CTS and other amphibians captured were released into small mammal burrows or dense moist vegetation near the point of capture. To reduce the possibility of spreading disease, nitrile or vinyl gloves were worn when handling CTS and clean gloves were used each day.

Aquatic Surveys

Aquatic surveys were conducted on March 29, April 19, and June 3, 2013 at both the Roadrunner and Salamander Ponds. Aquatic survey methods followed the *Interim guidance on site assessment and field surveys for determining presence or a negative finding of the California tiger salamander* developed by the Service and the Department in 2003, except that aquatic sampling continued beyond the standard approach to conduct a census of CTS larvae on April 19.

Long-handled D-shaped dip-nets (fine mesh) were used for the surveys in both ponds, except the April 19th census in roadrunner pond where a fine-mesh seine (4' by 10' with 1/8" mesh) was used. The census consisted of pulling the seine and collecting and holding the larvae in buckets until no additional larvae were detected. This took eight pulls of the seine and took approximately one half hour. New water was



Title: **Malcolm Property Upland Drift Fence Arrays**

File: 2012-2013 CTS Drift Fence Array Map.mxd

Date: 8-16-2013

Scale: 1 inch = 0.1 miles

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Figure
3

collected from the pond approximately every ten minutes replace the water used for holding the larvae. Care was taken to pull the seine at a speed slow enough to keep the seine dragging along the bottom without collecting much sediment, but fast enough to capture mobile larvae.

The number of CTS and other species observed at each pond during each survey was totaled and the relative abundance defined as follows:

- Few: 1 to 10 individuals;
- Common: 11 to 100 individuals; and
- Abundant: 101 or greater individuals

To reduce the possibility of spreading disease, nets and waders were scrubbed with Quat-128 solution and completely air-dried or different sets of gear were used before moving from one pond to another. At the end of each day, all nets and waders were again treated with Quat-128 solution and completely air-dried.

Climate Information

Daily precipitation; high, low, and average daily temperature; and average annual rainfall were obtained from the National Climatic Data Center for the Monterey Airport Weather Station (<http://www.ncdc.noaa.gov/cdo-web/search?jsessionid=37EE8F92FFDE9D0C37C50B3534A5503C.lwfl>).

RESULTS

The following describes the results of the 2012/13 study and provides a brief overview of the 2011/12 results. For a complete description of the 2011/12 survey methods and data please refer the 2012 survey report cited above.

2011/12 Drift Fence/Pitfall and Aquatic Study

Breeding Season Drift Fence/Pitfall Trapping Study

CTS were captured at both ponds during the study in the winter of 2011/12. Captures at Roadrunner Pond during the breeding season included 17 adult males, 11 adult females, and two juveniles², for a total of 30³ individuals with 16 recaptures. Two adult males were captured at Salamander Pond during the breeding season; neither of these individuals were recaptures.

Aquatic Surveys

No CTS were captured at Salamander pond during the three aquatic surveys conducted in the spring of 2012⁴. No salamander larvae were captured at Roadrunner pond during the March or April 2012 aquatic surveys. Approximately 45 CTS larvae were captured during the larval census at Roadrunner Pond in May 2012. This survey was a census, such that the 45 individuals captured were likely the vast majority of the larvae in the pond at that survey time.

Dispersal Drift Fence/Pitfall Trapping Study

In the summer of 2012, subsequent to the breeding season, 23 CTS metamorphs were captured migrating out of Roadrunner Pond. Please see the 2012 report for detailed directional graphics and raw data.

The frequency of CTS adult and metamorph captures in each pitfall trap at Roadrunner pond was analyzed for the 2011/12 breeding and dispersal seasons in an attempt to assess trends in migration direction (Figure 4). CTS adults were captured more frequently in traps #2 and #5, both on the inside and outside. The most captures (12) were in the outside #5 trap. CTS metamorphs were captured most frequently in the inside #4 trap (seven captures). The inside traps #2 and #5 were the second most frequent with four captures each. Very few adults or metamorphs were captured in traps #1 or #6-8. As such, it appears that most of the CTS are moving to and from the west.

2012/13 Drift Fence/Pitfall and Aquatic Study

Breeding Season Drift Fence/Pitfall Trapping Study

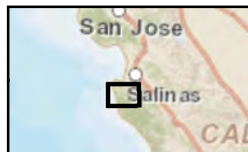
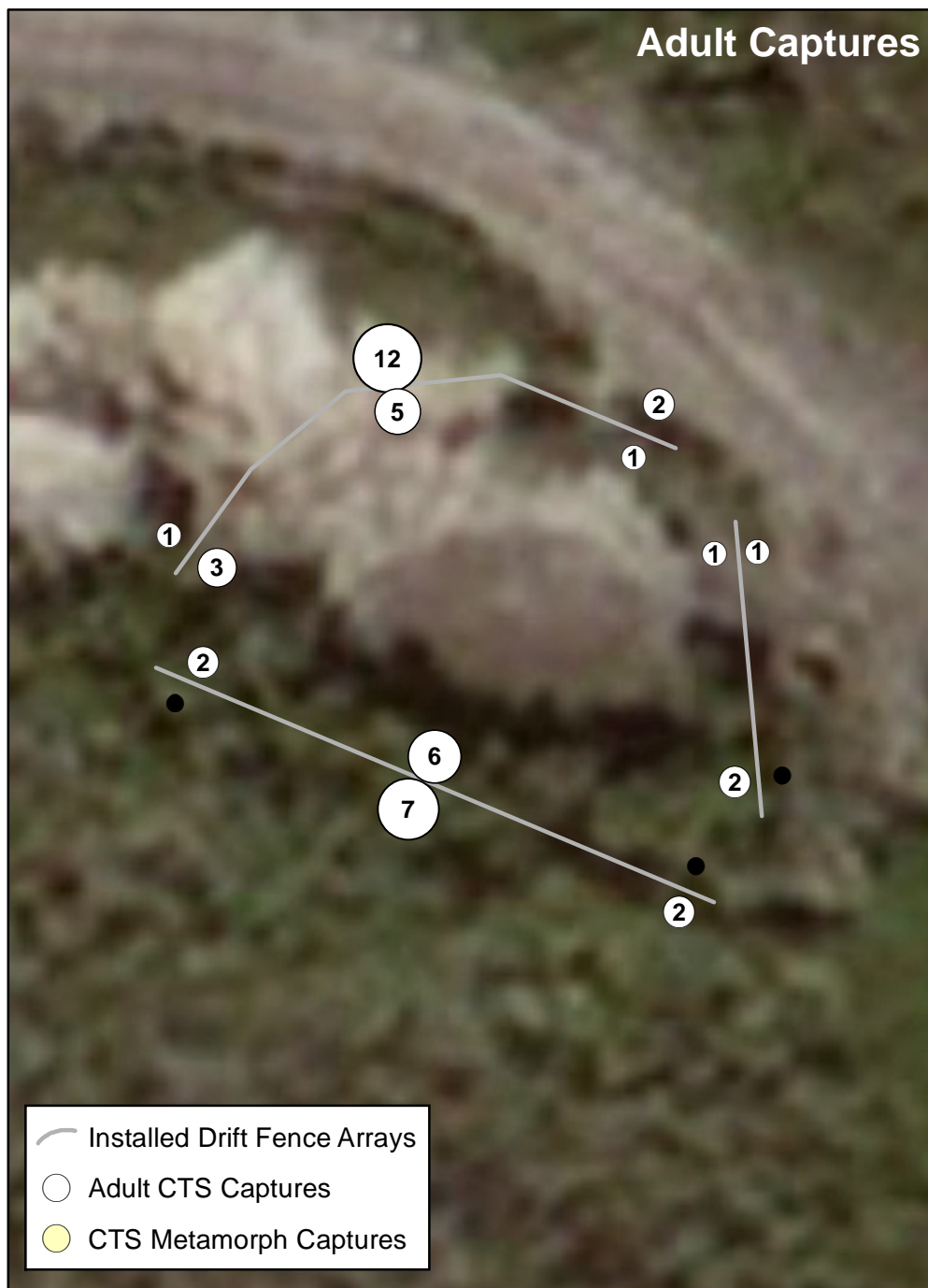
Three adult female and two juvenile CTS were captured at various upland locations during the study (Table 2 and Figure 5). One of these individuals was identified as a recapture from Roadrunner pond from the previous year's study based on a comparison of dorsal view photographs.

California red-legged frogs (*Rana draytonii*, CRLF), a state species of special concern and federally Threatened species, were also captured. Other species captured in pitfall traps include: California newt (*Taricha torosa torosa*), Monterey ensatina (*Ensatina eschscholtzii eschscholtzii*), Santa Lucia Mountains slender salamander (*Batrachoseps luciae*), arboreal salamander (*Aneides lugubris*), Sierran treefrog (*Pseudacris sierra*), coast range fence lizard (*Sceloporus occidentalis*), alligator lizard (*Elgaria*

² Juveniles and metamorphs were not sexed as they did not exhibit the breeding characteristics of adults.

³ Please note that one individual was not photographed and therefore could not be analyzed for recapture. As such, it is assumed this individual was not recaptured.

⁴ Please note surveys were attempted in March 2012, but stopped due to the presence and potential impacts native amphibian eggs.



Title: **Palo Corona Regional Park 2011/2012 CTS Capture Frequency Per Trap**

File: CTS Frequency Map.mxd

Date: 09-25-12

Scale: 1 in = 20 ft

Project: 2819 Malcolm

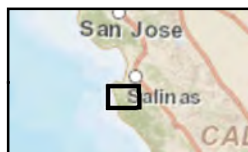
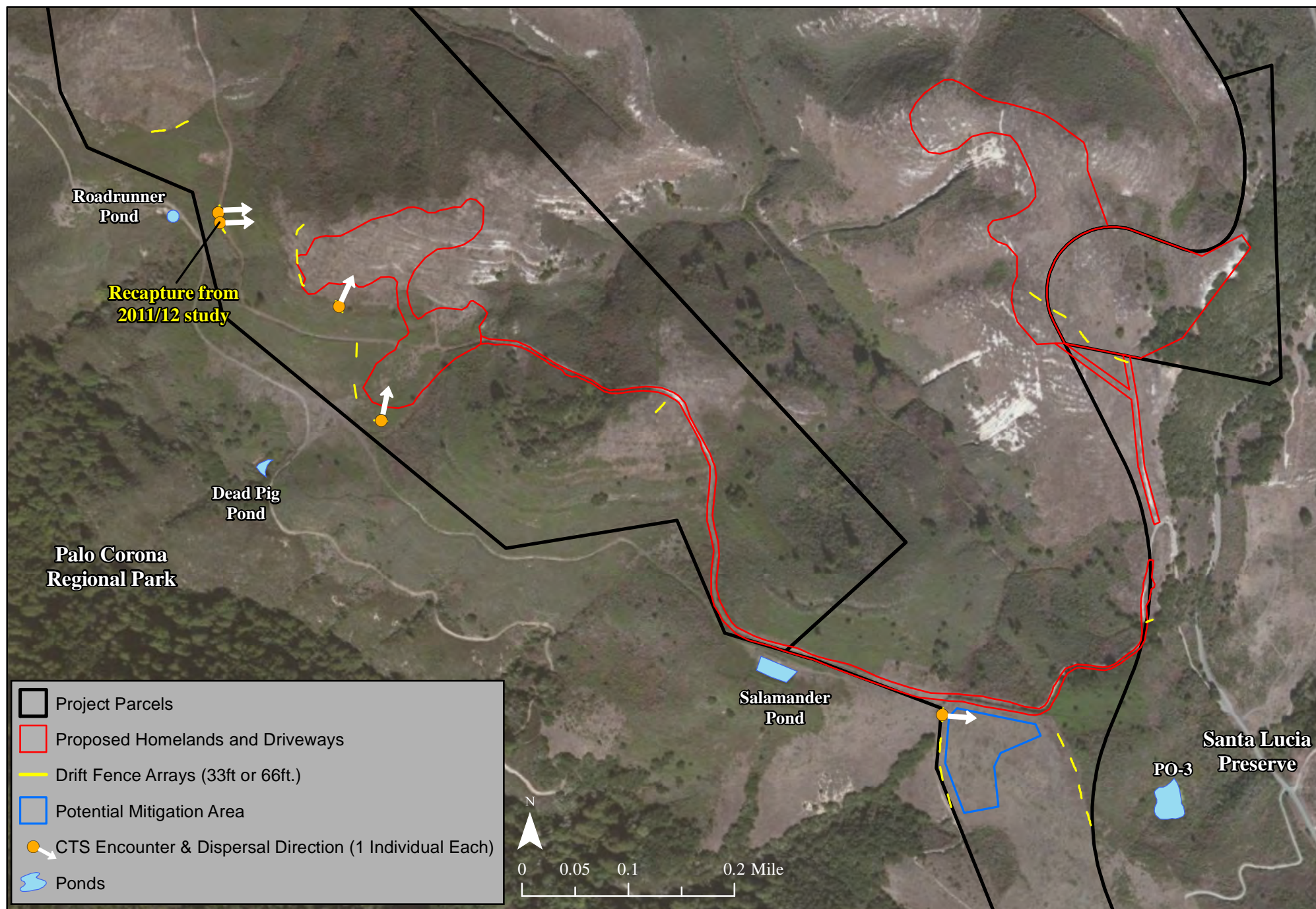
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4



Title: **CTS Encounter Locations**

File: 2012-2013 CTS Drift Fence Array Map.mxd

Date: 11-18-13

Scale: 1 inch = 0.12 miles

Project: 2819 Malcolm



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Figure
5

multicarinata), vole (*Microtus californicus*), mice (*Peromyscus* sp.), gopher (*Thomomys bottae*), and shrew (*Sorex* sp.). A summary of all species captured at each pond is included in Appendix A.

Table 2. CTS Capture Results 2013 Malcolm Upland Study⁵

Date	Trap #	New/ Recapture	Age	Sex	TL (mm)	SVL (mm)	WT (g)
11/2/12	87	New	Adult	F	160	110	28.0
11/17/12	103	New	Juvenile	N/A	152	85	23.9
11/17/12	135	New	Juvenile	N/A	119	66	9.8
12/3/12	74	New	Adult	F	220	110	57.0
12/6/12	131	Recapture	Adult	F	190	105	37.5

Aquatic Surveys

A total of 68 CTS larvae were captured at Roadrunner pond during the March 19, 2013 aquatic survey. A census was conducted at the second aquatic survey of the season, on April 19, 2013, and 341 larvae were captured. Four larvae were captured during the third aquatic survey on June 3, 2013. Due to the low water level proper dip-net and seining techniques were not possible during the third aquatic survey. Although only four individuals were captured, at least 10 larvae were observed in the water that remained within the Roadrunner Pond basin. No CTS larvae were captured or observed during any of the aquatic surveys conducted at Salamander Pond.

Climate Data

Rainfall totals were 50% of the 17-year average for the Preserve for the survey period. However, this annual average includes rainfall totals for all months, not September 1 – April 1 only, which may skew the percentage. When compared with the annual average for September 1 - April 1 collected at the Monterey Airport, rainfall totals for the 2012/13 survey period were 78% of the average. This is mentioned to highlight the fact that while it was a low rainfall year overall, the distribution of significant rainfall early in the season allowed for significant movement of CTS. There is the potential that the lack of rainfall during the second half of the season negatively affected the ability for CTS to successfully transform at some ponds. However, Roadrunner did not dry until mid-June. Therefore, it appears that adult CTS movement was not significantly negatively affected based on the documentation of high numbers of larvae in Roadrunner Pond. Charts 1 and 2 depict the climate data for the survey period. Additionally, Chart 2 includes the number of CTS captured during the survey.

⁵ This upland study was not associated with a pond, but consisted of fences in uplands between ponds and proposed development.

Climate Information

Chart 1. Daily Temperature Range During the 2012/13 Survey Season

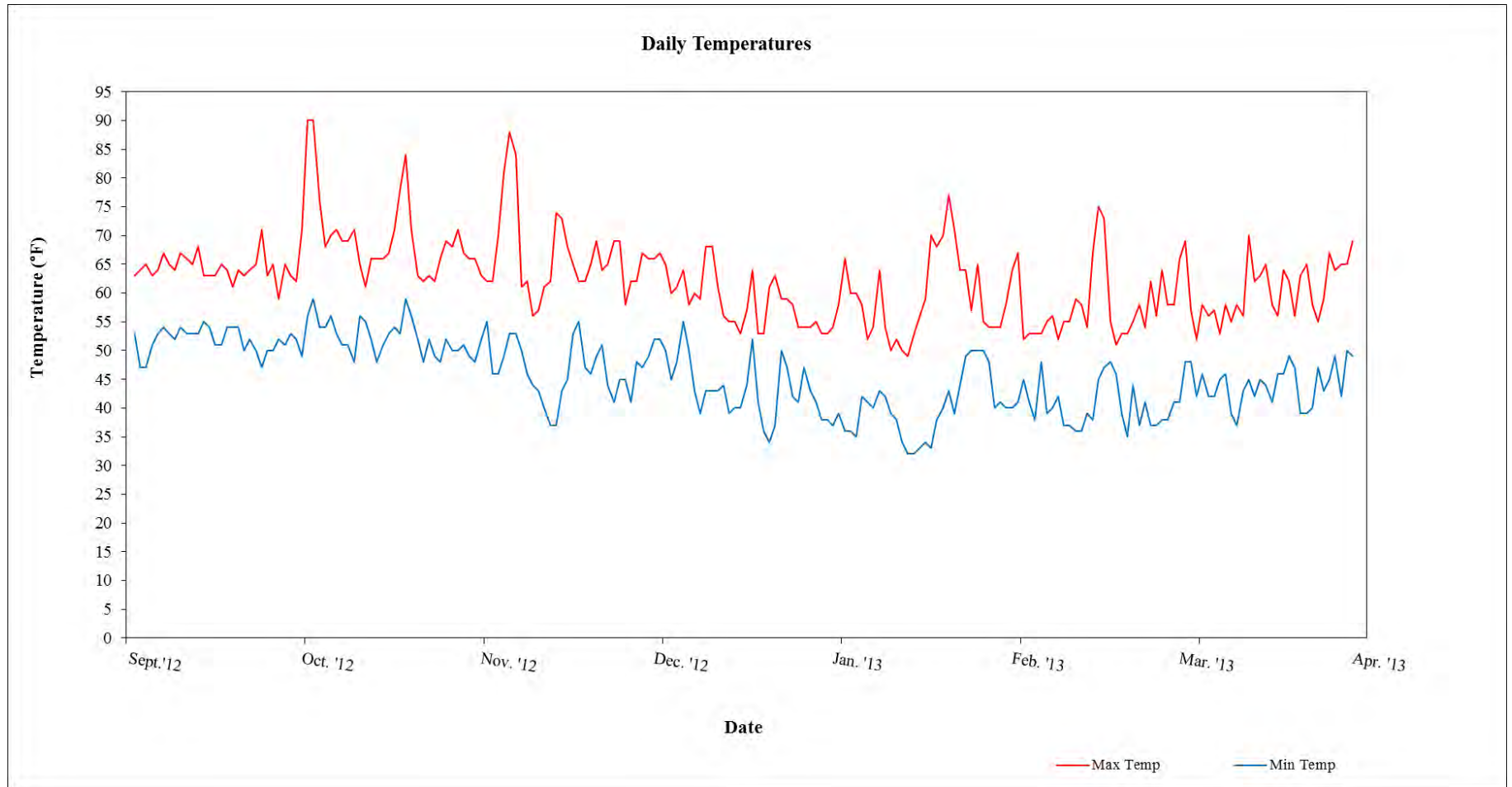
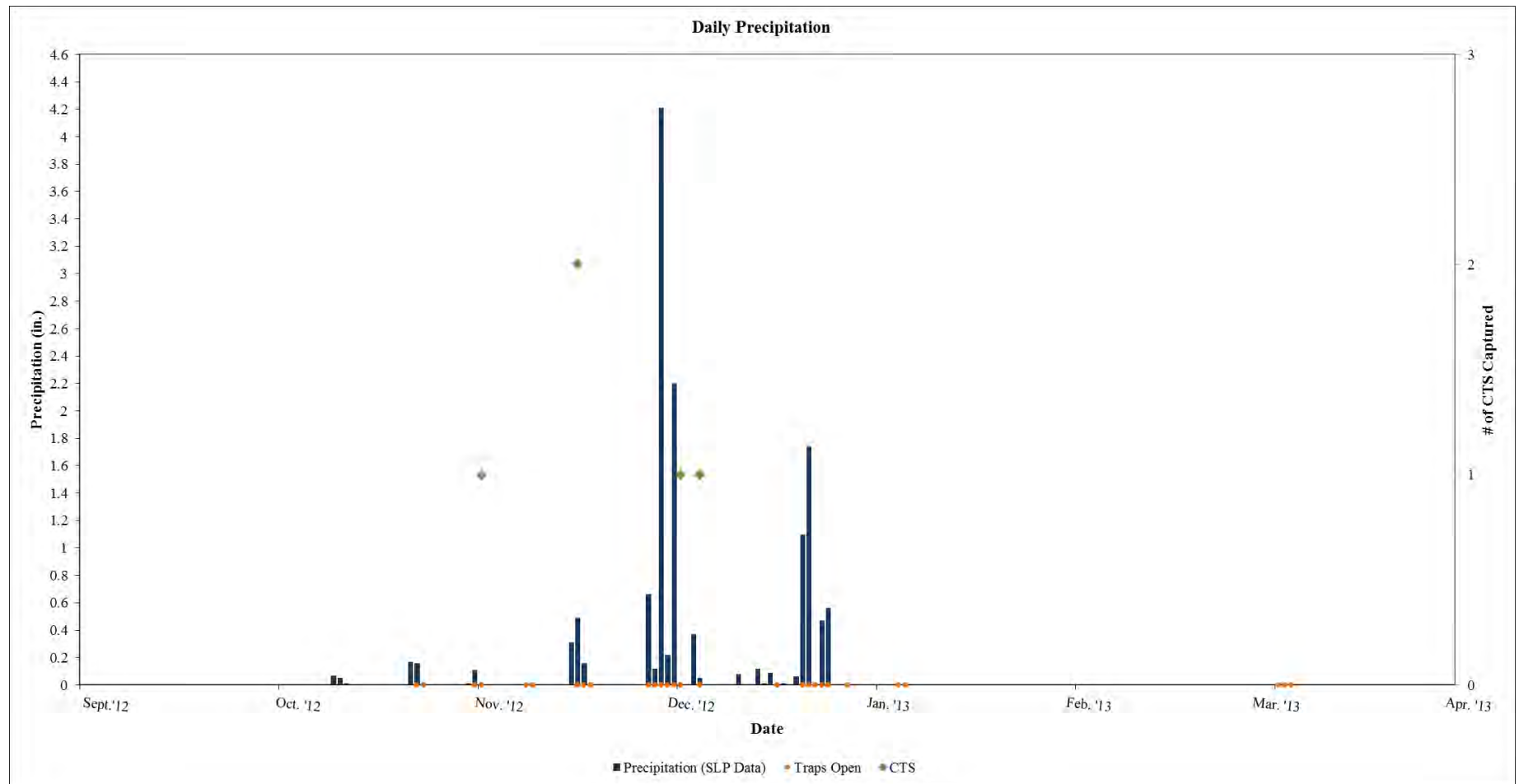


Chart 2: Daily Precipitation During the 2012/13 Survey Season



ANALYSIS

Salamander Pond

The results of the study indicate that Salamander Pond may not currently function as a CTS breeding resource. While precipitation was below normal, the rainfall early in the season, when adults are breeding, was sufficient to facilitate movement in both years, as evidenced by successful breeding and high numbers of larvae in Roadrunner pond. In addition, the depth and duration of inundation in Salamander Pond was sufficient to facilitate CTS breeding and transformation in both years. However, no larvae were detected at Salamander pond during both years of aquatic surveys, and only two adult male CTS were trapped attempting to enter the pond to breed during the upland study in 2011/12. Large numbers of CTS larvae been found at this pond in previous years (i.e., 2004 and 2008). However, like many of the other previously documented CTS breeding ponds in the region, no detections have been made since 2008.

Catching only two adult CTS attempting to breed at Salamander pond suggests that there may not currently be a sufficient adult population associated with the pond to facilitate successful breeding. One potential factor may be increased vegetation cover due to fencing of the pond or a regional trend in a reduction in grazing over the last 20 years⁶. It may be that significant emergent vegetation favors other pond species that predate or compete with CTS for resources. It is also possible that a significant increase in emergent vegetation cover may result in reduced detections of larvae as a result of decreased access for surveys.

Roadrunner Pond

The results of the breeding season drift fence/pitfall trap, dispersal, and aquatic surveys indicate that Roadrunner Pond currently functions as a successful CTS breeding resource and individual CTS are transforming and exiting the pond to utilize the adjacent upland habitat. This pond is seasonal, which may be an important reason why it functions so well for CTS. Roadrunner Pond's hydro-period allows for sufficient depth and duration of inundation to facilitate successful transformation of CTS, while limiting the vegetation cover and competition from other pond species, which cannot successfully breed prior to the pond drying in early summer⁷. During drought cycles this pond may only hold water for short periods after individual rain events, which significantly limits the ability of bulrush and other emergent wetland vegetation to become well established over the long term.

The Roadrunner Pond population estimate (38 breeding adults) is consistent with other CTS breeding ponds in the region given its small size. The population appears to be stable as CTS larvae have been found consistently during aquatic sampling at this pond in the past, while detections have declined at other known breeding resources in the region during the same time period (Hemingway and D'Amore, 2008; Hemingway and Doak, 2006; McGraw, 2007; and DD&A, 2003, 2004, 2005, 2006, 2008a, 2008b, 2011a, 2011b, 2013).

CTS adults and metamorphs are moving in and out of the pond, and appear to be dispersing to the west more than in other directions. This would suggest that protected areas to the west, within PCRP, are an important upland resource for this population. However, as evidenced by the two adults caught in dense

⁶ It should be noted that while grazing may have been significantly reduced in recent decades compared to historically, both PCRP and the SLP are engaged in active grazing currently for management of CTS habitat, in addition to other resources.

⁷ It should be noted that Roadrunner pond has a constructed outfall that is less than 36 inches from the lowest point in the pond, allowing it to dry each year while maintaining sufficient hydrology to facility CTS breeding, even in below normal rainfall years.

scrub moving away from Roadrunner Pond (one of which was a recapture caught a year earlier in Roadrunner Pond), CTS are also utilizing upland habitat to the east of the pond.

Uplands

This study consisted of placing drift fence/pitfall trap arrays around Salamander and Roadrunner Ponds during the 2011/12 season. During the 2012/13 season, drift fence/pitfall trap arrays were placed at strategic locations in both grassland and dense scrub within the Malcolm property (Figure 3). The main goal of the study was to determine if CTS were moving from occupied ponds, through scrub, and into isolated grasslands. The upland data clearly shows that adult CTS are present within the landscape associated with the pond complex and are moving through dense scrub and grasslands. It is uncertain if CTS are occupying the scrub under duff or within mammal burrows for short or long durations, or for the full dry season between breeding efforts. However, the limited area of scrub that was cut to facilitate this study contained very few, if any obvious mammal burrows. While it is possible that scrub close to Roadrunner Pond is being utilized as primary estivation habitat, it's more likely that CTS are traveling through the scrub to access the grasslands beyond. While the number of arrays was limited to cover such a large area, the data indicates that the density of CTS in the uplands is negatively correlated with distance from the ponds (i.e., the majority of the CTS were caught within a relatively close proximity to a pond). This data is consistent with other work done in the region (Searcy and Shaffer, 2008 and Trenham and Shaffer, 2005).

IMPACTS

The study conducted throughout the Malcolm's property attempted to understand how CTS utilize the Malcolm property in order to assess impacts from proposed development, and to inform avoidance, minimization, and mitigation efforts.

A recent, draft approach promulgated by the Fresno Office of the Department includes the identification of concentric zones around each breeding site. The specific boundaries suggested are based on research findings regarding the frequency and abundance of CTS in upland habitat within specific distances of breeding ponds. The outer boundaries of the four zones are set at 380 m (0.24 mi); 630 m (0.39 mi); 1 km (0.62 mi); and 2.2 km (1.3 mi):

The first 380-meter zone (0.24 mile) captures the distance that greater-than-50% of dispersing CTS adults and approximately 50% of dispersing CTS sub-adults will travel from the breeding pond (Trenham and Shaffer, 2005).

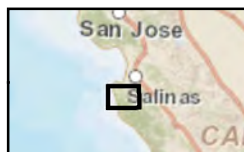
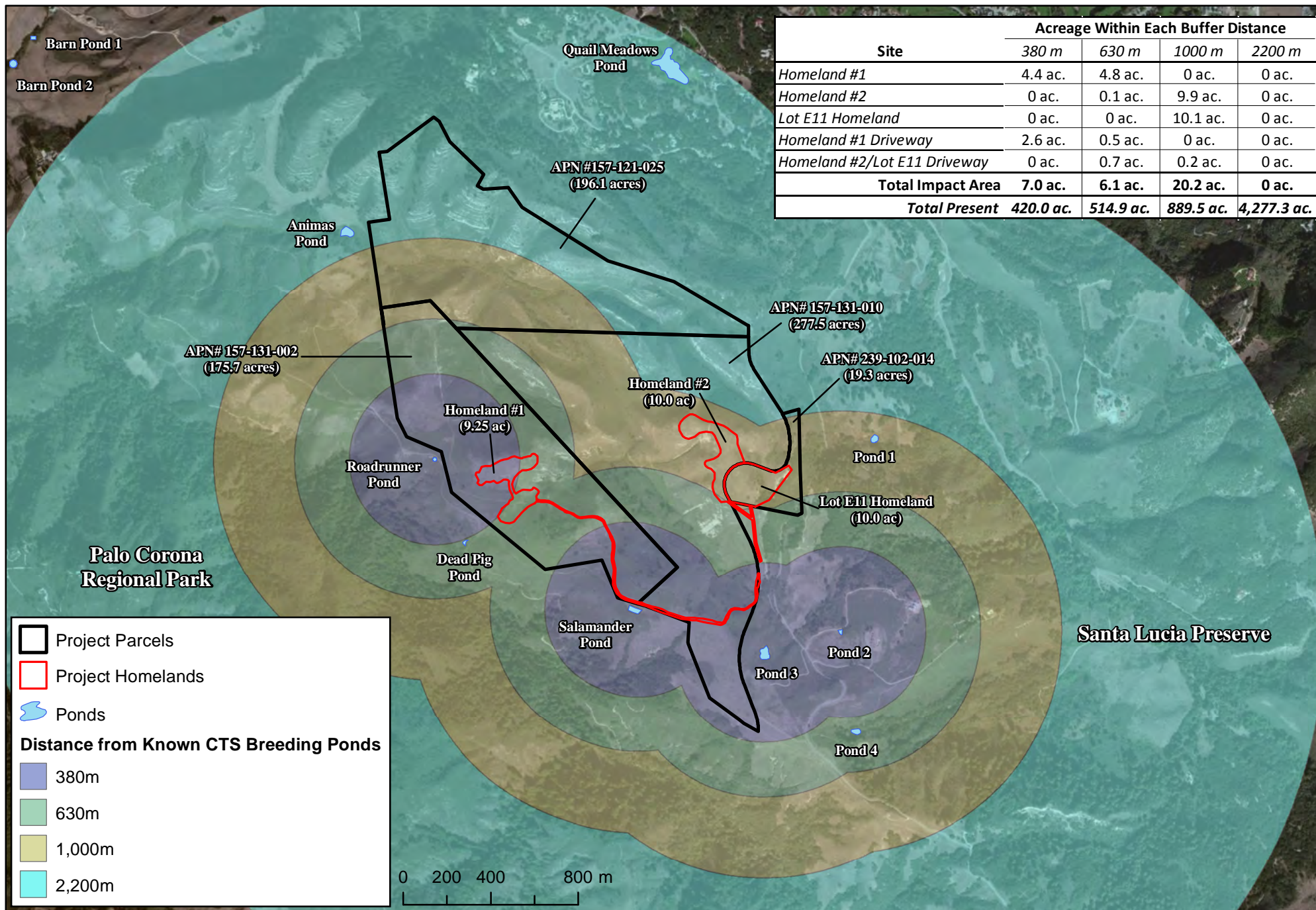
The second zone of 630 meters is the distance within which greater-than-95% of dispersing CTS are found (Trenham and Shaffer, 2005).

The third zone, bounded by 1 km, is based on ongoing studies which show that adults and juveniles routinely move greater than 1 km (0.62 miles) (Searcy and Shaffer, 2008).

The fourth and largest of the zones, within 2.2 km (1.3 miles) of a potential breeding pond, is based on the distance adults have been found to move from a breeding site (Orloff, 2007).

Figure 6 shows these concentric circles from the four known breeding ponds within dispersal distance of the Malcolm property and shows the acreage of temporary and permanent impacts that would result from the development of the Malcolm Homelands.⁸

⁸ It should be noted that surveys have failed to detect CTS larvae at three of these ponds (Salamander, PO-2, and PO-3) in recent years.



Title: **Distance From Known Breeding Ponds**

File: CTS DFW Buffers Map.mxd

Date: 11-18-13

Scale: 1 inch = 0.36 miles

Project: 2819 Malcolm



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Figure
6

DISCUSSION

Aquatic and upland data has been collected on the SLP and PCRP on and off over the last decade, resulting in a data set that identifies ponds that are known to support CTS breeding activity now, or have in the past. The result of this data confirms that a localized metapopulation of CTS currently occupy an area associated with a cluster of seven ponds adjacent to the Malcolm property. The Malcolm property is a significant upland resource associated with this localized CTS metapopulation. Within this cluster area there are ponds that likely never have supported CTS; ponds which likely did in the past, but do not now; and one pond that is currently being used as a breeding resource by CTS.

All seven of the ponds within the cluster are man-made and were constructed to facilitate grazing over the last two centuries. It is likely that CTS have never bred in two of the ponds, Dead Pig and Animus, due to historic conditions which preclude their presence, such as excessive vegetation cover, competition, and/or predation from an existing suite of aquatic species that flourish in deep, perennial ponds and riparian conditions. One pond; PO-1 may have supported CTS breeding historically, but when consistent surveys started in 2003, it had already become heavily vegetated and CTS have never been documented breeding there. Four additional ponds are documented to have been important breeding resources in the past (presence of significant numbers of larvae and/or adults): Roadrunner, Salamander, PO-2, and PO-3. Of these four ponds, Roadrunner was the only pond documented to support successful breeding this year. CTS larvae have not been found in any pond other than Roadrunner since 2008, despite targeted annual surveys.

Localized CTS Habitat Trends

Historically, CTS probably occupied lower, flatland elevations within San Francisquito Flats on the SLP, where seasonal wetlands and vernal pool complexes likely existed prior to European settlement. Subsequent to settlement, seasonal resources were drained in favor of concentrating the hydrologic resources of the area into a large permanent water body, Moore's Lake, to supply a year-round water source. Fish and bullfrog were introduced into the lake and golf course ponds that have been created more recently, leaving only man-made CTS breeding habitat on the margin of their previous habitat, in the hills surrounding the flats. The stock ponds that are relatively high in the watershed dry periodically during drought cycles and thus do not support fish and bullfrog. Regularly grazed, these annual ponds stayed free of vegetation and were relatively good habitat for CTS breeding in that managed state, even though these areas were likely not occupied by CTS historically.

Grazing was removed from the SLP in the early 1990s and was sporadic on PCRP during the same period, during which multiple ownership transfers occurred. In addition, the ponds on PCRP were fenced in 2010 to protect them from over-grazing. As a result, all of the ponds adjacent to the Malcolm property have experienced an increase in vegetation cover compared to prior conditions. In addition, large areas of grassland have converted into non-native scrub on the Malcolm property. These type conversion habitat trends may degrade this previously-managed, artificial habitat and affect the local CTS metapopulation negatively. The mad-made ponds are not in a steady state as they are not natural features. Without ongoing management, all the ponds follow the same trajectory, increased aquatic and emergent vegetation consisting primarily of bulrush. Bulrush forms very dense stand and will completely fill in a pond. Riparian or tree species typically follow, increasing the cover.

Bobzien and DiDonato (2007) showed that CTS presence was negatively correlated with increased vegetation in a large number of ponds in the East San Francisco Bay Area. There are a number of factors that lead to CTS doing poorly in vegetated breeding habitat in the presence of other amphibian species and macroinvertebrates. There is evidence that CTS larvae are much more vulnerable to predation in a vegetated breeding resource. Vegetation is positively correlated with predaceous hexapods, such as the

giant water bug and the predaceous diving beetle, and research suggests that these lie-in-wait predators of fish and amphibian larvae rely on the presence of vegetation as a requirement of their hunting strategy (Alperyn, 2004 and Swart and Taylor, 2004). Tiger salamander larvae have been shown to move to open, unvegetated water as a primary predation avoidance strategy, indicating that in highly vegetated environments they would be at a disadvantage and potentially disproportionately preyed upon in a pond with multiple amphibian larval species (Holomuzki, 1986). CTS have evolved to reproduce under extreme hydrologic conditions that do not facilitate the breeding or permanent presence of most other amphibian species and predators (i.e., vernal pools). While CTS can breed in semi-permanent or permanent ponds under managed conditions (i.e., grazed), they may not possess the prey avoidance strategies required to successfully persist over time in the presence of amphibian and macroinvertebrate species found in un-managed, heavily vegetated ponds. While both the SLP and PCRP are currently actively grazing to some degree, the current programs may not be sufficient to facilitate the conditions necessary for successful CTS breeding. Four ponds have been documented to facilitate CTS breeding in the project vicinity (i.e., Roadrunner, Salamander, PO-2, and PO-3); however, Roadrunner Pond is the only one to consistently produce large numbers of CTS larvae within recent years. This pond is annual, unvegetated, and supports almost no other amphibians or hexapods.

RECOMMENDATIONS

Based on survey data collected over the last decade on PCRCP and the SLP it's likely that there is a group of four ponds which support a localized metapopulation of CTS (Salamander and Roadrunner ponds on PCRCP and ponds PO-2 and PO-3 on the SLP). Unfortunately, Roadrunner pond is the only one that CTS larvae have been detected in for the last five years, and the upland study at Salamander pond indicates that it is not currently functioning as a CTS breeding pond. If the population is declining and Roadrunner is the only pond left that functions to support breeding, the potential for the metapopulation to sustain decreases because there may be no immigration to recolonize previously occupied habitat if a stochastic event impacts the current population (i.e. drought).

The 2011/12 Palo Corona survey report concluded that it may be appropriate to look toward Roadrunner pond as an example of what works locally to facilitate CTS breeding. There is the potential that removing vegetation and/or reducing the hydro-period of Salamander pond via a constructed outfall of filling in a portion of the pond could result in an improvement in conditions for CTS attempting to breed there. This action would likely negatively affect habitat for CRLF; however, this species has a very stable population within the region. An alternative approach would be to create additional ponds with limited hydro-periods.

There is some question concerning the effectiveness of aquatic sampling in the context of significant increases in vegetative cover at some of the ponds that make up this cluster of ponds. It would be very valuable to remove a limited amount of vegetation from specific ponds to evaluate the effectiveness of the current protocol survey methods and potentially increase the confidence with which the future survey data is viewed. However, emergent vegetation is widely accepted to be an important and beneficial structural habitat component for CRLF. So, while impacts to other important amphibian species such as CRLF must be considered, CRLF and CTS populations overlap on the SLP and PCRCP and both species should be managed concurrently. One approach would be to remove vegetation from one side (50%) of a pond known to support breeding for CTS and CRLF. This would be particularly effective where bulrush has significantly reduced access and open water. Fencing off a portion of a pond in the presence of regular grazing has been successfully used to maintain habitat for both species (personal observation, J. Harwayne). It should be noted that CRLF is well established in the region with a number very stable and vigorous populations at both SLP and PCRCP. CRLF breeding occurrences have been documented at a majority of the ponds located on the SLP (DD&A, 2013) and a significant number of the ponds on the PCRCP (Monterey Peninsula Regional Park District and Service, 2011). This is in contrast to the relatively few ponds that have been documented to support successful breeding of CTS in the region.

While a park-wide program of combined mowing and grazing is currently being implemented at PCRCP, grazing the ponds sufficiently to effect conditions favorable to CTS breeding is a concern. It is recommended that the MPRPD and the Service consider modifying current grazing conditions outlined within the Safe Harbors Agreement for the PCRCP to allow for increased vegetation removal, preferable from increased grazing within the fenced areas around Salamander and Roadrunner ponds.

Portions of the historic Malcolm property grasslands have converted to dense non-native scrub over the last couple of decades. It is recommended that a plan to remove or reduce non-native scrub habitat, specifically to manage for CTS upland habitat values, be prepared and implemented.

Livestock can be effective in reducing the duff layer in grasslands, which benefits CTS by facilitating a productive rodent population, whose burrows are used as upland aestivation resources by CTS (Service, 2004). It is recommended that a plan to graze grasslands on the Malcolm property specifically to manage

for CTS upland habitat values be prepared and implemented. It may be appropriate to combine the scrub removal plan with the grassland grazing plan, as there may be approaches and practices common to both.

A final recommendation would be to explore creating new ponds on the Malcolm property that are designed and managed specifically to support CTS populations. Surveys of the property, in combination with data collected during the CTS upland studies, suggest there may be an appropriate location on the Malcolm property for creating successful CTS breeding pond(s) (Figure 5). Ideally, these pond(s) would have an annual hydroperiod in normal years and be regularly grazed. An annual hydroperiod will reduce vegetation, especially perennial emergent species such as bulrush. In addition, an annual hydroperiod may preclude other amphibian and predaceous hexapod species from persisting in significant numbers. While these species can be present in annual ponds, CTS may better out-compete competitors, such as newt and CRLF, and better evade predators, such as hexapods, in an unvegetated pool, facilitated by a reduced hydroperiod. In addition, an annual hydroperiod will preclude the presence of bullfrog and fish, which CTS do not co-occur with as a result of predation. Grazing will reduce vegetation and may function to compact soils in vernal resources, extending inundation further into the dry season. Grazing the uplands adjacent to the created pond(s) will maintain grassland and facilitate a mammal population needed to maintain CTS upland aestivation habitat. Roadrunner Pond, located on the PCRP, is a significant reference and can be viewed as a local model to evaluate appropriate depth and duration of inundation to support CTS breeding within the area.

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Appendix A

Drift Fence/Pitfall Trap Survey Results

Roadrunner Pond Drift Fence/Pitfall Trap Survey Results

[illegible]

[illegible]

[illegible]

Date	Animals Captured											
	CTS	CRLF	Newt	SLM Slender	Monterey Ensatina	Sierran Treefrog	W. Fence Lizard	Alligator Lizard	Vole	Shrew	Mouse	Gopher
4/11/12		1	1		1							
4/12/12			1									
4/13/12												
4/14/12												
4/24/12			1									
4/25/12												
4/26/12			3									
4/27/12							2		2	2		