

Western Riverside County Multiple Species Habitat Conservation Plan Consistency Analysis

Date & Time: Thu, May 20, 2021, 12:06:08 PDT
Position: 11 N 529942 3726008 (± 32.8 ft)
Altitude: 4372ft (± 62.3 ft)
Datum: WGS-84
Azimuth/Bearing: 026° N26E 0462mils True ($\pm 12^\circ$)
Elevation Angle: -10.7°
Horizon Angle: -00.1°
Zoom: 0.5X



CUP 210121 CZ 210004 GPA 210006

**WESTERN RIVERSIDE COUNTY MULTIPLE SPECIES
HABITAT CONSERVATION PLAN CONSISTENCY
ANALYSIS**

**THE RIDGE WELLNESS, INC.
MOUNTAIN CENTER, RIVERSIDE COUNTY, CALIFORNIA
CUP 210121; GPA 210006; CZ 2100014
ASSESSOR'S PARCEL NUMBERS 568-070-006, -007 AND -021**

County of Riverside, California (Permittee)
4080 Lemon Street
Riverside, California 92501

The Ridge Wellness, Inc. (Applicant)
Ms. Caroline Legrand (Owner)
21352 Rambla Vista
Malibu, California 90265
(310) 666-3623
legrand.caroline366@googlemail.com



43430 E. Florida Avenue, Suite F
PMB 291
Hemet, California 92544
Contact: Tim Searl
Mobile: (951) 805-2028
E-Mail: tsearl@searlbio.com
Website: www.searlbio.com

December 17, 2021

Table of Contents

1.0 EXECUTIVE SUMMARY.....	1
2.0 INTRODUCTION	2
2.1 Project Area	2
2.2 Project Description.....	7
2.3 Covered Roads	7
2.4 Covered Public Access Facilities.....	7
2.5 General Setting.....	7
3.0 RESERVE ASSEMBLY ANALYSIS.....	7
3.1 REMAP Area Plan.....	9
3.2 Public Quasi-Public Lands.....	9
4.0 VEGETATION MAPPING.....	9
5.0 PROTECTION OF SPECIES ASSOCIATED WITH RIPARIAN/RIVERINE AREAS AND VERNAL POOLS (SECTION 6.1.2)	13
5.1 Riparian/Riverine Areas.....	14
5.1.1 Methods.....	14
5.1.2 Existing Conditions and Results	15
5.1.3 Impacts.....	24
5.1.4 Mitigation.....	26
5.2 Vernal Pools.....	26
5.2.1 Methods.....	26
5.2.2 Existing Conditions and Results	26
5.2.3 Impacts.....	26
5.2.4 Mitigation.....	26
5.3 Fairy Shrimp	27
5.3.1 Methods.....	27
5.3.2 Existing Conditions and Results	27
5.3.3 Impacts.....	27
5.3.4 Mitigation.....	27
5.4 Riparian Birds	27
5.4.1 Methods.....	27
5.4.2 Existing Conditions and Results	27
5.4.3 Impacts.....	28
5.4.4 Mitigation.....	28
6.0 PROTECTION OF NARROW ENDEMIC PLANT SPECIES (SECTION 6.1.3).....	28
6.1 MSHCP Background and Objectives.....	28

6.1.1 NEPS Assessment Area No. 6 28

6.1.2 MSHCP Objectives 29

6.2 Methods..... 30

6.2.1 California Native Plant Society..... 30

6.2.2 Survey Methods and Protocol 31

6.2.3 Field Survey Dates and Weather Conditions 31

6.3 Existing Conditions and Results 32

6.3.1 Query Results..... 32

6.3.2 Reference Sites..... 32

6.3.3 NEPS Assessment Results 32

6.4 Impacts..... 37

6.5 Mitigation..... 37

7.0 ADDITIONAL SURVEY NEEDS AND PROCEDURES (SECTION 6.3.2)..... 37

7.1 Criteria Area Plant Species 37

7.2 Amphibians..... 38

7.2.1 Background..... 38

7.2.2 Methods..... 39

7.2.3 Existing Conditions and Results 42

7.2.4 Impacts..... 45

7.2.5 Mitigation..... 45

7.3 Burrowing Owl 45

7.4 Mammals..... 45

8.0 INFORMATION ON OTHER SPECIES 45

8.1 Delhi Sands Flower Loving Fly..... 45

8.2 Species Not Adequately Conserved..... 45

8.2.1 Beautiful Hulsea..... 45

8.3 Additional Regulatory-Status Species Requiring Special Consideration 45

8.3.1 Chaparral Sand-Verbena..... 47

8.3.2 Golden-Rayed Pentachaeta 49

8.3.3 White-Margined Oxytheca..... 49

8.4 Nesting Birds 49

8.4.1 Nesting Bird Mitigation 50

9.0 GUIDELINES PERTAINING TO THE URBAN/WILDLANDS INTERFACE (SECTION 6.1.4)... 50

10.0 BEST MANAGEMENT PRACTICES (VOLUME I, APPENDIX C) 51

11.0 REFERENCES 52

12.0 CERTIFICATION 55

List of Tables

Table 1 – Land Covers 12
 Table 2 – MSHCP Section 6.1.2 Assessment Conditions..... 16
 Table 3 – NRCS Soils 22
 Table 4 – Herkey Creek Riparian/Riverine Areas (Acres) 24
 Table 5 – NEPS Assessment Area No. 6 28
 Table 6 – CRPR Classifications..... 30
 Table 7 – MSHCP Section 6.1.3 Assessment Conditions..... 33
 Table 8 – RAMU Assessment Conditions 40
 Table 9 – Additional CEQA Plants..... 47

List of Figures

Figure 1 - Regional Map 3
 Figure 2 - Vicinity Map 4
 Figure 3 - USGS Topographic Map..... 5
 Figure 4 – Project Area 6
 Figure 5 - General Setting Aerial Photograph 8
 Figure 6 – REMAP Area Plan and Subunits..... 10
 Figure 7 – Land Covers..... 11
 Figure 8 – Watershed Location..... 17
 Figure 9 – 1978/1979 Aerial Photograph..... 18
 Figure 10 – 2018 Aerial Photograph..... 19
 Figure 11 – 2019 Aerial Photograph..... 20
 Figure 12 – NWI 21
 Figure 13 – NRCS Soils..... 23
 Figure 14 – Herkey Creek MSHCP Section 6.1.2 Riparian/Riverine Areas..... 25
 Figure 15 –NEPS Query Results..... 34
 Figure 16 –NEPS Reference Sites 35
 Figure 17 –NEPS Assessment Results..... 36
 Figure 18 – RAMU Query Results 43
 Figure 19 – RAMU Suitable Habitat 44
 Figure 20 – Beautiful Hulsea Locations 46
 Figure 21 – Additional CEQA Biological Detections..... 48

List of Appendices

Appendix A – Site Plan..... A-1
 Appendix B – Plants Observed C-1
 Appendix C – Wildlife Observed..... D-1
 Appendix D – Assessment Photographs E-1
 Appendix E – Wetlands Climate Tables F-1
 Appendix F – Plants to Avoid Adjacent to the MSHCP Conservation Area..... H-1

1.0 EXECUTIVE SUMMARY

This Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP) Consistency Analysis (Analysis) provides the results of the required MSHCP assessments to determine if General Plan Amendment (GPA) 210006, Change of Zone (CZ) 210004, Conditional Use Permit (CUP) 210121; the proposed The Ridge Wellness, Inc. project (Project), was consistent with the goals and objectives of the MSHCP. The subject property (Property and/or Site), Assessor's Parcel Numbers (APN) 568-070-006, 568-070-007 and 568-070-021, was within MSHCP Section 6.1.3 *Protection of Narrow Endemic Plant Species* (MSHCP Section 6.1.3) (NEPS) Assessment Area No. 6, and MSHCP Section 6.3.2 *Additional Survey Needs and Procedures* (MSHCP Section 6.3.2) assessment area for Southern Mountain Yellow-legged Frog (*Rana muscosa*) (RAMU). The Project also required a MSHCP Section 6.1.2 *Protection of Species Associated with Riparian/Riverine Areas and Vernal Pools* (MSHCP Section 6.1.2) assessment, and compliance with MSHCP Section 6.1.4 *Guidelines Pertaining to the Urban/Wildlands Interface* (MSHCP Section 6.1.4).

The Property was located in the northwestern portion of Garner Valley in unincorporated Riverside County (County), approximately 3.5-aerial miles southeast of Mountain Center, and approximately 5.3-aerial miles south of Idyllwild. The Site address was 56475 Apple Canyon Road, Idyllwild, California, 92549 which was approximately 650-feet east of the Pines to Palms Highway 74 (Hwy 74) and Apple Canyon Road intersection. The Site was located immediately south of the County operated Hurkey Creek Park. The Property totaled 37.97-acres. The total development footprint proposed for the Project was 15.91-acres.

The Project was located within the Riverside Extended Mountain Area Plan (REMAP). The Project was not located within a Subunit or Criteria Cell off the MSHCP, and therefore, was not targeted for long-term conservation as part of the MSHCP Reserve Assembly. Criteria Cell 5275 was the nearest to the Project and was located approximately 5.7-miles southwest of the Property. A Reserve Assembly Analysis was not required for the Project due to it being located outside of a Criteria Cell.

The Property consisted of one feature, Herkey Creek, which meets the criteria of a MSHCP Section 6.1.2 Riparian/Riverine Area. The entire breadth of the area was 8.09-acres which supported 5.49-acres of riparian habitat, and a perennial flow area of 0.79-acre. The Project will avoid impacts to the Riparian/Riverine Areas. No Vernal Pools or Fairy Shrimp habitat were present.

One Assessment Area No. 6 NEPS, San Jacinto Mountains bedstraw (*Galium angustifolium* subsp. *jacinticum*), was detected at three locations on the Property. The majority were present at two locations in the western portion of the Property within chaparral habitat that provides 6.42-acres of long-term conservation value for the plant. The long-term conservation value habitat will be avoided by the Project. The third location was located along the northern Property boundary near a recent active flow area of Herkey Creek and bound to the north by Apple Canyon Road. Only seven plants were detected at this location. This area was determined to not support long-term conservation value for the viability of San Jacinto Mountains bedstraw. The Project will impact 16.0-square feet of a 565.50-square foot polygon where the seven plants were detected.

Herkey Creek was perennial, and therefore, was determined to support structurally suitable habitat for RAMU. The habitat was of low suitability due to the long-standing anthropogenic uses of the area such as cattle grazing/rangelands, agriculture, major roadways, campgrounds/recreation, and Lake Hemet. Though the habitat was low quality, three focused surveys were performed and RAMU was not detected.

The Project, based on the findings described herein, is consistent with the goals and objectives of the MSHCP. Three additional rare plant species not covered by the MSHCP were detected over the course of

spring and summer surveys and the Project will avoid impacts to two out of the three. Portions of the third, chaparral sand-verbena (*Abronia villosa* var. *aurita*), will be impacted by the Project. Due to this, seeds were collected and dispersed within suitable habitat areas on the Property that will be avoided by the Project. A mitigation and monitoring plan will commence for three years to reestablish a viable population on the Property and reduce the potential impacts to a level of less than significant per the California Environmental Quality Act (CEQA).

2.0 INTRODUCTION

The purpose of this MSHCP Analysis was to summarize the biological data for the Project, and to document the Project's consistency with the goals and objectives of the MSHCP. According to the RCA's MSHCP Information Application (Regional Conservation Authority, 2021), the Project required a:

1. MSHCP NEPS assessment, and
2. MSHCP RAMU assessment.

In addition, the Project required a MSHCP Section 6.1.2 assessment and compliance with MSHCP Section 6.1.4.

The Property was located in the northwestern portion of Garner Valley in unincorporated Riverside County, approximately 3.5-aerial miles southeast of Mountain Center, and approximately 5.3-aerial miles south of Idyllwild. The Site address was 56475 Apple Canyon Road, Idyllwild, California, 92549 which was approximately 650-feet east of the Pines to Palms Highway 74 (Hwy 74) and Apple Canyon Road intersection. The Site was located immediately south of the County operated Hurkey Creek Park. *Figure 1 - Regional Map* (Page 3) and *Figure 2 - Vicinity Map* (Page 4) depict the location of the Property.

The Property was geographically located in Township 6 South, Range 3 East, in the southwest quarter of Section 4 of the Idyllwild 7.5 Minute United States Geological Survey (USGS) California Quadrangle as depicted by *Figure 3 - USGS Topographic Map* (Page 5). The Universal Transverse Mercator (UTM) coordinates of the center of the Property was Zone 11S; 529,870-meters East; 3,726,065-meters North; North American Datum 1983 (NAD83).

2.1 Project Area

The Project area was proposed in the eastern portion of APN 568-070-021. The western portion of APN 568-070-021, including the potentially jurisdictional area of Herkey Creek (spelled "Herkey" according to the USGS Topographic Map), and the entirety of APNs 568-070-006 and 568-070-007 will not be developed. Those areas will be avoided and remain as-is. All onsite and proposed development acreages throughout the remainder of this document were based on an AutoCAD file prepared by the Project's civil engineer JLC Engineering (JLC) that was converted for ArcGIS use by Searl Biological Services (SBS). According to the AutoCAD file, no offsite improvements are proposed as part of the Project. *Figure 4 - Project Area* (Page 6) depicts the surveyed Property boundary and the Project Footprint/Limits of Disturbance. According to JLC AutoCAD file, the Property totaled 37.97-acres¹ with APN 568-070-006 totaling 1.27-acres, APN 568-070-007 totaling 0.02-acre, and APN 568-070-021 totaling 36.68-acres. The total development footprint proposed for the Project was 15.91-acres. The Project site plan is attached in Appendix A.

¹ All acreages throughout this document were based on an AutoCAD file of the legal surveyed property boundary from JLC that was converted by SBS using ESRI ArcMap (GIS). Acreages may not be exact and may not match other sources (i.e., county APNs, Project site plans, etc.) due to the conversion process and the fact these acreages are based on a legal survey.

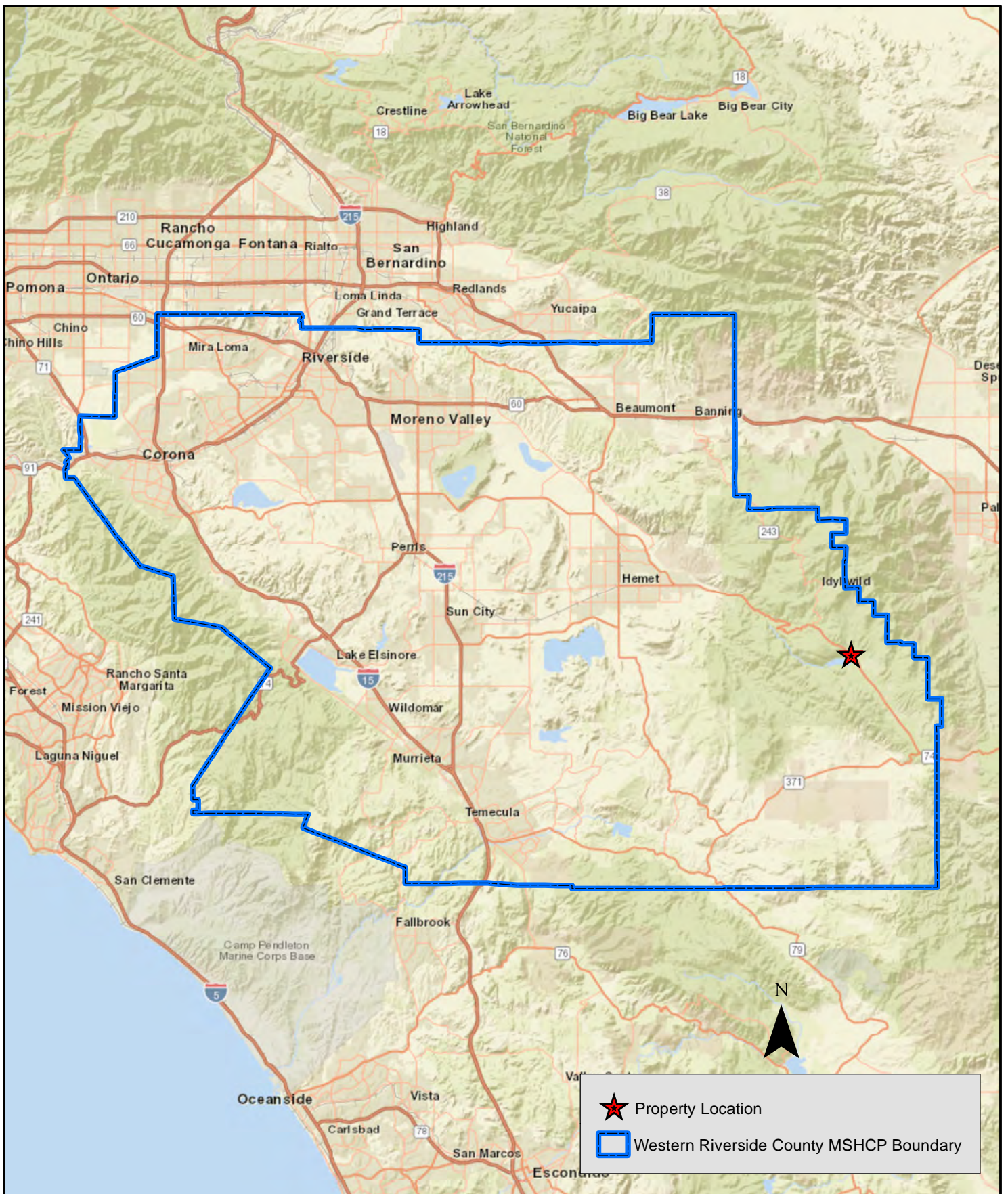


FIGURE 1
Regional Map



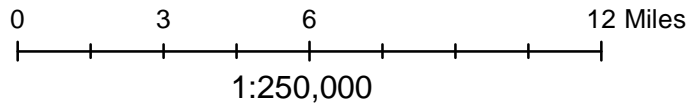
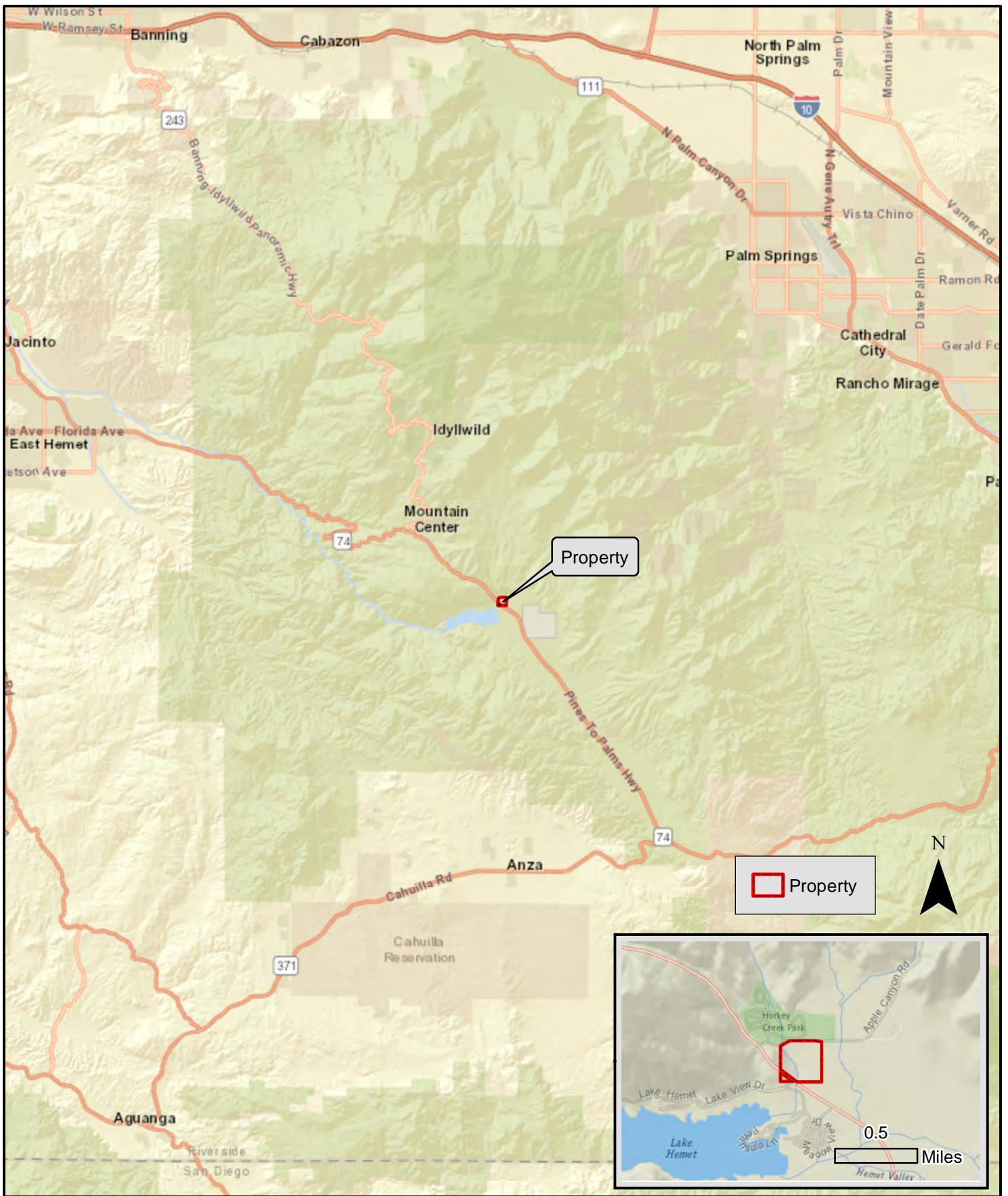


FIGURE 2
Vicinity Map



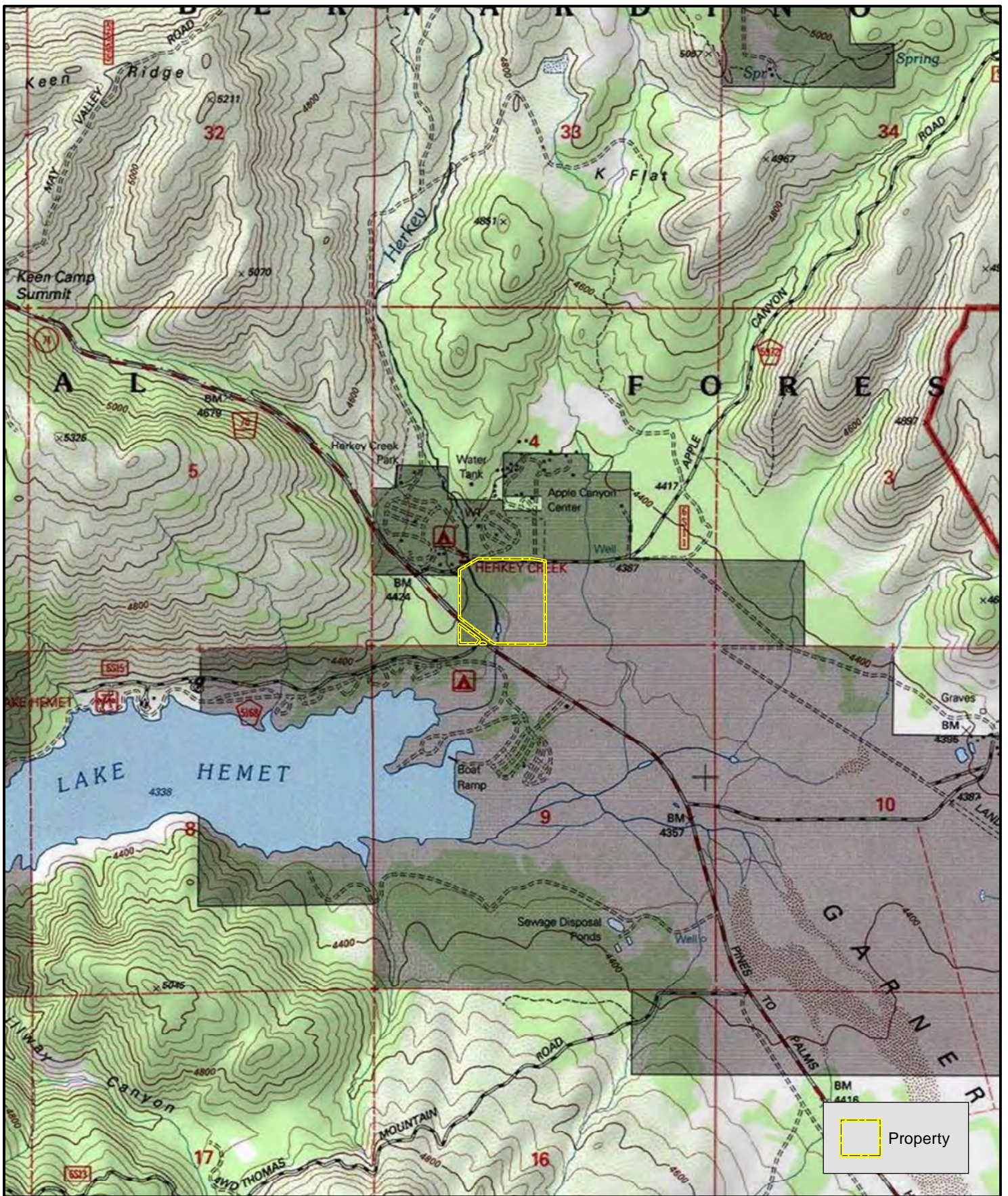
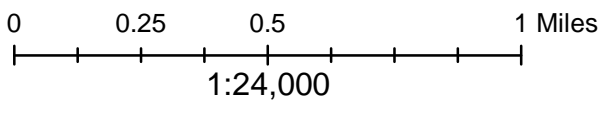
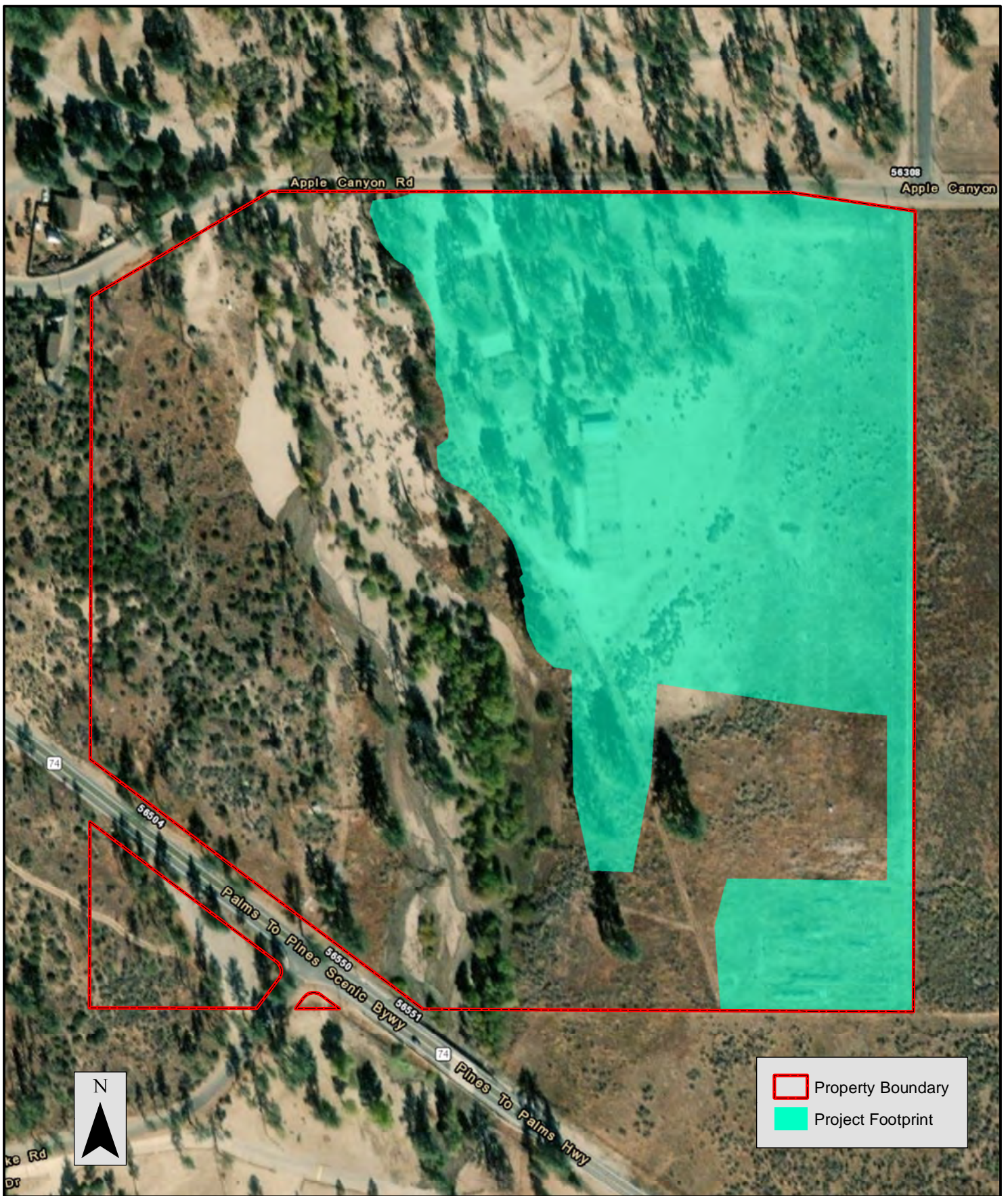


FIGURE 3
USGS Topographic
Map





56308

Apple Canyon Rd

Apple Canyon

74

56504

Pines to Pines Scenic Byway

56550

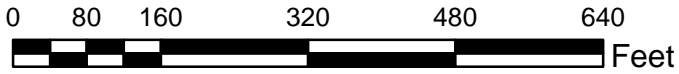
56551

74

Pines to Palms Hwy



Property Boundary
 Project Footprint



1 inch = 208 feet

FIGURE 4
Project Area



2.2 Project Description

GPA210006 proposes to amend the land use designation from Open Space: Rural (OS: RUR) to Open Space: Recreation (OS: R). CZ 2100014 proposes to change the Project site's zoning classifications of A-1-20 and NA-160 to Natural Assets (N-A). CUP210121 proposes the operation of an eco-conscious private guest ranch on approximately 37.97 gross acres. The Project proposes to construct guest cabins and guest tents, wellness cabins, wellness basecamp, activity hub with lap pool, dining area, health focused commercial kitchen, working greenhouse, apiary and fruit trees will contribute to a fully sustainable facility for guests to use and enjoy within the natural setting of the property.

The Project site will retain all the natural vegetation and all the existing large pine trees within its design. The ranch will offer a variety of self-development therapies and recreational activities. Recreational activities available to the guests will include but not limited to, hiking, mountain biking, horseback riding, rock climbing, and water activities at Lake Hemet. In addition, guests will be able to participate in cultural and environmental educational activities as part of the experience at the ranch.

2.3 Covered Roads

According to the RCA's MSHCP Information Application (Regional Conservation Authority, 2021), Pines to Palms Hwy 74 is designated as a "Mountain Arterial" Covered Road. The Project does not propose any improvements to Pines to Palms Hwy 74.

2.4 Covered Public Access Facilities

The Project does not entail the construction of, or improvements to, a Covered Public Access Facility.

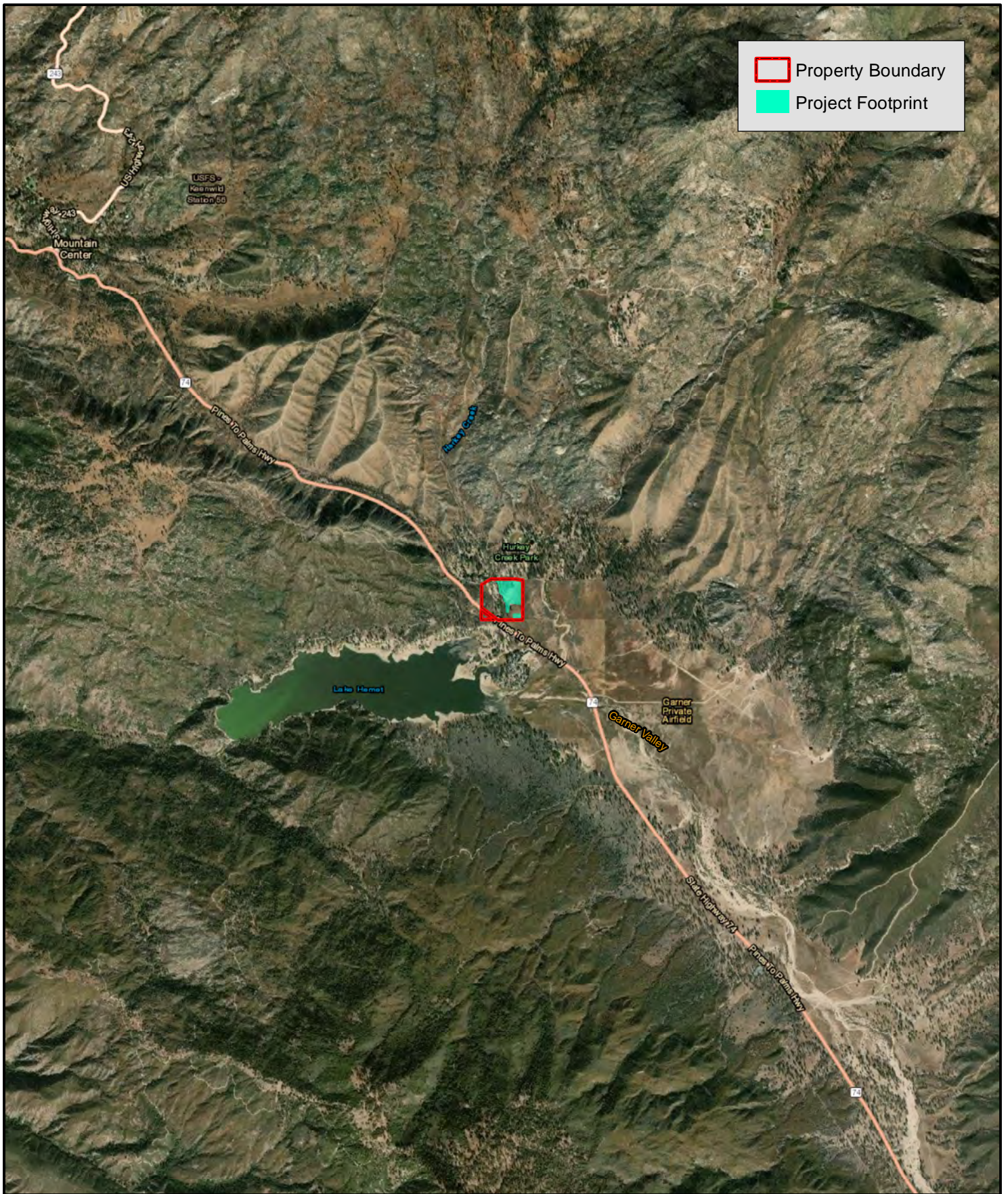
2.5 General Setting

The Property was located in the northwestern portion of Garner Valley in the San Jacinto Mountains. Primary land uses around the Property included campgrounds/public recreation areas (i.e., Lake Hemet, Hurkey Creek Park, U. S. Forest Service [USFS] San Bernardino National Forest [SBNF]), rangeland, and natural open space. Herkey Creek flows through the central portion of the Site in a north to south direction and is ultimately tributary to Lake Hemet. *Figure 5 – General Setting Aerial Photograph* (Page 8) depicts the setting of a 1:50,000-scale area around the Property.

3.0 RESERVE ASSEMBLY ANALYSIS

The MSHCP "...is a comprehensive, multi-jurisdictional Habitat Conservation Plan (HCP) focusing on Conservation of species and their associated Habitats in Western Riverside County" (Dudek & Associates, Inc., 2003). The MSHCP encompasses approximately 1.26 million acres of land that stretches from the crest of the San Jacinto Mountains west to the Orange County boundary. Ultimately, the MSHCP will result in the conservation of more than 500,000-acres (347,000-acres on existing Public/Quasi-Public Lands [PQP] and 153,000-acres of ARL) that focuses on the 146-species covered by the MSHCP (Dudek & Associates, Inc., 2003).

The MSHCP is a criteria-based plan of which the County's General Plan Area Plan boundaries were utilized to provide the broad organizational framework for the criteria (Dudek & Associates, Inc., 2003). A Conceptual Reserve Design (CRD) was sketched for each Area Plan using vegetation, planning species occurrence data, and biological issues and considerations as the primary criteria for the CRD (Dudek & Associates, Inc., 2003). After sketching the CRD, USGS quarter sections (i.e., approximate 160-acre cells) were then overlain on the CRD such that each "Criteria Cell" is an area in real space with a legal description (Dudek & Associates, Inc., 2003). Criteria Cells were then either aggregated into a Criteria Cell Group or retained as individual Criteria Cells based upon the level of conservation and configuration



Property Boundary
 Project Footprint

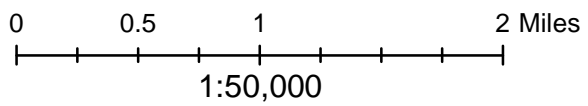


FIGURE 5
General Setting
Aerial Photograph

of the Criteria Cell or Criteria Cell Group (Dudek & Associates, Inc., 2003). Criteria Cells were assigned an identification number and each Criteria Cell Group was assigned a letter code. Conservation Criteria was drafted for each Criteria Cell or Criteria Cell Group to provide an explicit description of the areas to be targeted for conservation (Dudek & Associates, Inc., 2003). Those areas located outside of the designated Criteria Cells and/or Criteria Cell Groups are not targeted to be included within the 153,000-acres of ARL.

3.1 REMAP Area Plan

The Property was located in the REMAP. The REMAP extends east outside the boundary of the MSHCP. The portion of the REMAP that was within the MSHCP was approximately 317,829-acres (497-square miles). The SJVAP consisted of seven Subunits. The Property was not located within Subunit or a Criteria Cell, and therefore, was not targeted for ARL. Further, a Reserve Assembly Analysis was not required for the Project. Criteria Cell 5275 was the nearest to the Project and was located approximately 5.7-miles southwest of the Property. *Figure 6 – REMAP Area Plan and Subunits* (Page 10) depicts within the REMAP.

3.2 Public Quasi-Public Lands

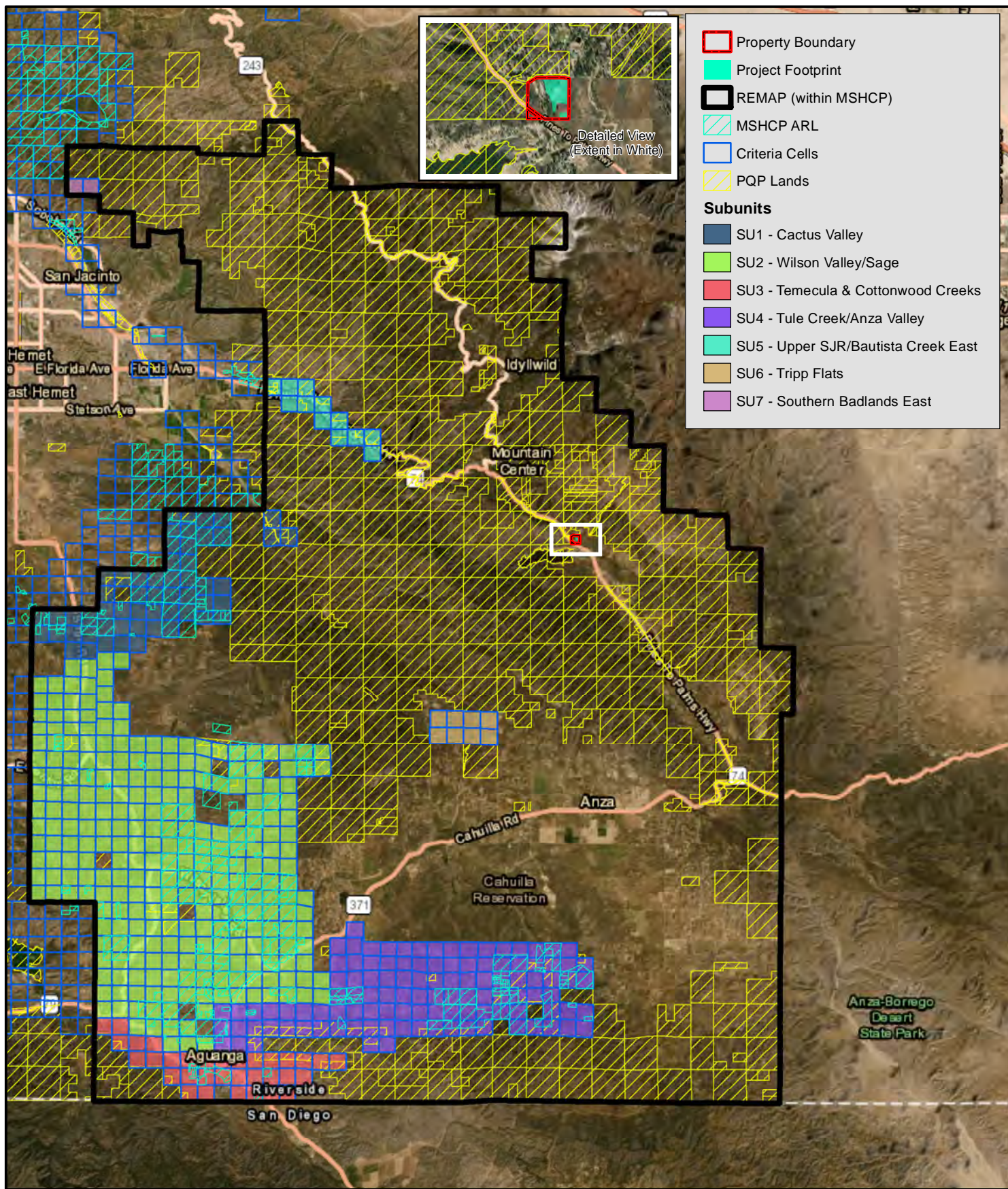
Though the Project was located immediately south and east of USFS land, it will not directly or indirectly impact those PQP Lands. The Project will avoid development in the western half of the Property, and the PQP Lands to the north consisted of Hurkey Creek Park which is consistently utilized by people for camping and recreation.

4.0 VEGETATION MAPPING

Vegetation community classifications are typically conducted in accordance with the California Department of Fish and Wildlife's (CDFW) Vegetation Classification and Mapping Program (VegCAMP) *List of Vegetation Alliances and Associations* (Natural Communities List) (California Department of Fish and Wildlife, 2021) and *A Manual of California Vegetation* (Sawyer, Keeler-Wolf, & Evens, 2009). Vegetation communities and land covers are mapped in the field utilizing both Collector for ArcGIS installed on a smart phone connected to an iSXBblue2+ GNSS submeter GPS receiver (Collector) and paper maps (i.e., aerial photographs and USGS topographic maps).

Some land cover types are not classified in the above-referenced sources (i.e., developed, ornamental, ruderal, etc.); therefore, each land cover is designated with a common name for the purpose of this report. A brief description of the vegetation communities/land covers present on the Property is presented below. The distribution of vegetation communities and land covers on the Property are depicted on *Figure 7 – Land Covers* (Page 11). The Property and Project acreages are provided in *Table 1 – Land Covers* (Page 12). A complete list of the flora observed on the Property prepared by botanist Fred Roberts is provided in Appendix B, and a complete list of the fauna observed on, above, or near the Property prepared by SBS is provided in Appendix C.

- **Bare Ground:** This land cover was an exposed sandy flat caused by high volume storm flows. The area supported little to no vegetation.
- **Chaparral/Coastal Sage Scrub:** This community was present in the western portion of the Property and consisted primarily of a mix of pointleaf manzanita (*Arctostaphylos pungens*) and Great Basin sage (*Artemisia tridentata*). Other occasional plants present included Jeffrey pine (*Pinus jeffreyi*), California coffeeberry (*Frangula californica*), and interior live oak (*Quercus wislizenii*).
- **Coastal Sage Scrub/Ruderal:** This community was a co-dominant mix Great Basin sage and cheat grass (*Bromus tectorum*). The understory consisted of dense non-native annual grasses and forbs



- Property Boundary
- Project Footprint
- REMAP (within MSHCP)
- MSHCP ARL
- Criteria Cells
- PQP Lands

Subunits

- SU1 - Cactus Valley
- SU2 - Wilson Valley/Sage
- SU3 - Temecula & Cottonwood Creeks
- SU4 - Tule Creek/Anza Valley
- SU5 - Upper SJR/Bautista Creek East
- SU6 - Tripp Flats
- SU7 - Southern Badlands East

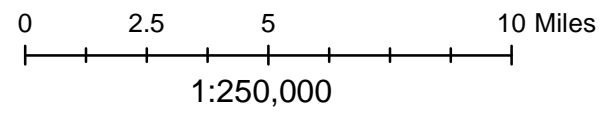


FIGURE 6
REMAP Area Plan
and Subunits

DATE: November 8, 2021
 COORDINATE SYSTEM: NAD 1983 State Plane California Zone VI (Feet)
 SOURCE: ESRI World Imagery, ESRI World Transportation, JLC,
 Riverside County GIS Data, RCA

PROJECT:
 The Ridge Wellness, Inc.
 CUP 210121 GPA 210006 CZ 2100014

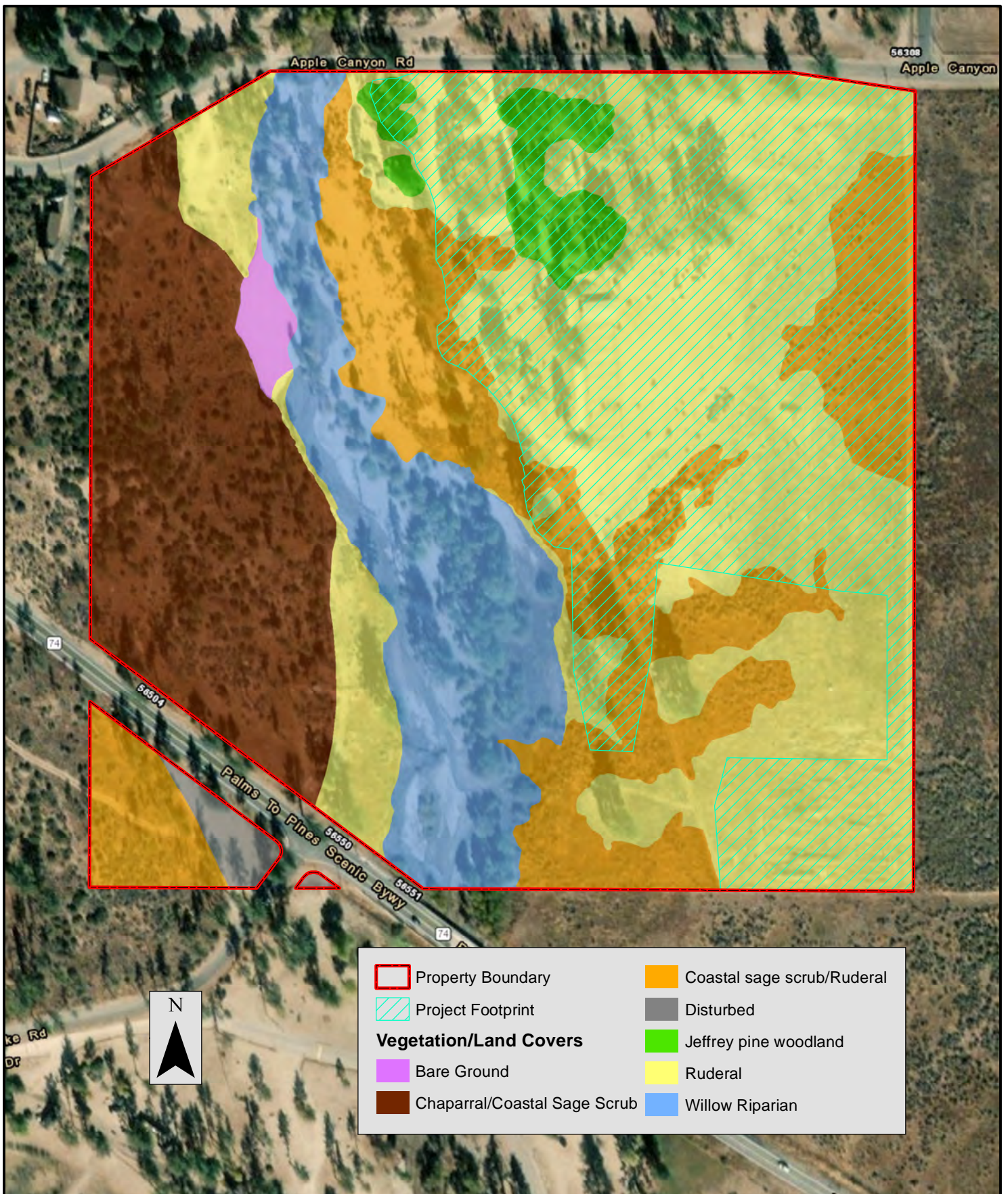
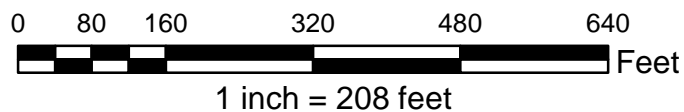


FIGURE 7
Land Covers



with cheat grass dominant, and associate species consisting of tumble mustard (*Sisymbrium altissimum*), shortpod mustard (*Hirschfeldia incana*), red-stemmed filaree (*Erodium cicutarium*), and rat-tail fescue (*Festuca myuros*). The community consisted of numerous native plants as well and included bastard sage (*Eriogonum wrightii*), sand aster (*Corethrogyne filaginifolia*), scarlet bugler (*Penstemon centranthifolius*), and slender popcorn flower (*Plagiobothrys tenellus*).

- **Disturbed:** This land cover consisted of compacted gravel and maintained road shoulder areas at the intersection of Hwy 74 and Hemet Lake Road. The gravel area was utilized often by motorists for parking and hikers, though the area was located on private Property.
- **Jeffrey Pine Woodland:** Jeffrey pine woodland consisted of areas where three or more Jeffrey pines were present with an interconnect canopy. This was present in the northern portion of the Property. Numerous Jeffrey pines were present throughout the Property but were scattered and typically occurred as a single tree or two trees. Also, numerous snag Jeffrey pines were also present and were more common near Herkey Creek. The understory primarily consisted of bastard sage, Great Basin sage, cheat grass, and scarlet bugler.
- **Ruderal:** Ruderal was the dominant community on the Property and was comprised primarily of non-native annual grasses and forbs with cheat grass dominant. The vegetation was low-growing and supported very few sage scrub species and native annuals.
- **Willow Riparian:** This riparian community was present along Herkey Creek with arroyo willow (*Salix lasiolepis*), red willow (*Salix laevigata*), and arroyo/red willow hybrids dominant. Narrow-leaved willow (*Salix exigua*) was also common throughout. Much of the willow associated with the bed and bank of Herkey Creek was in recovery due to recent storm flows that appeared to have washed out much of the perennial vegetation.

Table 1 – Land Covers

COMMON NAME/VEGCAMP COMMUNITY	PROPERTY ACRES	PROJECT ACRES
Bare Ground No corresponding VegCAMP Alliance	0.32	0
Chaparral/Coastal Sage Scrub VegCAMP Alliance 37.310.00 Pointleaf manzanita – pink-bract manzanita chaparral	6.41	0
VegCAMP Alliance 35.110.00 Big Sagebrush Coastal Sage Scrub/Ruderal	8.34	3.21
VegCAMP Alliance 42.020.00 Cheatgrass – medusahead grassland		
Disturbed No corresponding VegCAMP Alliance	0.35	0

COMMON NAME/VEGCAMP COMMUNITY	PROPERTY ACRES	PROJECT ACRES
Jeffrey Pine Woodland VegCAMP Alliance 87.020.00 Jeffrey pine forest and woodland VegCAMP Association 87.020.32 <i>Pinus jeffreyi</i> / <i>Artemisia tridentata</i> / <i>Penstemon centranthifolius</i>	1.11	1.00
Ruderal VegCAMP Alliance 42.020.00 Cheatgrass – medusahead grassland VegCAMP Association 42.020.01 <i>Bromus tectorum</i>	15.95	11.70
Willow Riparian VegCAMP Alliance 61.216.00 Goodding's willow – red willow riparian woodland and forest VegCAMP Association 61.205.02 <i>Salix laevigata</i> / <i>Salix lasiolepis</i> ²	5.49	0
TOTAL	37.97	15.91

5.0 PROTECTION OF SPECIES ASSOCIATED WITH RIPARIAN/RIVERINE AREAS AND VERNAL POOLS (SECTION 6.1.2)

Section 6.1.2 *Protection of Species Associated with Riparian/Riverine Areas and Vernal Pools* (MSHCP Section 6.1.2) of the MSHCP requires all subject properties under the jurisdiction of the MSHCP that are proposing a land use change/applying for a discretionary permit to conduct a MSHCP Section 6.1.2 assessment. This includes a habitat assessment for Riparian/Riverine Areas, Vernal Pools, three fairy shrimp species; 1) Riverside fairy shrimp (*Streptocephalus woottoni*) (RFS), 2) vernal pool fairy shrimp (*Branchinecta lynchi*) (VPFS), and 3) Santa Rosa Plateau fairy shrimp (*Linderiella santarosae*) (SRPFS), and three bird species; 1) Least Bell’s Vireo (*Vireo bellii pusillus*) (LBVI), 2) Southwestern Willow Flycatcher (*Empidonax traillii extimus*) (SWFL), and 3) Western Distinct Population Segment (DPS)³

² This community is considered “Sensitive” by CDFW VegCAMP.

³ Distinct Population Segment: In addition to the listing and delisting of species and subspecies, the ESA [Endangered Species Act] allows the listing/delisting of Distinct Population Segments of vertebrate species (i.e., animals with backbones, mammals, birds, fish, reptiles, and amphibians). A Distinct Population Segment is a portion of a species' or subspecies' population or range. The Distinct Population Segment is described geographically instead of biologically, such as "all members of XYZ that occur north of 40 north latitude" (U. S. Fish and Wildlife Service - Pacific Region, 2019).

Yellow-billed Cuckoo (*Coccyzus americanus*) (YBCU). If the assessment identifies suitable habitat for any of the six-species associated with Riparian/Riverine Areas and Vernal Pools listed above, and the proposed project design does not incorporate avoidance of the identified habitat, focused surveys would be required, and avoidance and minimization measures will be implemented in accordance with the MSHCP's species-specific objectives for these species.

5.1 Riparian/Riverine Areas

According to MSHCP Section 6.1.2:

Riparian/Riverine Areas are lands which contain Habitat dominated by trees [trees], shrubs, persistent emergents, or emergent mosses and lichens, which occur close to or which depend upon soil moisture from a nearby fresh water source; or areas with fresh water flow during all or a portion of the year.

5.1.1 Methods

Office Review

Prior to initiating the field assessment, SBS conducted a review and analysis of the Idyllwild 7.5 Minute USGS California Quadrangle, historic aerial photography from Historic Aerials online (Historic Aerials by Netronline, 2021) and Google Earth, the U. S. Fish and Wildlife Service (USFWS) National Wetland Inventory (NWI), and the United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) Web Soil Survey.

SBS also conducted a query of both the California Natural Diversity Database (CNDDDB) and the USFWS Carlsbad Fish and Wildlife Office (CFWO) "Species Occurrence Data" GIS data to determine if the three-targeted fairy shrimp and/or three-targeted bird species listed above in Section 5.0 have been documented within five miles of the Property.

After performing the field assessment, SBS performed a Wetlands Climate Tables (WETs) analysis to determine the precipitation climatic conditions (i.e., drought, dry, normal, etc.) at the time of the assessment.

Riparian/Riverine Area Field Mapping Assessment

A potential Riparian/Riverine Area is walked and mapped with Collector, recording a vertex for every two feet traveled, as either a polyline and/or polygon depending on the habitat type (i.e., Riparian vs. Riverine) and the width of the feature⁴. The jurisdictional extent of a Riparian/Riverine Area is typically the dripline⁵ of the riparian vegetation associated with the water feature if present, or the top of the streambank in the absence of riparian vegetation⁶. Data collected while walking the potential Riparian/Riverine Area includes characteristics and functions such as hydrology, soils/substrates, dominant plant species/vegetation community, biological functions and values, presence/absence regarding the species listed in MSHCP Section 6.1.2, habitat suitability for LBVI, SWFL, YBCU, RFS, VPFS, SRPFS, and whether the feature contributes to downstream resources for MSHCP Section 6.1.2 species and/or MSHCP Conservation Areas.

⁴ Any feature \leq to three feet in width, or lacking a discernable bed and bank, is mapped as a polyline and given a mean width. The feature is then calculated and depicted in ArcGIS by utilizing the Buffer tool to represent the mean width.

⁵ The area defined by the outermost circumference of a tree canopy where water drips from and onto the ground.

⁶ The jurisdictional limits of a Riparian/Riverine Area generally coincide with that of CDFW 1600 streambeds. Though if a feature lacks riparian vegetation, a Riparian/Riverine Area must contribute to downstream resources to meet the criteria, unlike CDFW 1600 streambeds where CDFW may potentially assert jurisdiction over isolated streambeds regardless of it being vegetated or unvegetated.

Field Assessment Dates and Weather Conditions

The MSHCP Section 6.1.2 assessment was conducted by biologists Tim Searl and Jason Caskey (Caskey Biological Consulting) on April 23, 2021. Detailed survey information and conditions are presented in *Table 2 - MSHCP Section 6.1.2 Assessment Conditions* (Page 16).

5.1.2 Existing Conditions and Results

Watershed Location

The Property was located within the southeastern headwaters of the Santa Ana Watershed (HUC6 180702) within the following sub-watersheds: eastern portion of the San Jacinto Watershed (HUC8 18070202), in the eastern portion of the Upper San Jacinto River Watershed (HUC10 1807020203), in the western portion of the Upper South Fork San Jacinto River Watershed (HUC12 180702020301). *Figure 8 – Watershed Location* (Page 17) depicts the Property’s location within each of these Hydrologic Units.

Office Review

Historic Aerial Photography Analysis

Georeferenced historic aerial photographs from 1978 and 1979 were purchased from Netronline. Google Earth images were reviewed from 1985 to 2021 with images downloaded and georeferenced by SBS from February 2018 and December 2019. The overall result of the historical analysis indicates that the Property has been maintained in a relatively similar condition for over 40 years.

1978/1979

In 1978/79 much of the Property was similar to current conditions with less riparian habitat associated with Herkey Creek and coastal sage scrub habitat east of the creek. It is highly likely, given the Site’s location and historical use of the Garner Valley area, that the Site was utilized for cattle grazing. A crossing appears to be present in the southern portion of the creek with small structures located west of that area. The structures may have been a watering station for cattle and the crossing a path cattle would regularly utilize. *Figure 9 – 1978/1979 Aerial Photograph* (Page 18) depicts the Property with most of the image being from 1978. A small portion of the eastern edge of the Property was from 1979 due to the 1978 aerial image not covering the entire Property.

2018

In February 2018, Herkey Creek appeared to support more vegetation than was present currently, particularly vegetation associated with the associated floodplain. Less exposed sandy substrates were visible indicating that the creek was largely confined to the active flow area. Riparian trees and shrubs are difficult to discern due to the image being taken in February when those deciduous plants are typically lacking much of their foliage. *Figure 10 – 2018 Aerial Photograph* (Page 19) depicts the Property conditions.

2019

The west-facing area of the San Jacinto Mountains experienced high volume rain events during the rainy season of 2019. The floodplain of Herkey Creek on the Property was clearly more extensive and identical to the current conditions. Creek water flow is clearly visible and storm flows have clearly washed out much of the vegetation and deposited and exposed sandy floodplain areas. *Figure 11 – 2019 Aerial Photograph* (Page 20) depicts the Property conditions.

NWI

According to the NWI, which utilized an aerial photograph from 1985 as its base to map potential wetland resources, Herkey Creek on the Property consisted of a Freshwater Emergent Wetland, Freshwater Forested/Shrub Wetland, and Riverine habitat. *Figure 12 – NWI* (Page 21) depicts the NWI data. The

Table 2 – MSHCP Section 6.1.2 Assessment Conditions⁷

DATE	FIELD PERSONNEL	SURVEY TIME	TEMPERATURE	HUMIDITY	% CLOUD COVER	WIND SPEED	ANNUAL PRECIPITATION TO-DATE ⁸
4/23/2021	Tim Searl Jason Caskey	0630-1330	41-69	80-49	0-0	3-2	6.64

This portion of the document left blank intentionally

⁷ Temperature (Degrees Fahrenheit), Humidity (Relative; %), and Wind Speed (mean miles per hour) were obtained in the field with a Kestrel 3500 weather meter.

⁸ Annual Precipitation (July 01 to June 30) To-Date was obtained from PWS Weather Station F6108 located at Lake Hemet (PWS Weather, 2021).

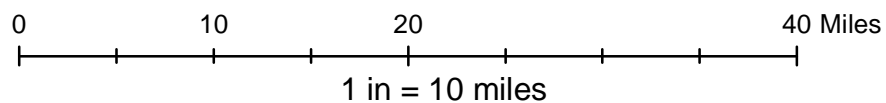
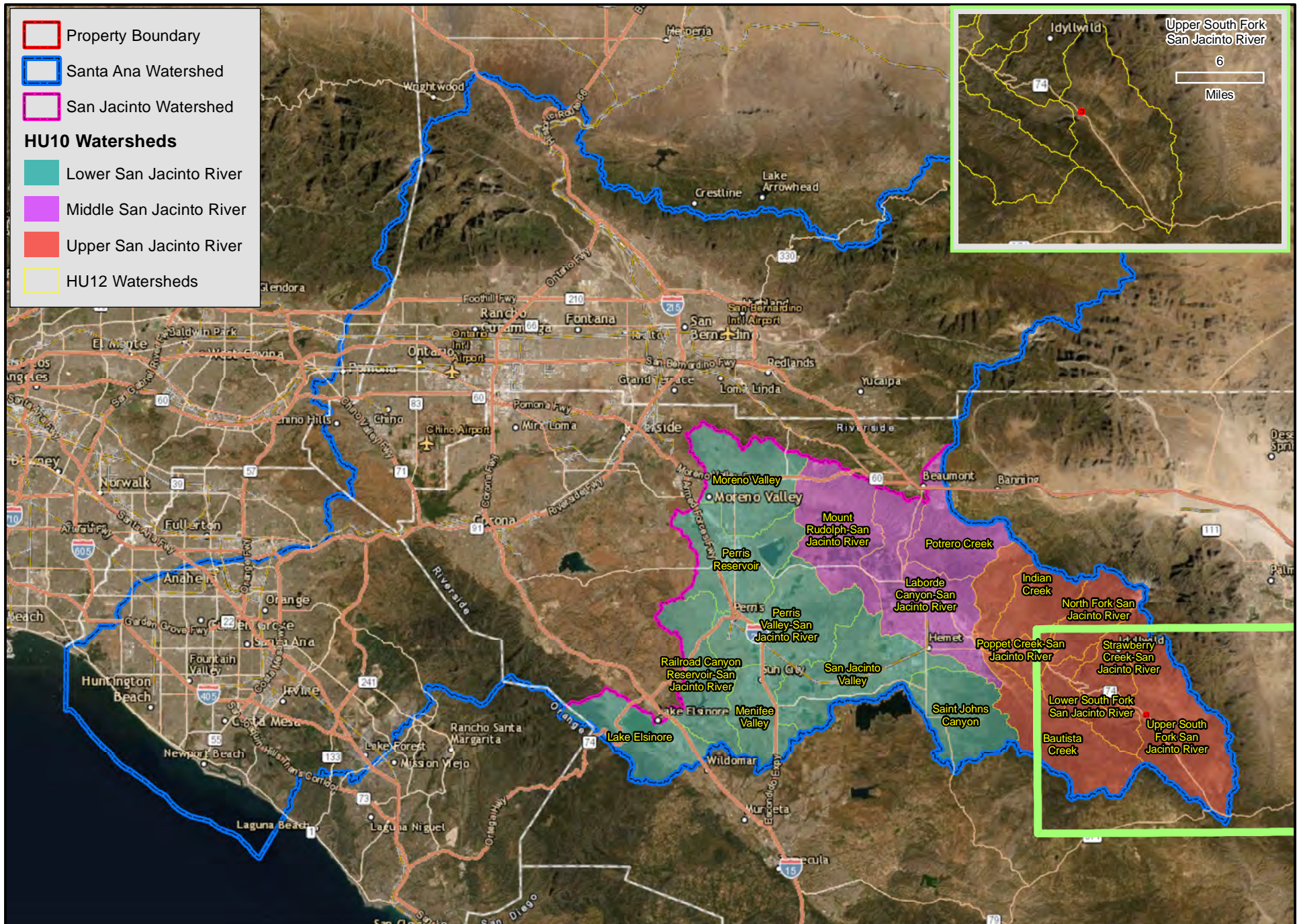


FIGURE 8
Watershed Location

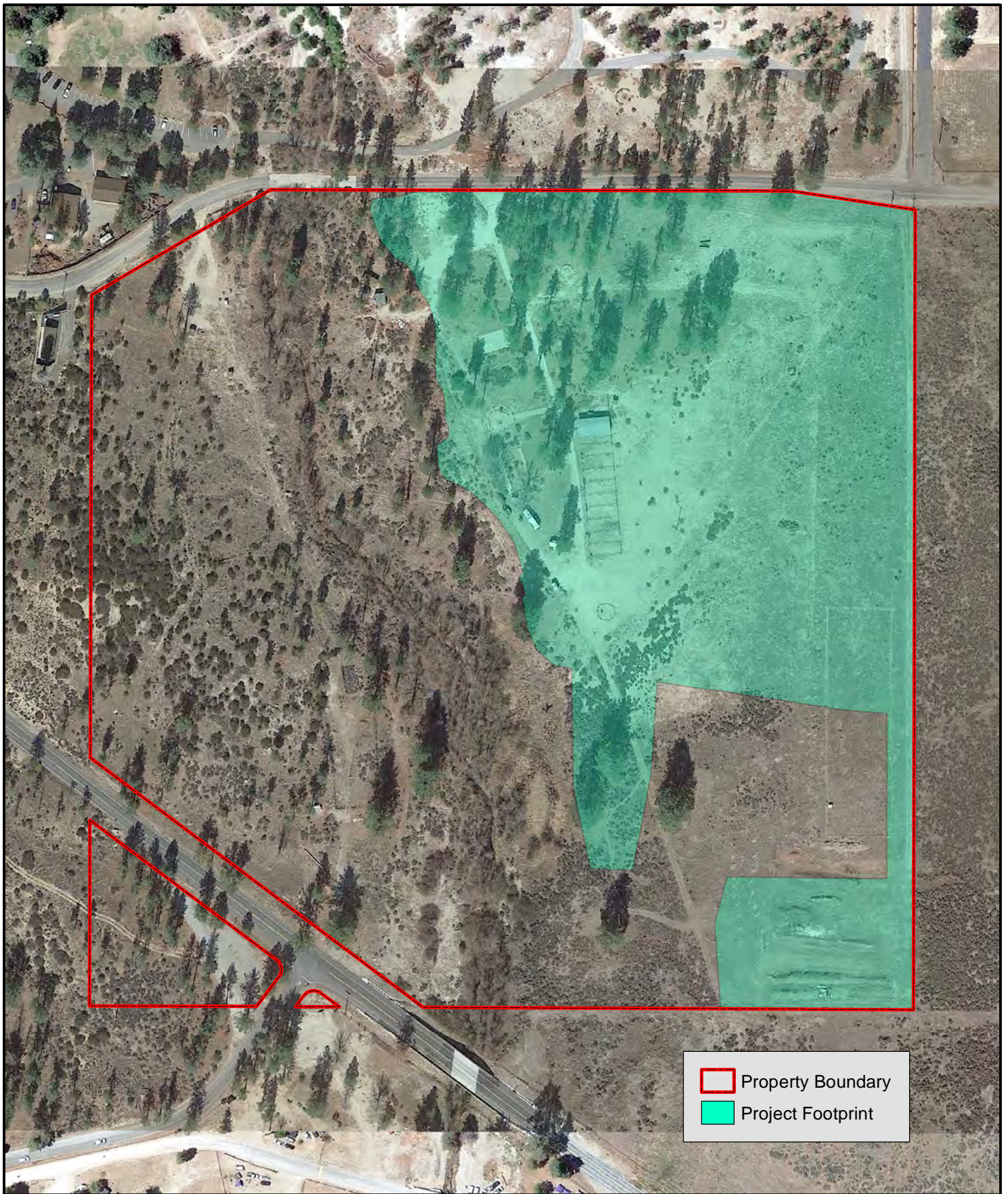


Property Boundary
Project Footprint



0 80 160 320 480 640
Feet
1 inch = 208 feet

FIGURE 9
1978/1979
Aerial Photograph



Property Boundary
 Project Footprint

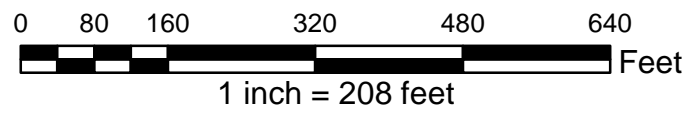
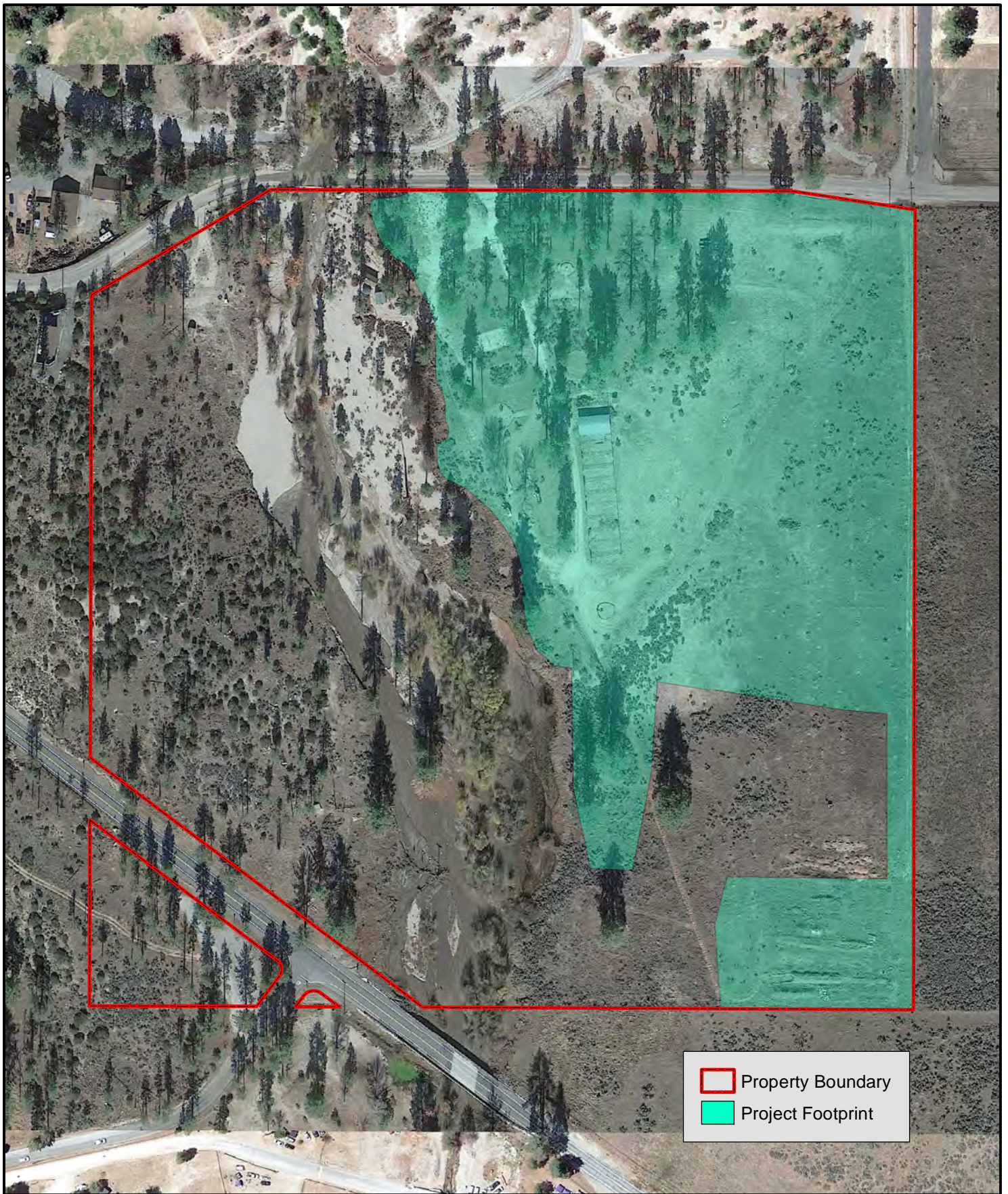




FIGURE 10
2018 Aerial
Photograph



	Property Boundary
	Project Footprint

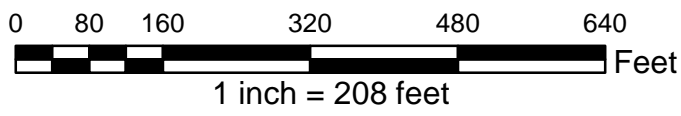
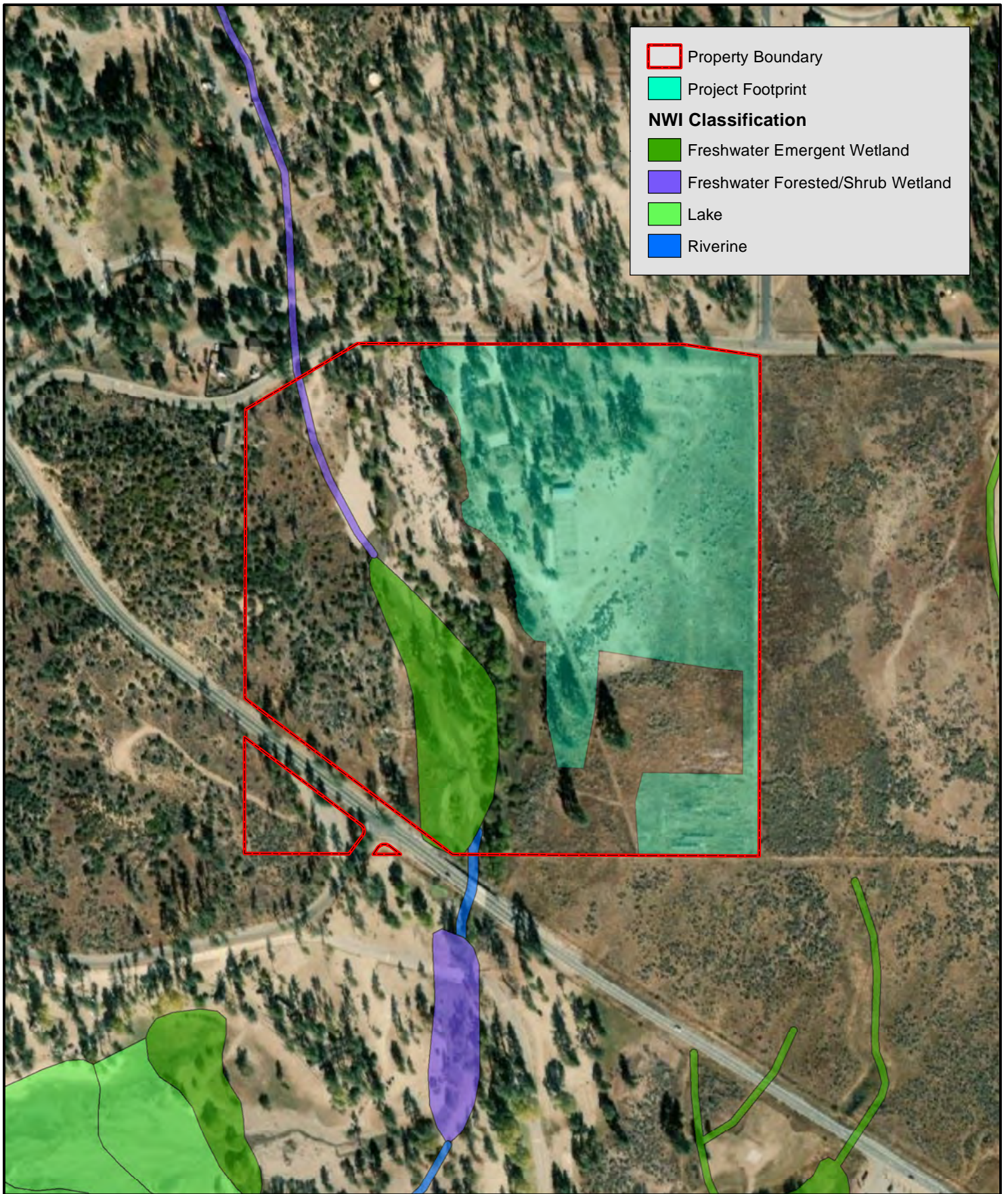


FIGURE 11
2019 Aerial
Photograph



	Property Boundary
	Project Footprint
NWI Classification	
	Freshwater Emergent Wetland
	Freshwater Forested/Shrub Wetland
	Lake
	Riverine

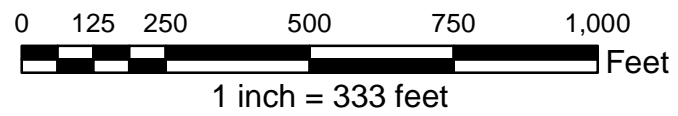


FIGURE 12
NWI

Classification of Wetlands and Deepwater Habitats of the United States (Federal Geographic Data Committee (FGDC), 2013) defines those wetland types as follows:

- **Emergent Wetland**
“In this wetland Class, emergent plants—i.e., erect, rooted, herbaceous hydrophytes, excluding mosses and lichens—are the tallest life form with at least 30% areal coverage. This vegetation is present for most of the growing season in most years. These wetlands are usually dominated by perennial plants”.
- **Forested Wetland**
“In Forested Wetlands, trees are the dominant life form—i.e., the tallest life form with at least 30 percent areal coverage. Trees are defined as woody plants at least 6 m (20 ft) in height”.
- **Shrub Wetland**
“In Scrub-Shrub Wetlands, woody plants less than 6 m (20 ft) tall are the dominant life form—i.e., the tallest life form with at least 30 percent areal coverage. The “shrub” life form actually includes true shrubs, young specimens of tree species that have not yet reached 6 m in height, and woody plants (including tree species) that are stunted because of adverse environmental conditions”.
- **Riverine**
“The Riverine System includes all wetlands and deepwater habitats contained within a channel, with two exceptions: (1) wetlands dominated by trees, shrubs, persistent emergents, emergent mosses, or lichens, and (2) habitats with water containing ocean-derived salts of 0.5 ppt or greater. A channel is “an open conduit either naturally or artificially created which periodically or continuously contains moving water, or which forms a connecting link between two bodies of standing water”.

Query Results

According to the CFWO and CNDDDB, the six targeted MSHCP Section 6.1.2 species have not been reported within five miles of the Property.

Natural Resources Conservation Service Soils

According to the United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) Web Soil Survey (United States Department of Agriculture Natural Resources Conservation Service, 2021), the Property consisted of nine soil series as depicted by *Figure 13 – NRCS Soils* (Page 23). A brief description, as described by the NRCS, is presented below. Acreages are provided in *Table 3 – NRCS Soils* (below). No hydric, clay, or saline-alkali soils series were present on the Property.

- **Oak glen-rush families complex, 2 to 15 percent slopes (OmD):** A well-drained complex with alluvium parent material. The depth to the restrictive feature and water table is more than 80-inches. The frequency of ponding, according to the NRCS, is none.
- **Oak Glen-Morical, very deep families complex, 2 to 30 percent slopes (SoDE):** A well-drained complex with alluvium parent material. The depth to the restrictive feature and water table is more than 80-inches. The frequency of ponding, according to the NRCS, is none.

Table 3 – NRCS Soils

SOIL	PROPERTY ACRES	PROJECT ACRES
OmD	30.99	15.91
SoDE	6.98	0
TOTAL	37.97	15.91

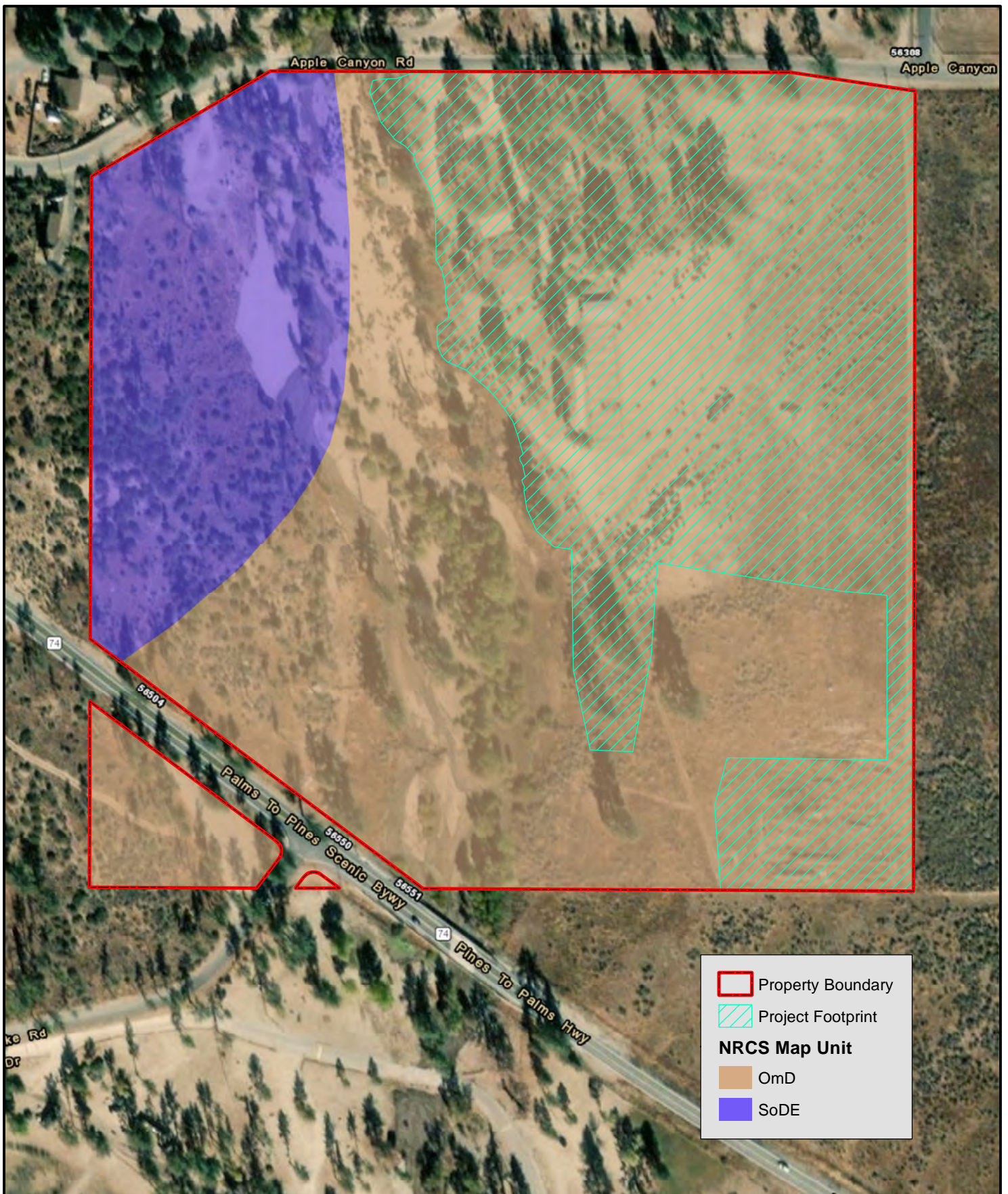
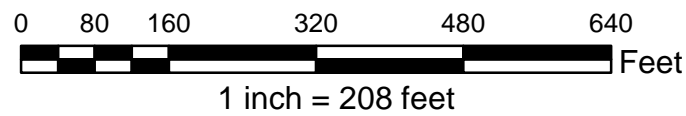


FIGURE 13
NRCS Soils



Riparian/Riverine Areas Results

SBS personnel identified one feature, Herkey Creek, which meets the criteria of a Riparian/Riverine Area based on the definition provided above in Section 5.1. *Table 4 – Herkey Creek Riparian/Riverine Areas (Acres)* (below) provides the area in acres for the active flow area (i.e., ordinary high-water mark [OHWM]), riparian habitat and its associated canopy, and the extent of the entire bed and bank for the recently active floodplain of Herkey Creek. *Figure 14 – Herkey Creek MSHCP Section 6.1.2 Riparian/Riverine Areas* (Page 25) depicts the location and extent of the areas listed above. The Project will avoid impacts to the Riparian/Riverine Areas. Appendix D depicts photographic key maps and a collection of assessment photographs.

An analysis of the WETs, with the results provided in Appendix E, indicated that the Property’s location was experiencing severe drought conditions during the April field assessment; however, the field work was conducted during normal conditions. Below is a summary of the features within the Property.

Table 4 – Herkey Creek Riparian/Riverine Areas (Acres)

FEATURE ID	OHWM	RIPARIAN HABITAT	BED AND BANK
Herkey Creek	0.79	5.49	8.09

Herkey Creek

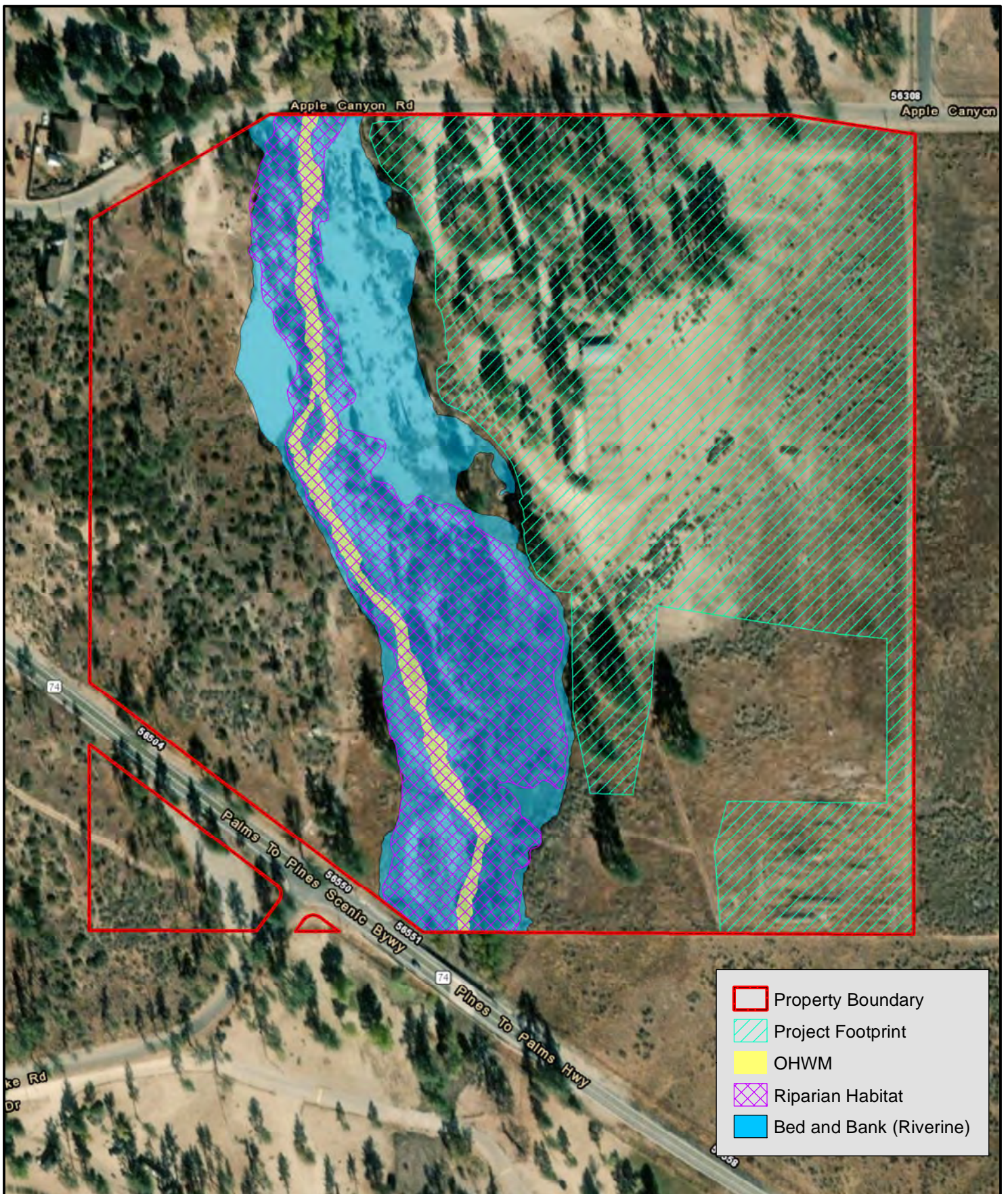
Herkey Creek was a large, perennial tributary that discharged into Lake Hemet. The headwaters were located approximately 5.5-miles north of the Property near Tahquitz Peak. As described in the historical section above, the west-facing slope of the San Jacinto Mountains experienced high volume rain events in 2019, particularly in February and March. These rains and the resulting flows caused the closure of Hwy 74 for over a year. The result of these flows on the Property were that the bed and bank now nearly extend to the 100-year floodplain limits.

Herkey Creek flowed in a southerly direction on the Property. It entered the Property via an Arizona crossing on Apple Canyon Road and exited the Property before flowing under a bridge at Hwy 74. The riparian community associated with the creek consisted primarily of willow riparian with arroyo, red, arroyo/red hybrids, and narrow-leaved willow dominant. The larger willow trees and shrubs withstood the 2019 flows; however, much of the riparian vegetation was washed out and in recovery, particularly along the OHWM. The riparian community, especially in the southern half of the Property, provides suitable habitat for all three bird species; LBVI, SWFL, and YBCU, however, the Site is likely located outside of the elevational range for LBVI. Soils throughout primarily consisted of coarse sand with some cobbles and larger rocks present along the OHWM. Herkey Creek contributes to downstream MSHCP resources and would be expected to be subject to MSHCP Section 6.1.2 Riparian/Riverine Areas policies.

Although it is posted on the Property “No Trespassing,” SBS personnel observed footprints from suspected trespassers coming from both Herkey Creek Park to the north, and from the Lake Hemet Campground to the south. Additionally, people were observed walking within Herkey Creek from Lake Hemet and only turned back once SBS personnel were observed.

5.1.3 Impacts

The Applicant, Architect, and Engineer designed the proposed Project to avoid impacts to Herkey Creek and will avoid the entire breadth of the potential MSHCP Section 6.1.2 Riparian/Riverine Area as depicted by Figure 14.



- Property Boundary
- Project Footprint
- OHWM
- Riparian Habitat
- Bed and Bank (Riverine)

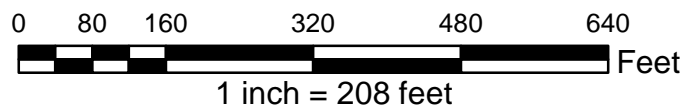


FIGURE 14
Herkey Creek
MSHCP Section 6.1.2
Riparian/Riverine Areas

5.1.4 Mitigation

The Project will place a “no impact/avoidance area” deed restriction over the MSHCP Section 6.1.2 Riparian/Riverine Area. The deed restriction will demonstrate that the areas will be avoided, and no impacts will occur from the Project. The deed restriction will be finalized as a condition of Project approval by the County.

5.2 Vernal Pools

According to MSHCP Section 6.1.2:

Vernal pools are seasonal wetlands that occur in depression areas that have wetlands indicators of all three parameters (soils, vegetation and hydrology) during the wetter portion of the growing season but normally lack wetlands indicators of hydrology and/or vegetation during the drier portion of the growing season. Obligate hydrophytes and facultative wetlands plant species are normally dominant during the wetter portion of the growing season, while upland species (annuals) may be dominant during the drier portion of the growing season. The determination that an area exhibits vernal pool characteristics, and the definition of the watershed supporting vernal pool hydrology, must be made on a case-by-case basis. Such determinations should consider the length of the time the area exhibits upland and wetland characteristics and the manner in which the area fits into the overall ecological system as a wetland. Evidence concerning the persistence of an area’s wetness can be obtained from its history, vegetation, soils, and drainage characteristics, uses to which it has been subjected, and weather and hydrologic records.

5.2.1 Methods

The perimeter of a potential Vernal Pool is walked and mapped by creating a polygon utilizing Collector. Data collected while walking each potential Vernal Pool feature includes plant species composition, presence/absence of standing water, evidence of potential ponding (i.e., cracked mud), functions and values, presence/absence regarding the species listed in MSHCP Section 6.1.2, and habitat suitability for RFS, VPFS, SRPFS.

5.2.2 Existing Conditions and Results

No evidence of vernal pools was recorded on the Property. Vernal pools are depressions in areas where a hard-underground layer prevents rainwater from draining downward into the subsoils. When rain fills the pools in the winter and spring, the water collects and remains in the depressions. In the springtime, the water gradually evaporates away, until the pools become completely dry in the summer and fall. Vernal pools tend to have an impermeable layer that results in ponded water. The soil texture (i.e., the amount of sand, silt, and clay particles) typically contains higher amounts of fine silts and clays with lower percolation rates. Pools that retain water for a sufficient length of time will develop hydric cells. Hydric cells form when the soil is saturated from flooding for extended periods of time and anaerobic conditions (i.e., lacking oxygen or air) develop. None of these conditions (i.e., no depressions, hydric soils, etc.) were observed on the Site and the soils consisted of sandy/loams that do not retain water.

5.2.3 Impacts

No Vernal Pool impacts will occur due to the lack of Vernal Pools on the Property.

5.2.4 Mitigation

No Vernal Pool mitigation is required. The Project is consistent with the Vernal Pool section of MSHCP Section 6.1.2.

5.3 Fairy Shrimp

According to Section 6.1.2 of the MSHCP:

Fairy Shrimp For Riverside, vernal pool and Santa Rosa fairy shrimp, mapping of stock ponds, ephemeral pools and other features shall also be undertaken as determined appropriate by a qualified biologist.

5.3.1 Methods

The perimeter of a potential Fairy Shrimp Habitat feature is walked and mapped by creating a polygon utilizing Collector. Data collected while walking each potential Fairy Shrimp feature includes plant species composition, presence/absence of standing water, evidence of potential ponding (i.e., cracked mud), functions and values, presence/absence regarding the species listed in MSHCP Section 6.1.2, and habitat suitability for RFS, VPFS, SRPFS.

5.3.2 Existing Conditions and Results

No suitable habitat for fairy shrimp was detected on the Property. Similar to the vernal pool assessment, no features were detected that would support fairy shrimp. The soils within the Property consisted entirely of sandy loams, and no evidence of seasonal ponding was detected throughout.

5.3.3 Impacts

No Fairy Shrimp impacts will occur due to the lack of Fairy Shrimp habitat on the Property.

5.3.4 Mitigation

No Fairy Shrimp mitigation is required. The Project is consistent with the Fairy Shrimp section of MSHCP Section 6.1.2.

5.4 Riparian Birds

5.4.1 Methods

Potentially suitable habitat for LBVI, SWFL, and/or YBCU are mapped in the field utilizing Collector. Habitat assessments are conducted by SWFL and YBCU permitted biologist Tim Searl (Permit Number: TE02351A-1).

A polygon is created in the field utilizing Collector while walking the perimeter of potentially suitable habitat for riparian birds. Data collected while assessing the potential habitat includes characteristics such as vegetation community, dominant plant species present, plant densities, and presence or absence of surface water.

5.4.2 Existing Conditions and Results

The Property supported 5.49-acres of suitable habitat for LBVI, SWFL, and YBCU; however, as noted above, the Property was likely located outside of the elevational range for LBVI. The willow riparian habitat, particularly in the southern half of the Property, was dense in some locations. Much of the riparian habitat lacked an understory of vegetation however, which was likely the result of the storm flows in 2019. SBS anticipates that the riparian habitat, particularly the understory of narrow-leaved willow and mule fat (*Baccharis salicifolia* subsp. *salicifolia*) will recover and provide even higher quality habitat for SWFL and YBCU over time. The MSHCP targeted riparian bird species were not confirmed on the Property, but SBS personnel did detect other riparian associated neotropical migrant bird species such as Dusky Flycatcher (*Empidonax oberholseri*), Pacific-slope Flycatcher (*Empidonax difficilis*), and Wilson's Warbler (*Cardellina pusilla*).

5.4.3 Impacts

No impacts will occur to Riparian Birds due to the Project avoiding the Riparian Bird habitat.

5.4.4 Mitigation

No Riparian Bird mitigation is required. The Project is consistent with MSHCP Section 6.1.2.

6.0 PROTECTION OF NARROW ENDEMIC PLANT SPECIES (SECTION 6.1.3)

6.1 MSHCP Background and Objectives

The MSHCP specifically covers 63 rare plant species through the implementation of the species-specific objectives outlined by the MSHCP. The NEPS are those species that information regarding the distribution and presence throughout western Riverside County was considered insufficient to ensure their long-term conservation. Therefore, the MSHCP established 10 NEPS “survey areas” based on historic records, soils, and habitats where these 14-plant species could potentially occur. All public and private projects located within any of these survey areas must, in the least, conduct a habitat assessment. If suitable habitat is determined to be present, then focused surveys must be performed.

According to the MSHCP:

For Narrow Endemic Plant Species populations identified as part of the survey process described above, impacts to 90% of those portions of the property that provide for long-term conservation value of the identified Narrow Endemic Plant Species shall be avoided until it is demonstrated that conservation goals for the particular species are met. Avoidance shall not be considered to be Conservation contributing to Reserve Assembly unless the avoided populations are acquired and managed as Additional Reserve Lands. Individual species conservation goals are presented in Section 9.0 of this document. Findings of equivalency shall be made as outlined below to demonstrate that the 90% standard has been met.

If it is determined that the 90% threshold cannot be met and achievement of overall MSHCP conservation goals for the particular species have not yet been demonstrated, the Permittee(s) must make a Determination of Biologically Equivalent or Superior Preservation...”

6.1.1 NEPS Assessment Area No. 6

The entire Property was located in NEPS Assessment Area No. 6 which targets three NEPS. A brief description of each species, based on information detailed in the MSHCP, CNPS, and the Jepson Online Interchange is provided in Table 5 – NEPS Assessment Area No. 6 (below).

Table 5 – NEPS Assessment Area No. 6

SPECIES/REGULATORY STATUS	SOILS	HABITAT	BLOOMING PERIOD	ECOLOGICAL NOTES
Johnston’s rockcress (<i>Boechera johnstonii</i>) CRPR 1B.2 No federal or state listing status	Rocky areas, gravelly soils. Often on eroded clay	Chaparral and lower montane coniferous forest.	February to March primarily though can bloom through June	Can occur in association with Munz’s mariposa lily

SPECIES/REGULATORY STATUS	SOILS	HABITAT	BLOOMING PERIOD	ECOLOGICAL NOTES
Munz’s mariposa-lily <i>(Calochortus palmeri</i> var. <i>munzii)</i> CRPR 1B.2 No federal or state listing status	Fine granitic loam and sandy clay	Chaparral, lower montane coniferous forest, meadows and seeps, yellow- pine woodlands.	April to July	Can occur in both wetland and uplands
San Jacinto Mountains bedstraw <i>(Galium angustifolium</i> subsp. <i>jacinticum)</i> CRPR 1B.3 No federal or state listing status	No known soil associations	Chaparral and lower montane coniferous forest.	May to August	Often growing at the base of chaparral/sage scrub shrubs.

6.1.2 MSHCP Objectives

The MSHCP objectives for each of the targeted NEPS in Table 5 above are presented below.

Johnston’s Rockcress

Objective 1

Include within the MSHCP Conservation Area at least 34,975 acres of suitable habitat (chaparral and pine forest habitat between 1,400 and 2,150 m within the San Jacinto Mountains Bioregion).

Objective 2

Include within the MSHCP Conservation Area the two Core Areas for this species, including at least 17 of the known occurrences in Garner Valley and Mountain Springs and suitable habitat adjacent to these occurrences.

Objective 3

Surveys for Johnston’s rock cress will be conducted as part of the project review process for public and private projects within the Narrow Endemic Plant Species survey area where suitable habitat is present (see Narrow Endemic Plant Species Survey Area Map, Figure 6-1 of the MSHCP, Volume I). Johnston’s rock cress located as a result of survey efforts shall be conserved in accordance with procedures described within Section 6.1.3, MSHCP, Volume I.

Munz’s Mariposa-Lily

Objective 1

Include within the MSHCP Conservation Area 33,470 acres of suitable habitat (chaparral, meadow, and montane coniferous forest between 900 and 1,640 m within the Narrow Endemic Survey Area of the San Jacinto Mountains Bioregion).

Objective 2

Include within the MSHCP Conservation Area 10 of the known locations within the San Jacinto Mountains, including Garner Valley.

Objective 3

Surveys for Munz’s mariposa lily will be conducted as part of the project review process for public and private projects within the Narrow Endemic Plant Species survey area where suitable habitat is present (see Narrow Endemic Plant Species Survey Area Map, Figure 6-1 of the MSHCP, Volume I). Munz’s mariposa lily located as a result of survey efforts shall be conserved in accordance with procedures described within Section 6.1.3 of the MSHCP, Volume I.

San Jacinto Mountains Bedstraw

Objective 1

Include within the MSHCP Conservation Area at least 12,125 acres of suitable habitat (montane coniferous forest between 1,280 to 1,980 m within the Narrow Endemic survey area of the San Jacinto Mountains Bioregion).

Objective 2

Include within the MSHCP Conservation Area at least eight of the known locations of this species: Lake Fulmor, Dark Canyon and the Black Mountain area.

Objective 3

Surveys for this species will be conducted as part of the project review process for public and private projects within the Narrow Endemic Plant Species survey area where suitable habitat is present (see Narrow Endemic Plant Species Survey Area Map, Figure 6-1 of the MSHCP, Volume I). San Jacinto Mountain bedstraw located as a result of survey efforts shall be conserved in accordance with procedures described within Section 6.1.3, MSHCP, Volume I.

6.2 Methods

6.2.1 California Native Plant Society

The California Native Plant Society (CNPS) is a statewide non-profit organization whose mission is to "...conserve California native plants and their natural habitats, and increase understanding, appreciation, and horticultural use of native plants" (California Native Plant Society, 2021). The CNPS has created a "California Rare Plant Ranking System" (CRPR) to categorize degrees of endangerment and/or concern (California Native Plant Society, 2021). Additionally, the CNPS has created a "Threat Rank" which "...is an extension added onto the CRPR and designates the level of endangerment by a 1 to 3 ranking, with 1 being the most endangered and 3 being the least endangered (California Native Plant Society, 2021). The "California Rare Plant Ranking System" and "Threat Ranks" are presented in *Table 6 - CRPR Classifications* (below).

Table 6 – CRPR Classifications

CRPR
1A - Plants Presumed Extirpated in California and Either Rare or Extinct Elsewhere
1B - Plants Rare, Threatened, or Endangered in California and Elsewhere
2A - Plants Presumed Extirpated in California, But More Common Elsewhere
2B - Plants Rare, Threatened, or Endangered in California, But More Common Elsewhere
3 - Plants About Which More Information is Needed - A Review List
4 - Plants of Limited Distribution - A Watch List
THREAT RANK
0.1-Seriously threatened in California (high degree/immediacy of threat)
0.2-Fairly threatened in California (moderate degree/immediacy of threat)
0.3-Not very threatened in California (low degree/immediacy of threats or no current threats known)

6.2.2 Survey Methods and Protocol

Rare plant assessments are conducted in accordance with the CDFW's *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities* (California Department of Fish and Wildlife, 2018) (Rare Plant Protocol), while maintaining consistency with the MSHCP.

According to the MSHCP, habitat assessments, in general, can be conducted year-round with the exception of those species associated with vernal pools. Habitat assessments for those species must be conducted during the rainy season. Additionally, plant species with known reliance on rainfall and hydrology affinities, completion of a habitat suitability assessment and/or focused survey with negative results shall only be sufficient to satisfy survey requirements for those species during years with at least normal rainfall. Generally, habitat assessments are conducted year-round using the methods described below, particularly in times of severe drought.

Prior to conducting a field habitat assessment, historic and recent aerial photography is reviewed. A soil analysis is also conducted utilizing ArcGIS and shapefiles created and provided by the USDA's NRCS Web Soil Survey. The research data is utilized to generate a "potential species" list based on the results of the queries. A field habitat assessment is then conducted.

Focused rare plant surveys are conducted following the Rare Plant Protocol. The protocol provides methods to facilitate a consistent and systematic approach so that reliable information is produced and the potential of detecting a special-status plant or natural community is maximized (California Department of Fish and Wildlife, 2018).

Focused rare plant surveys are typically conducted to coincide with species' blooming period. This is generally required to accurately identify potential special-status plant species. In Southern California, generally the optimal time to conduct focused surveys for rare plants is spring and early summer depending on rainfall and other weather conditions.

Reference sites are those sites where targeted rare plants have been documented to occur. These sites are visited prior to conducting a focused survey to determine if the targeted plant species is viable and identifiable. The CNDDDB, CFWO and CNPS were queried to locate suitable reference sites and determine if the targeted species have been reported within five miles of the Property.

Field transects are conducted to ensure 100% visual coverage in all habitats of a site. All rare plant surveys are "floristic in nature, meaning that every plant taxon that occur onsite is identified to the taxonomic level necessary to determine rarity and listing status" (California Department of Fish and Wildlife, 2018). Many plant specimens are collected in the field and taken to the UCR Herbarium or other Consortium of California Herbaria (CCH)-approved herbaria to be vouchered. This process provides evidence to confirm a plant's identity, and to document it was found in a particular location.

Though not specifically described in the Rare Plant Protocol, all rare plant detections are recorded in the field utilizing Collector. Either a GIS "point" or "polygon" is created depending on the extent of the rare plant detection. Data recorded for each rare plant detection mirrors that of the CNDDDB's *California Native Species Field Survey Form*, and includes information such as total number of individuals, plant phenology (i.e., vegetative, flowering, fruiting), habitat description, and site information.

6.2.3 Field Survey Dates and Weather Conditions

The NEPS habitat assessment was conducted by biologist Tim Searl on March 28, 2021. Focused surveys were conducted by botanist Fred Roberts and assisted by Tim Searl on March 30, May 20, and June 22,

2021. Biologist Arthur Davenport assisted with the focused survey on June 22, 2021. Reference site visits were conducted by Tim Searl and field technician Garrett Searl on March 28; and Tim Searl and Fred Roberts on May 20, and June 22, 2021. Detailed survey information and conditions are presented in *Table 7 - MSHCP Section 6.1.3 Assessment Conditions* (Page 33).

6.3 Existing Conditions and Results

6.3.1 Query Results

A total of 30 records including five Johnston's rockcress, 22 Munz's mariposa-lily, and three San Jacinto Mountains bedstraw were reported to the CNDDDB within five miles of the Property. The records spanned from 1982 to 2017. The nearest records were of Munz's mariposa-lily in 2002 and San Jacinto Mountains bedstraw in 2003 near and partially within the southwestern boundary of the Property. *Figure 15 – NEPS Query Results* (Page 34) depicts the CNDDDB record locations of the three species within five miles of the Property.

6.3.2 Reference Sites

Reference sites were visited prior to conducting the focused surveys. *Figure 16 – NEPS Reference Sites* (Page 35) depicts the location of the reference sites visited for each species. All the targeted NEPS were detected at each of the reference sites. Fred Roberts also visited some sites in San Diego and southern Riverside County where the species were also detected during the appropriate time. Johnston's rockcress was detected on March 28, Munz's mariposa-lily on May 20, and San Jacinto Mountains bedstraw on May 20 and June 22.

6.3.3 NEPS Assessment Results

The Property was determined to have structurally suitable habitat to at least warrant the need for focused surveys for the three targeted NEPS. Johnston's rockcress was not detected on or near the Property. Munz's mariposa-lily was detected offsite near the southwest parcel of the Property on May 20, and San Jacinto Mountains bedstraw was detected in the northern and western portion of the primary Project parcel. *Figure 17 – NEPS Assessment Results* (Page 36) depicts the detection locations.

Munz's Mariposa-Lily

Munz's mariposa-lily was detected offsite in the middle of a dirt road/trail on May 20. A total of 13 plants were detected at the location. Substrates appeared to consist of heavy granitic, rocky/sandy soils. The area consisted primarily of bare ground with little vegetation. The path appeared to be well-traveled, and a hiker was encountered during the survey on May 20. This detection location was part of the previously identified reference site. More Munz's mariposa-lily was detected further to the northwest consistent with the reference site locations.

San Jacinto Mountains Bedstraw

San Jacinto Mountains bedstraw was detected at three locations on the Property on May 20 and June 22 as depicted by Figure 17. A total of seven plants were detected at Polygon 1, 32 plants at Polygon 2, and 60 plants at Polygon 3. A brief description of each is presented below.

Polygon 1 (565.70-Square Feet; 0.01-Acre)

The seven plants were detected in a mix of coastal sage scrub/ruderal and Jeffrey pine woodland habitat. Associate species consisted primarily of bastard sage, Great Basin sage, and cheat grass. Substrates consisted of sandy/loam soils with a few small granitic boulders exposed at ground level.

Table 7 – MSHCP Section 6.1.3 Assessment Conditions⁹

DATE	SURVEY TYPE ¹⁰	FIELD PERSONNEL	SURVEY TIME	TEMPERATURE	HUMIDITY	% CLOUD COVER	WIND SPEED	ANNUAL PRECIPITATION TO-DATE ¹¹
3/28/2021	HA/REF	Tim Searl Garrett Searl	0630-1330	45-72	41-16	0-0	4-6	6.64
3/30/2021	FS, REF	Fred Roberts Tim Searl	0800-1700	43-68	26-22	0-0	0-3	6.64
5/20/2021	FS, REF	Fred Roberts Tim Searl	0800-1700	65-59	26-65	0-0	4-3	6.98
6/22/2021	FS, REF	Fred Roberts Tim Searl Arthur Davenport	0900-1700	73-83	48-24	30-80	2-3	6.98

This portion of the document left blank intentionally

⁹ Temperature (Degrees Fahrenheit), Humidity (Relative; %), and Wind Speed (mean miles per hour) were obtained in the field with a Kestrel handheld weather meter.

¹⁰ HA: Habitat Assessment; FS: Focused Survey; REF: Reference Site Visit

¹¹ Annual Precipitation (July 01 to June 30) To-Date was obtained from PWS Weather Station F6108 located at Lake Hemet (PWS Weather, 2021).

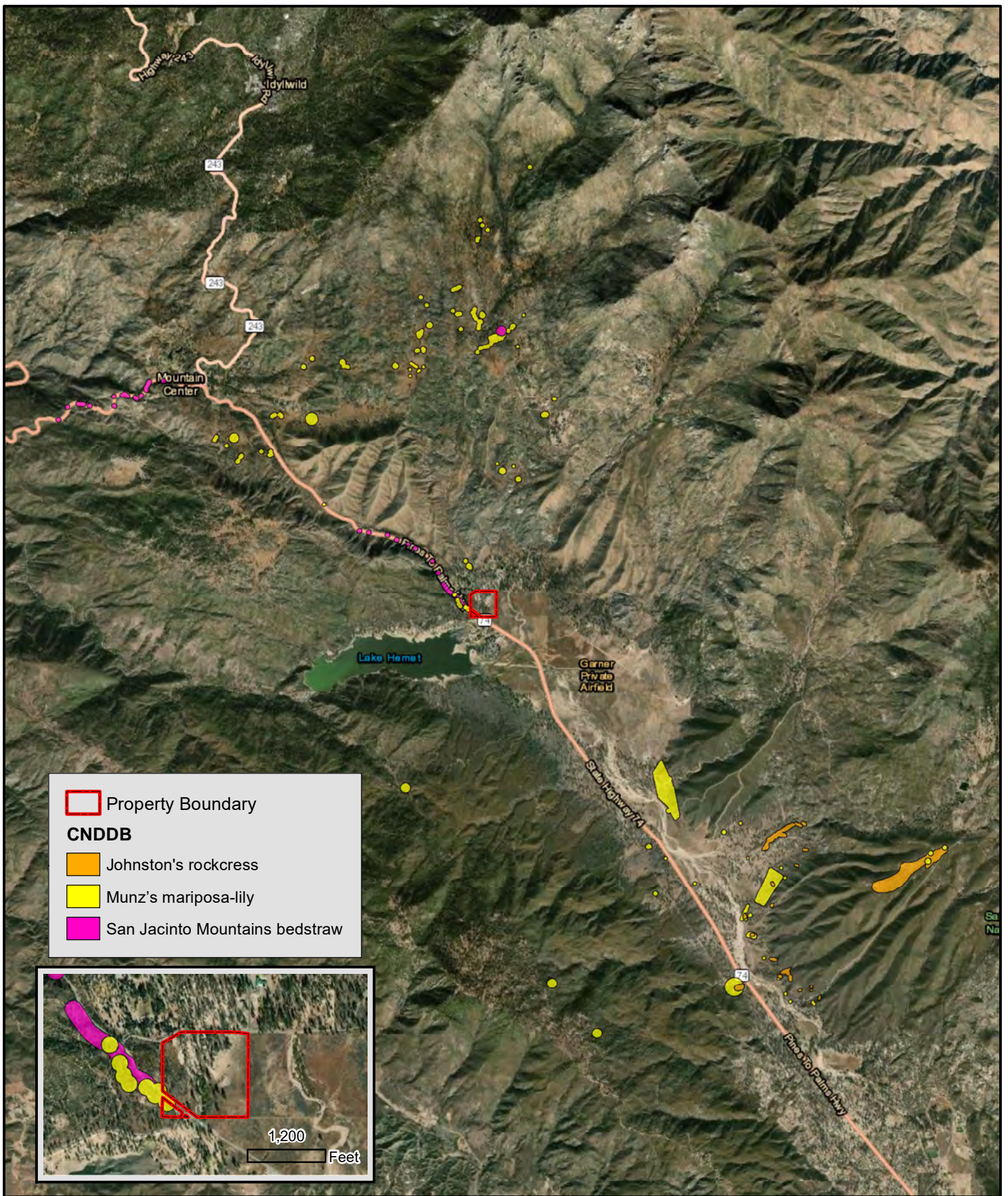
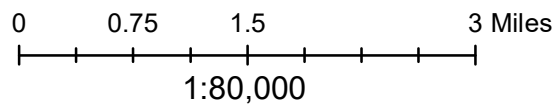
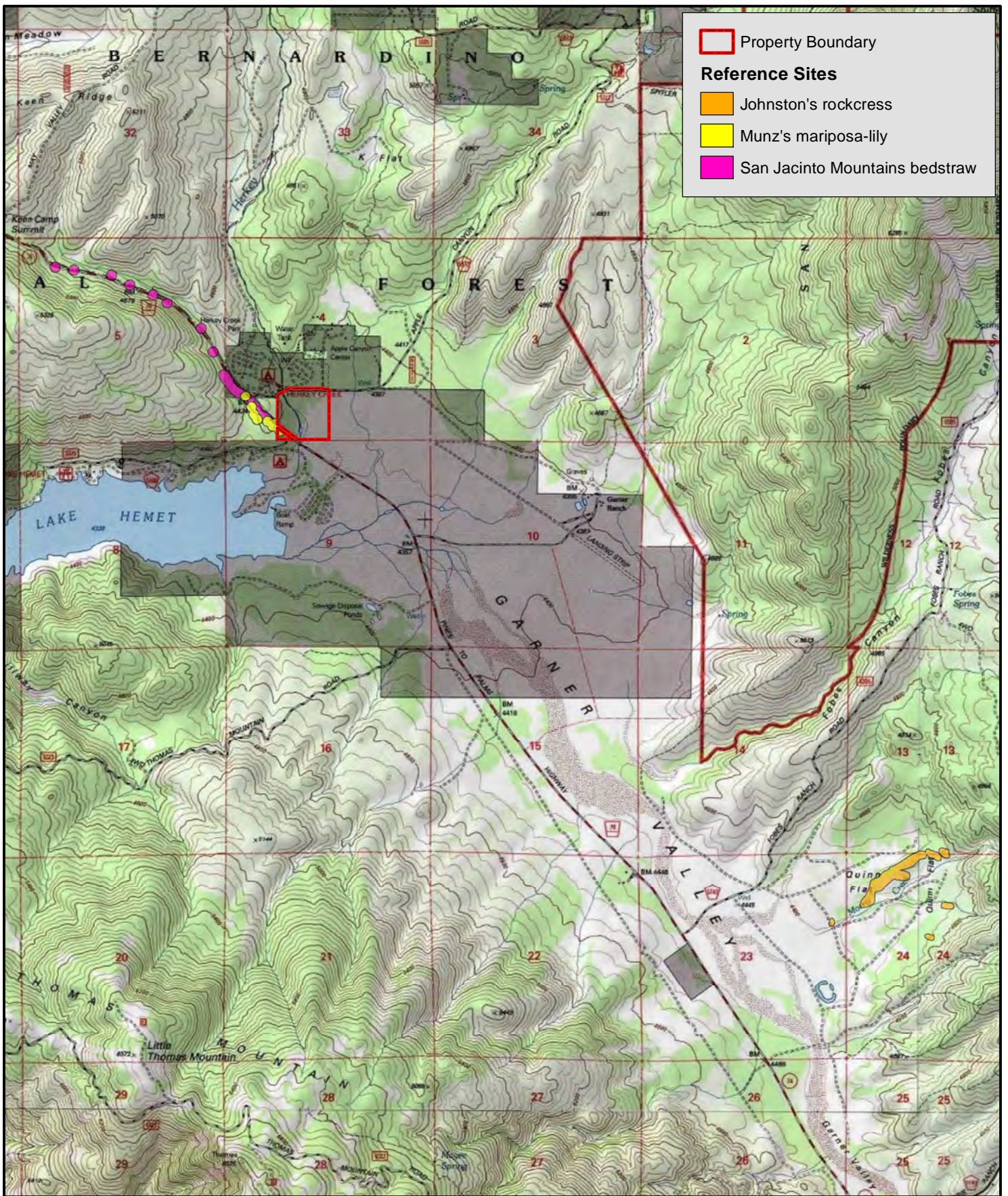


FIGURE 15
NEPS Query
Results





Property Boundary
 [Red outline symbol]

Reference Sites

- [Orange square symbol] Johnston's rockcross
- [Yellow square symbol] Munz's mariposa-lily
- [Pink square symbol] San Jacinto Mountains bedstraw

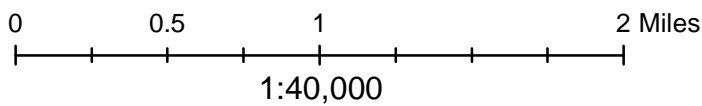
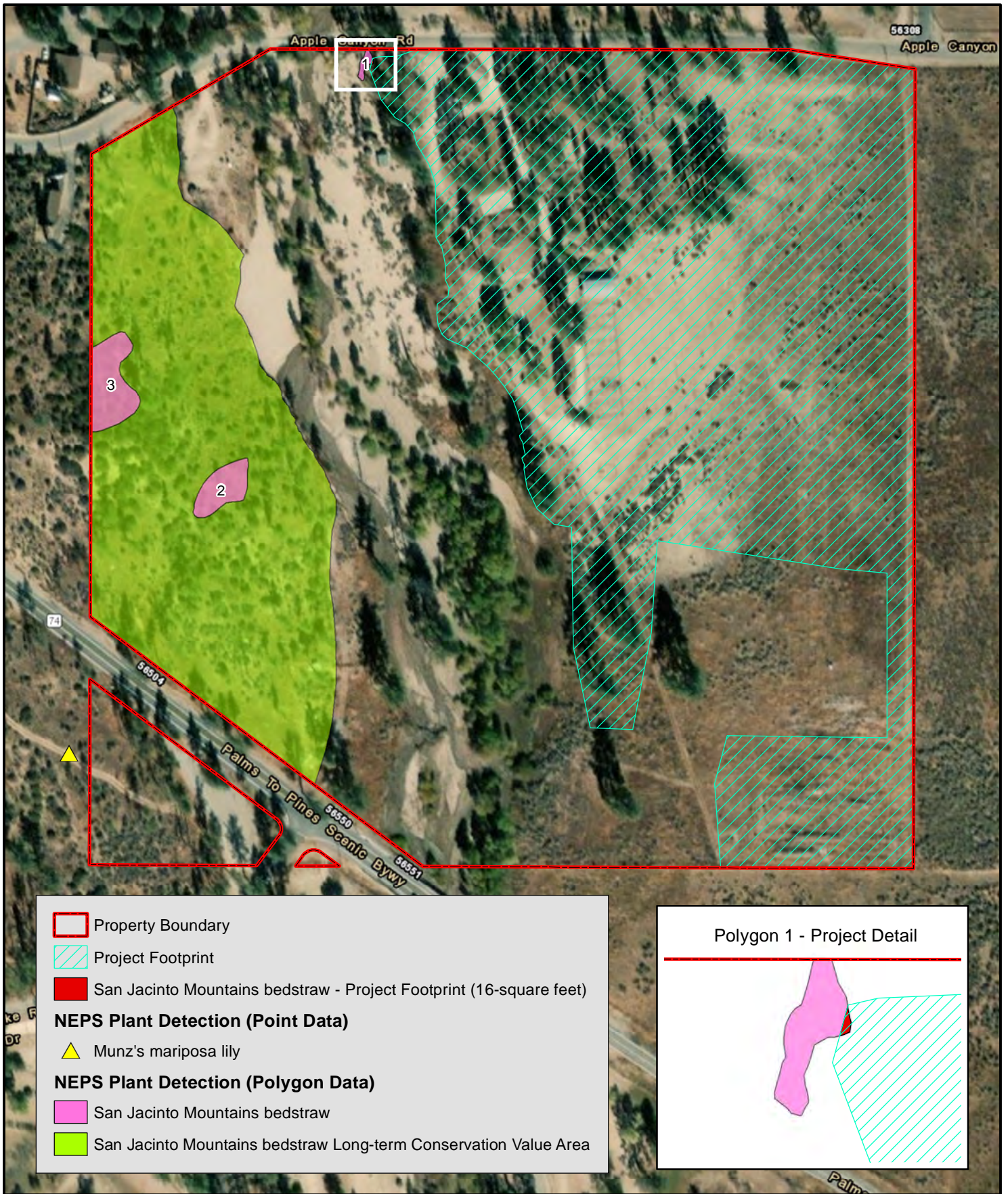


FIGURE 16
NEPS Reference Sites



Property Boundary
 Project Footprint
 San Jacinto Mountains bedstraw - Project Footprint (16-square feet)

NEPS Plant Detection (Point Data)

▲ Munz's mariposa lily

NEPS Plant Detection (Polygon Data)

San Jacinto Mountains bedstraw
 San Jacinto Mountains bedstraw Long-term Conservation Value Area

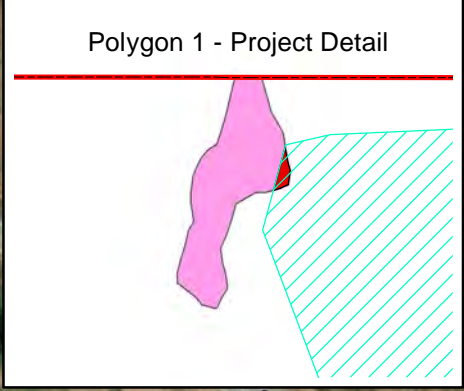
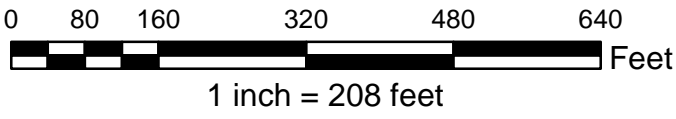


FIGURE 17
NEPS Assessment Results



Polygon 2 (5014.55-Square Feet; 0.12-Acre)

Polygon 2 was located in chaparral habitat in the western portion of the Property. 32 plants were detected with the majority occurring in the understory and near the base of large chaparral shrubs such as pointleaf manzanita. Associate species consisted primarily of pointleaf manzanita and Great Basin sage. Substrates consisted of sandy/loam soils with a few small granitic boulders exposed at ground level.

Polygon 3 (8963.85-Square Feet; 0.21-Acre)

Polygon 3 was located in chaparral habitat in the western portion of the Property. 60 plants were detected with the majority occurring in the understory and near the base of large chaparral shrubs such as pointleaf manzanita and along a fallen Jeffrey pine. Though not shown on Figure 17, more plants were observed offsite to the west. Associate species consisted primarily of pointleaf manzanita and Great Basin sage. Substrates consisted of sandy/loam soils with a few small granitic boulders exposed at ground level.

6.4 Impacts

The Project will impact approximately 16.0-square feet of Polygon 1 according to Figure 17.

6.5 Mitigation

Polygons 2 and 3 were located in habitat that was consistent with the habitat where San Jacinto Mountains bedstraw was observed at the nearby reference site west of the Property. Due to this, it was determined that the chaparral habitat in the western portion of the Property provided long-term conservation value for the plant. The area identified provides 6.42-acres of habitat that was connected directly to the PQP Lands of the USFS to the west. The Project will avoid this area.

The Project will place a “no impact/avoidance area” deed restriction over the long-term conservation value habitat. The deed restriction will demonstrate that the areas will be avoided, and no impacts will occur from the Project. The deed restriction will be finalized as a condition of Project approval by the County.

The Project is consistent with MSHCP Section 6.1.3.

7.0 ADDITIONAL SURVEY NEEDS AND PROCEDURES (SECTION 6.3.2)

The MSHCP covers 146 species of plants and animals of which 40 species have specific survey requirements (Dudek & Associates, Inc., 2003). 34 of the 40 species have an associated survey area map that designates areas where surveys may be required if suitable habitat is present (Dudek & Associates, Inc., 2003).

According to the MSHCP:

For locations with positive survey results, 90% of those portions of the property that provide for long-term conservation value for the identified species shall be avoided until it is demonstrated that conservation goals for the particular species are met. Avoidance shall not be considered to be Conservation contributing to Reserve Assembly unless the avoided populations are acquired and managed as Additional Reserve Lands.

7.1 Criteria Area Plant Species

The Property was not located within a designated assessment area for Criteria Area Plant Species.

7.2 Amphibians

The entire Property was located within a MSHCP-designated assessment area for RAMU. A description of the MSHCP Objectives and RAMU assessment process are provided below.

7.2.1 Background

MSHCP Objectives

The MSHCP objectives for RAMU include the following:

Objective 1

Include within the MSHCP Conservation Area at least 335 acres of primary breeding habitat above 370 meters (riparian scrub woodland and forest) within the San Jacinto Mountains. Primary breeding habitat for the yellow-legged frog includes aquatic habitats with gently sloping shore margins that receive some sunlight, and clear cool water.

Objective 2

Include within the MSHCP Conservation Area the Core Areas above 370 meters at the North Fork of the San Jacinto River (including Dark Canyon), Hall Canyon, and Fuller Mill Creek and other perennial water streams in the San Jacinto Mountains.

Objective 3

Include within the MSHCP Conservation Area at least 32,399 acres of the secondary wooded habitat above 370 meters (oak woodlands and forests and montane coniferous forest) within the North Fork of the San Jacinto River (including Dark Canyon), Hall Canyon, and Fuller Mill Creek and other perennial water streams in the San Jacinto Mountains.

Objective 4

Surveys for this species will be conducted as part of the project review process for public and private projects within the amphibian species survey area where suitable habitat is present (see Amphibian Species Survey Area Map, Figure 6-3 of the MSHCP, Volume I). Mountain yellow-legged frog localities identified as a result of survey efforts shall be conserved in accordance with procedures described within Section 6.3.2, MSHCP, Volume I.

Objective 5

Within the MSHCP Conservation Area, Reserve Managers shall maintain or, if feasible, restore ecological processes (with particular emphasis on removing non-native predatory fish and bullfrogs) within occupied habitat and suitable new areas within the Criteria Area. At a minimum, these areas will include areas above 370 meters at the North Fork of the San Jacinto River (including Dark Canyon), Fuller Mill Creek, and Hall Canyon above Lake Fulmor.

Objective 6

Within the MSHCP Conservation Area, maintain successful reproduction as measured by the presence/absence of tadpoles, egg masses, or juvenile frogs once a year for the first five years after permit issuance and then as determined by the Reserve Management

Oversight Committee as described in Section 6.6 (but not less frequently than every 8 years).

Life History

RAMU is listed as endangered by both the federal Endangered Species Act and California Endangered Species Act (California Natural Diversity Database, 2021), and is a Covered species under the MSHCP (Dudek & Associates, Inc., 2003). RAMU, once a single species, the Mountain-yellow Legged Frog, was split into two distinct species the Southern Mountain Yellow-legged Frog (RAMU) and the Sierra Nevada Yellow-legged Frog (*Rana sierrae*) (RASI). RAMU is further split into two DPS, the southern and northern. The southern DPS occurs in the San Gabriel, San Jacinto, and San Bernardino Mountains and is Covered by the MSHCP for the local population in the San Jacinto Mountains. The northern DPS occurs north of the Tehachapi Mountains to the southern Sierra Nevada. RASI occurs in the central and northern Sierra Nevada (California Natural Diversity Database, 2021).

RAMU occurs at an elevation range of 1,200 to 7,500-feet and is restricted to streams in yellow pine, montane hardwood-conifer, and montane riparian habitats (Morey, 2014). RAMU is always encountered within a few feet of water where adult and juvenile frogs feed on aquatic and terrestrial invertebrates, and tadpoles graze on algae and diatoms along rocky bottoms in shallow streams (Morey, 2014). Reproduction typically occurs from March to May in the southern DPS (Morey, 2014).

According to the U.S. Fish and Wildlife Service (USFWS) *Recovery Plan for the southern California distinct population segment of the mountain yellow-legged frog* (U.S. Fish and Wildlife Service, 2018), “Most populations are isolated in the headwaters of streams or tributaries due to the extensive distribution of predatory nonnative trout in historical habitat; thus, it exists in a highly fragmented environment.” This isolation leads the remaining populations of RAMU highly susceptible to stochastic events, especially wildfire (U.S. Fish and Wildlife Service, 2018). Other causes of RAMU population decline and continued threats include human recreation, non-native trout species, illegal cannabis cultivation, and disease (U.S. Fish and Wildlife Service, 2018).

7.2.2 Methods

CNDDDB Query

SBS conducted a query of the CFWO and CNDDDB GIS data to determine if RAMU has been documented within five miles of the Property. The results of the query are presented below.

Field Survey Date and Weather Conditions

The initial RAMU habitat assessment was conducted by biologist Tim Searl and field technician Garrett Searl on March 28, 2021. Focused surveys were conducted by Tim Searl and biologist Arthur Davenport on May 25, June 10, and June 22, 2021. Detailed survey information and conditions are presented in *Table 5 - RAMU Assessment Conditions* (Page 40).

Survey Methods and Protocol

Prior to initiating the field habitat assessment, SBS conducted an office review and analysis of the Idyllwild 7.5 Minute USGS California Quadrangle, historic aerial imagery from Historic Aerials online, and current and historic aerial imagery from Google Earth. If the office assessment identifies potential habitat, all necessary preparations are made following *The Declining Amphibian Task Force Fieldwork Code of Practice* (The Declining Amphibian Task Force) prior to initiating field surveys.

Table 8 – RAMU Assessment Conditions¹²

DATE	FIELD PERSONNEL	SURVEY TYPE ¹³	SURVEY TIME	AIR TEMPERATURE	H2O TEMPERATURE			HUMIDITY	% CLOUD COVER	WIND SPEED	ANNUAL PRECIPITATION TO-DATE ¹⁴	MOON PHASE ¹⁵
					U	M	D					
3/28/2021	Tim Searl Garrett Searl	HA	1000-1330	62-72	NA	NA	NA	26-16	0-0	4-6	6.64	Full Moon
5/25/2021	Tim Searl Arthur Davenport	FS	0900-1200	73-81	64	61	58	26-18	20-30	1-3	6.98	Full Moon
6/10/2021	Tim Searl Arthur Davenport	FS	1300-1700	71-73	73	72	73	17-17	0-0	4-3	6.98	New Moon
6/22/2021	Tim Searl Arthur Davenport	FS	0830-1200	72-89	67	72	72	48-23	30-40	2-1	6.98	Waxing Gibbous

This portion of the document left black intentionally

¹² Air Temperature (Degrees Fahrenheit), Humidity (Relative; %), and Wind Speed (mean miles per hour) were obtained in the field with a Kestrel handheld weather meter. Water temperature (Degrees Fahrenheit) was taken at the U: Upstream End, M: Mid-Stream, and D: Downstream End using a handheld TruTemp temperature probe.

¹³ HA: Habitat Assessment

¹⁴ Annual Precipitation (July 01 to June 30) To-Date was obtained from PWS Weather Station F6108 located at Lake Hemet (PWS Weather, 2021).

¹⁵ Moon Phase data was obtained from The Moon iOS application Version 4.6.

There is no formally adopted official federal survey protocol for RAMU. SBS follows a draft protocol prepared by the RCA titled *Mountain yellow-legged frog (Rana muscosa)* (Regional Conservation Authority) when conducting assessments within the MSHCP area. The two phases of the assessment method taken directly from the protocol is provided below.

Phase 1: Habitat Assessment

Habitat assessments for the mountain yellow-legged frog shall be completed by a qualified biologist who is familiar with southern California amphibians and their associated habitats. The entire project area will be searched by foot for suitable habitat. Suitable habitat is defined as creeks or rivers which support water throughout the year (portions of the creek system may only support pooled water for portions of the year). Typically, suitable habitat consists of a series of pools and runs which receive abundant sun. Because this species typically requires two years to metamorphose larvae, intermittent creeks are not considered to be suitable habitat. In addition, this species is very susceptible to predation by non-native fishes, therefore, improved lakes and artificial ponds which support non-native predatory fishes (excludes mosquitofish) are considered to be not suitable.

Phase 2: Field Surveys

A focused survey will be conducted in all areas found to be potentially suitable for mountain yellow-legged frog. Care should be taken to apply a level of effort and to use a style of surveying appropriate to the site. In addition, field work should be conducted according to the best professional judgment of the surveyor (e.g. dogs should not be brought on surveys as they disturb frogs). Surveyors must have field experience in the identification of California amphibians. Surveyors with specific needs not addressed by this field survey protocol, and who may wish to propose alternative methods, may contact MSHCP biological resource staff.

Surveys should be conducted between May 1 and August 31. These sampling dates were selected because they allow surveys to be conducted with minimal disturbance of breeding frogs, eggs, or tadpoles during a period when frogs can be reliably detected.

All aquatic habitat identified during the site assessment should be surveyed three times during the day. Surveyors should wait at least seven (7) days, and meet the minimal environmental conditions described below, before repeating surveys at the same site.

Day-time surveys should be conducted on clear (less than 50% cloud cover), sunny days. Surveys should be conducted when temperatures are equal-to or greater than 65 degrees Fahrenheit and sustained winds are less than 10 miles per hour. Windy, rainy, and cold days should be avoided.

Surveyors should walk along the entire shore, while visually scanning all shoreline areas in all aquatic habitats identified during the site assessment. Mountain yellow-legged frogs are rarely more than two or three hops from water. If surveys must be conducted from the water, then surveyors should take maximum care to avoid disturbing sediments, vegetation, and any visible larvae. When walking on the bank, surveyors should take care to not crush rootballs, overhanging banks, and stream side vegetation that might provide shelter for frogs.

Although not required, photographs of frogs observed during field surveys may aid in verification of species identifications. Surveyors should limit photography to the extent necessary to document the presence of mountain yellow-legged frogs and should not attempt to photograph frogs if this is likely to disturb them.

SBS performs the RAMU assessment following the guidelines described above. SBS conducts a habitat assessment for RAMU by transecting an entire subject property to determine if suitable habitat is present, specifically perennial water sources. If suitable habitat is present, the perimeter of the area is walked and mapped with Collector as a polygon taking extreme caution not to disturb the potentially suitable habitat. Data collected includes characteristics and functions such as hydrology, soils/substrates, dominant plant species/vegetation community, habitat suitability, visible disturbances, and potential threats. Focused surveys are conducted as a Visual Encounter Survey (VES) following the above guidelines. The water temperature was taken at the upstream, mid, and downstream end of the survey area during the three focused surveys.

7.2.3 Existing Conditions and Results

Query Results

According to the CFWO, RAMU has not been detected within five miles of the Property. The CNDDDB; however, lists three historical records of RAMU from 1917 (two records) and 1953 within five miles of the Property. *Figure 18 – RAMU Query Results* (Page 43) depicts the location of the historic records. The records from Lake Hemet and near Mountain Center were from specimen collections from 1917. The Strawberry Creek record was from specimen collections from 1908, 1921, 1946, 1947, 1949, and 1953. The USGS conducted surveys for RAMU at the Strawberry Creek record location in 2001 and 2002 and RAMU was not detected. All three records indicate that RAMU is possibly extirpated.

Assessment Results

Herkey Creek was determined to provide structurally suitable habitat for RAMU. *Figure 19 – RAMU Suitable Habitat* (Page 44) depicts the suitable habitat area that was surveyed on each of the three focused surveys. RAMU was not detected. A further description of the assessment results is provided below.

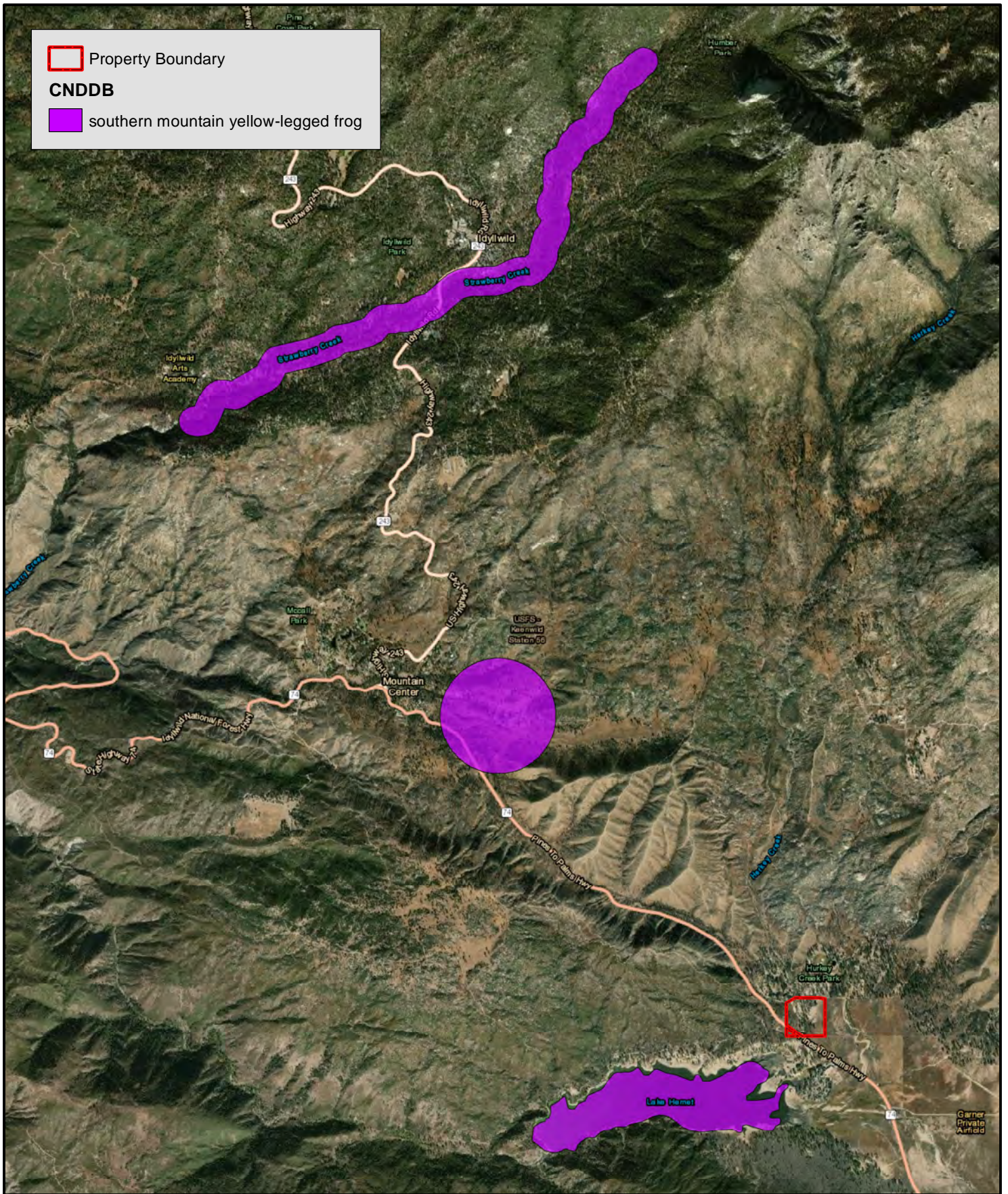
Habitat Assessment

Herkey Creek provided structurally suitable habitat for RAMU because it was perennial. This notwithstanding, the habitat on the Property and those areas observed immediately up and downstream were considered low suitability. The Property and the greater surrounding area of Garner Valley has a long history of anthropogenic uses which include farming, grazing, the construction of Lake Hemet in 1891, and likely many other uses that have degraded the habitat.

The RAMU suitable habitat area depicted on Figure 19 totaled 1.15-acres and was generated using the submeter field mapped OHWM as a base, and then generating a 5-foot buffer on each side using ESRI ArcGIS Buffer tool.

Focused Surveys

RAMU was not detected over the course of the three focused surveys. Additionally, Amphibian species diversity and richness was extremely low with only two species detected, and only one individual of each species was observed. Species detected included the California Treefrog (*Pseudacris cadaverina*) and Pacific Treefrog (*Pseudacris regilla*).



Property Boundary
CNDDB
 southern mountain yellow-legged frog

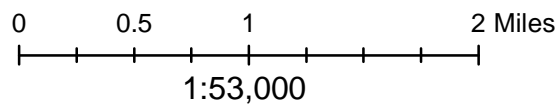


FIGURE 18
RAMU Query
Results



- Property Boundary
- Project Footprint
- RAMU Suitable Habitat

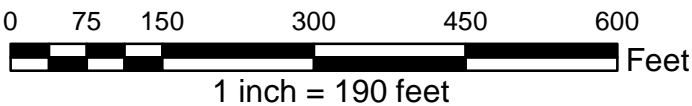


FIGURE 19
RAMU Suitable
Habitat



7.2.4 Impacts

No Project impacts will occur to RAMU due to the absence of RAMU on the Property. Additionally, the Project will avoid impacts to the MSHCP Section 6.1.2 Riparian/Riverine Area which includes the potential habitat area for RAMU.

7.2.5 Mitigation

No RAMU mitigation measures are required. The Project is consistent with the Amphibians section of MSHCP Section 6.3.2.

7.3 Burrowing Owl

The Property was not located within a designated assessment area for Burrowing Owl.

7.4 Mammals

The Property was not located within a designated assessment area for Mammals.

8.0 INFORMATION ON OTHER SPECIES

8.1 Delhi Sands Flower Loving Fly

The Property was not located in an area with Delhi sands.

8.2 Species Not Adequately Conserved

MSHCP Table 9-3 *Requirements to be Met for 28 Species Prior to Including Those Species on the List of Covered Species Adequately Conserved* (Dudek & Associates, Inc., 2003) is a list of “28 Covered Species [that] will be considered to be adequately conserved when certain conservation requirements are met as identified in the species-specific conservation objectives for those species” (Dudek & Associates, Inc., 2003).

8.2.1 Beautiful Hulsea

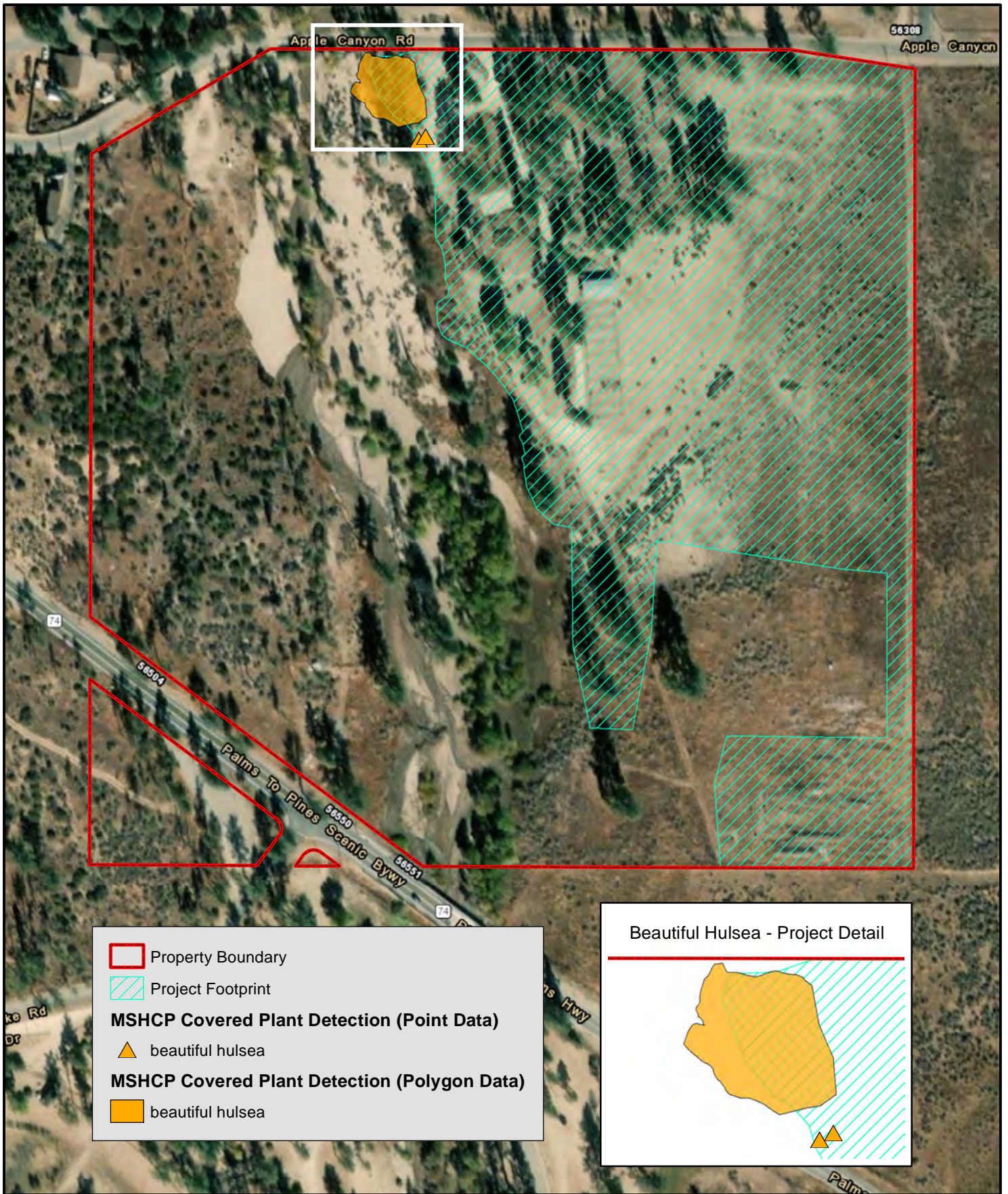
Fred Roberts and SBS personnel detected approximately 150 beautiful hulsea (*Hulsea vestita* subsp. *callicarpha*) in the northern portion of the Property during NEPS focused surveys on May 20 and June 22. The location of the detections is depicted on *Figure 20 – Beautiful Hulsea Locations* (Page 46). This plant primarily occurred in the understory of Jeffrey pine woodland on sandy/loam soils with a few small granitic boulders exposed at ground level. The Project will impact a portion of the population on the Property based on the Project Footprint; however, according to the RCA’s *Status of Covered Species Not Adequately Conserved (Table 9-3 Species)* table (Regional Conservation Authority, 2020), the following Species-Specific Conservation Objective has been met:

In order for this species to become a Covered Species Adequately Conserved, the following conservation must be demonstrated: Within the MSHCP Conservation Area, confirm 16 localities (locality in this sense is not smaller than one quarter section) with no fewer than 50 individuals each (unless a smaller population has been demonstrated to be self-sustaining).

Therefore, beautiful hulsea is considered adequately covered by the MSHCP and the Project is consistent with the objectives for this covered species of the MSHCP.

8.3 Additional Regulatory-Status Species Requiring Special Consideration

Fred Roberts and SBS personnel detected three CNPS Ranked plants that are not covered by the MSHCP that will likely need to be addressed per the California Environmental Quality Act (CEQA) with the County as the Lead Agency.



Property Boundary
 Project Footprint
MSHCP Covered Plant Detection (Point Data)
▲ beautiful hulsea
MSHCP Covered Plant Detection (Polygon Data)
 beautiful hulsea

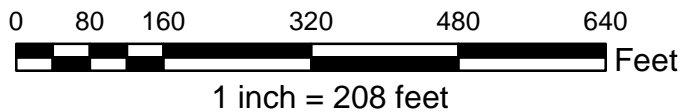
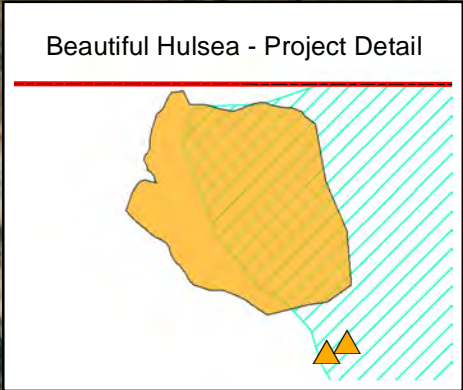


FIGURE 20
Beautiful Hulsea
Locations

The three CNPS Ranked plants detected were chaparral sand-verbena (*Abronia villosa* var. *aurita*) (CRPR 1B.1), golden-rayed pentachaeta (*Pentachaeta aurea* subsp. *aurea*) (CRPR 4.2), and white-margined oxytheca (*Sidotheca emarginata*) (CRPR 1B.3). Figure 21 – Additional CEQA Biological Detections (Page 48) depicts the detection locations for each plant. Table 9 – Additional CEQA Plants (below) provides a brief life history for each. The results of the focused surveys, potential Project impacts, and proposed mitigation measures are provided below.

Table 9 – Additional CEQA Plants

SPECIES/REGULATORY STATUS	SOILS	HABITAT	BLOOMING PERIOD
chaparral sand-verbena (<i>Abronia villosa</i> var. <i>aurita</i>) CRPR 1B.1 No federal or state listing status	Sandy soils	A variety of habitats including chaparral, coastal sage scrub, grassland, and disturbed areas.	March to September
golden-rayed pentachaeta (<i>Pentachaeta aurea</i> subsp. <i>aurea</i>) CRPR 4.2 No federal or state listing status	No known soil associations	This annual herb occurs in a wide array of habitats from grasslands to woodlands in both upland and riparian areas.	March to July
white-margined oxytheca (<i>Sidotheca emarginata</i>) CRPR 1B.3 No federal or state listing status	Gravelly to rocky soils	A montane annual herb that occurs in chaparral and lower montane coniferous forest.	February to August

8.3.1 Chaparral Sand-Verbena

Fred Roberts and SBS personnel detected a total of 83 chaparral sand-verbena at 14 locations with the majority present in the four polygons mapped in the central portion of the Property. This semi-perennial was detected in open habitats with sandy soils, as its name implies.

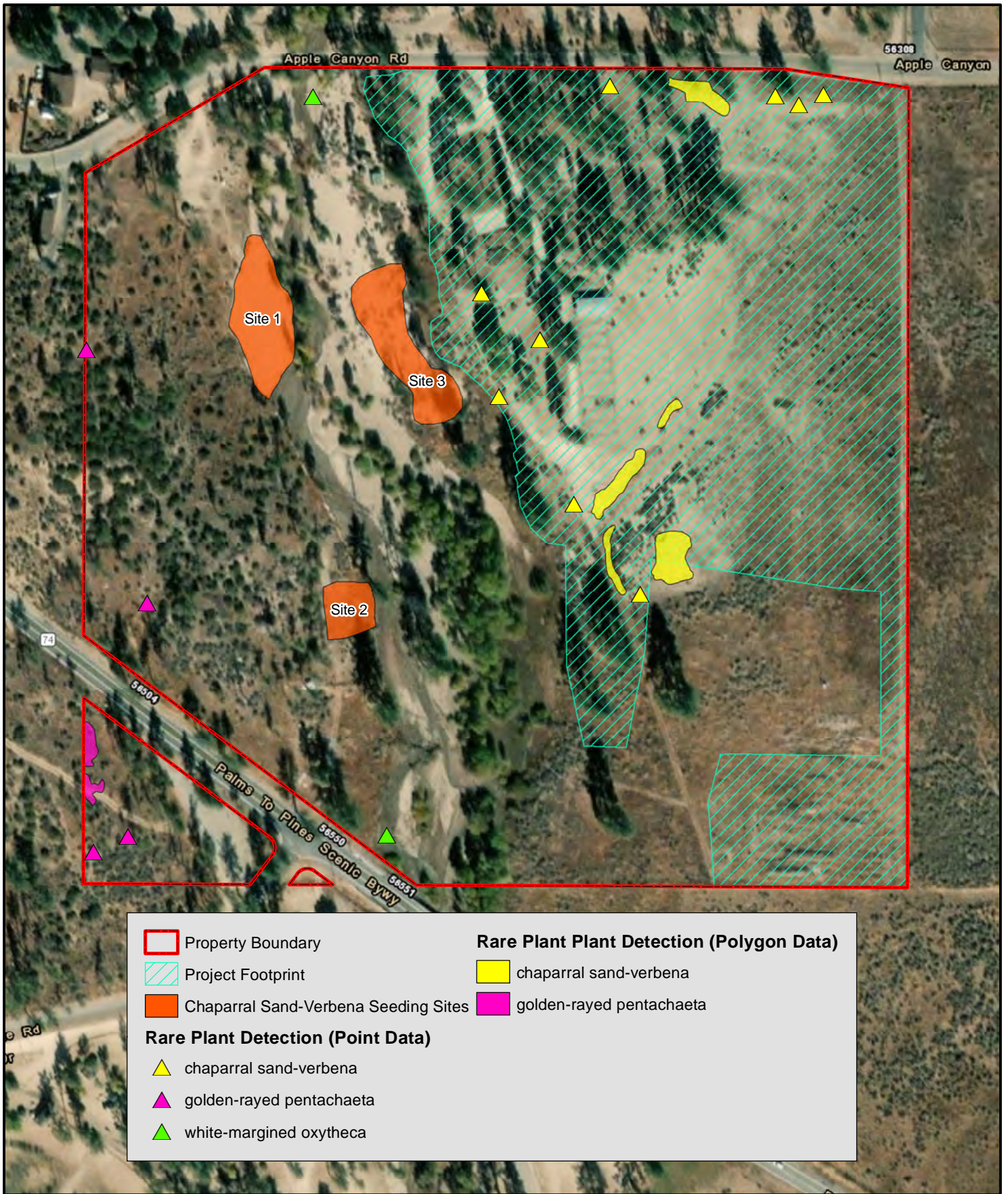
Impacts

Nearly all the chaparral sand-verbena that was detected was located within the Project footprint. According to the Project site plan attached in Appendix A, most of these areas will likely be permanently impacted; however, some areas between the cabins and facilities to the north may remain. This notwithstanding, the mitigation below will likely offset the potential impacts to “Less than Significant” per CEQA.

Mitigation

To offset impacts to chaparral sand-verbena, Tim Searl collected chaparral sand-verbena seeds from the onsite population on July 21, August 18, and October 22, 2021, and established three seeding sites on the Property depicted on Figure 21 within suitable habitat that will be avoided. A total of six 5-gallon buckets were filled with chaparral sand-verbena seeds by raking around and under individual plants, which were then collected by raking the seeds into a dustpan. Four 5-gallon buckets of seeds were dispersed at Seeding Site 1, and two 5-gallon buckets were dispersed at Seeding Site 2.

Tim Searl will conduct additional seed collection and dispersal surveys on the Property in spring/summer 2022 prior to Project construction. The majority of those seeds will be dispersed at Seeding Site 3.



Property Boundary	Rare Plant Plant Detection (Polygon Data)
Project Footprint	chaparral sand-verbena
Chaparral Sand-Verbena Seeding Sites	golden-rayed pentachaeta
Rare Plant Detection (Point Data)	
chaparral sand-verbena	
golden-rayed pentachaeta	
white-margined oxytheca	

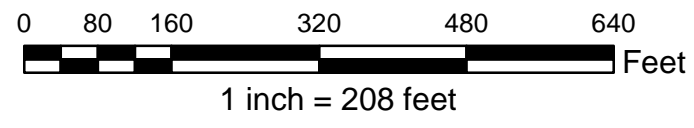


FIGURE 21
Additional CEQA
Biological Detections

The Project will place a “no impact/avoidance area” deed restriction over the three-chaparral sand-verbena seeding sites. The deed restriction will demonstrate that the areas will be avoided, and no impacts will occur from the Project. The deed restriction will be finalized as a condition of Project approval by the County.

The three seeding sites will be monitored by a qualified biologist/botanist for three years to ensure that the chaparral sand-verbena impacts were appropriately mitigated by establishing self-sustaining populations in at least portions of the three seeding sites. It is anticipated that an As-Built Mitigation and Monitoring Report will be prepared and submitted to the County in early spring 2022 followed by three annual reports: Year 1 late 2022, Year 2 late 2023, and Year 3 late 2024.

Establishing populations of chaparral sand-verbena in avoidance areas will reduce the Project impacts to “Less than Significant” per CEQA. Contingency mitigation measures will be discussed in the As-Built Mitigation and Monitoring Report if the onsite mitigation is not successful.

8.3.2 Golden-Rayed Pentachaeta

Fred Roberts and SBS personnel detected a total of approximately 760 golden-rayed pentachaeta at four-point locations and two polygon locations in the western and southwestern portion of the Property. The majority of the plants were detected at the northern most point and polygons in the southwest. These populations extended offsite and accurate counts were difficult given that many of the golden-rayed pentachaeta were dried up at the time of detection and co-occurred with common goldfields (*Lasthenia gracilis*) appeared similar to golden-rayed pentachaeta especially when fruiting and dried up.

No impacts will occur to the golden-rayed pentachaeta as no Project activities or construction is proposed in the areas where golden-rayed pentachaeta occurred.

8.3.3 White-Margined Oxytheca

Fred Roberts and SBS personnel detected a total of 11 white-margined oxytheca at two-point locations along the Herkey Creek stream margin: 10 plants at the northern point on the Property and one plant at the southern.

No impacts will occur to the white-margined oxytheca as no Project activities or construction is proposed in the areas where white-margined oxytheca occurred.

8.4 Nesting Birds

The Migratory Bird Treaty Act of 1918 (MBTA) created an “*Establishment of a Federal prohibition, unless permitted by regulations, to "pursue, hunt, take, capture, kill, attempt to take, capture or kill, possess, offer for sale, sell, offer to purchase, purchase, deliver for shipment, ship, cause to be shipped, deliver for transportation, transport, cause to be transported, carry, or cause to be carried by any means whatever, receive for shipment, transportation or carriage, or export, at any time, or in any manner, any migratory bird, included in the terms of this Convention . . . for the protection of migratory birds . . . or any part, nest, or egg of any such bird.*”

Further, the California Fish and Game Code (CFGF) states the following:

CFGF 3503: “*It is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by this code or any regulation made pursuant thereto.*”

CFGF 3503.5: “*It is unlawful to take, possess, or destroy any birds in the orders Falconiformes or Strigiformes (birds-of-prey) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation adopted pursuant thereto.*”

8.4.1 Nesting Bird Mitigation

If construction activities occur during the nesting bird season (i.e., January 1 – August 31 for raptors and hummingbirds; February 1 – August 31 for all other birds), then a pre-construction nesting bird survey shall be conducted prior to and within three days of construction activities. The biologist shall have the authority to establish no disturbance buffers with the distances determined by factors such as species, tolerance of disturbance, nest status, etc.

If nesting bird surveys result in the need for a biological monitor to be present during construction activities, then one shall be present full-time to monitor construction activities to ensure no direct or indirect impacts occur to potential nest success. The biologist shall have the authority to suspend construction activities if potential impacts are observed.

9.0 GUIDELINES PERTAINING TO THE URBAN/WILDLANDS INTERFACE (SECTION 6.1.4)

MSHCP Section 6.1.4 provides recommendations and guidelines to minimize potential “edge effects”¹⁶ resulting from locating development projects near the MSHCP Reserve Assembly, MSHCP conserved/avoided resources, and/or PQP Lands. Measures, such as buffers and/or barriers, are typically put in place to control drainage, toxics, lighting, noise, and invasives.

The following 6.1.4 Guidelines will be implemented to minimize edge effects to Herkey Creek and nearby PQP Lands.

- **Drainage:** The Project will implement the applicable BMPs described below in Section 10.0. Any runoff originating from the Site after Project completion will be diverted and collected in three proposed bioretention basins thus preventing any low-flow, untreated water from entering Herkey Creek. The site plan attached in Appendix A details the design and connectivity of the three basins. Additionally, the functionality of the three basins is detailed further in the Applicant’s Water Quality Management Plan (WQMP).
- **Toxics:** The Project is not proposing the production of potential Toxics; however, the Project will implement the applicable runoff BMPs described below in section 10.0.
- **Lighting:** Any Project lighting installed near the Development/Herkey Creek boundary shall be shielded or directed to not shine directly into the MSHCP Section 6.1.2 Riparian/Riverine Area.
- **Noise:** The Project is not expected to produce any amount of noise that would be considered an impact to wildlife utilizing the MSHCP Section 6.1.2 Riparian/Riverine Area.
- **Invasives:** Any Project landscaping should avoid those listed in Table 6-2 of the MSHCP which is also provided in Appendix F of this document. Further, the Project should be landscaped with the appropriate native species using the existing native plants as a baseline for the plant palette (e.g., Jeffrey pine, Great Basin sage, scarlet bugler, etc.).
- **Barriers:** According to the site plan attached in Appendix A, the Project is proposing a retaining wall at three locations near, but outside, of the MSHCP Section 6.1.2 Riparian/Riverine Area to eliminate the need for additional grading. The remaining areas along Herkey Creek will remain open without fencing to not impede or interfere with wildlife movement or use of the area; therefore, signs should be placed periodically informing patrons that the creek is an “Environmentally Sensitive Area” and “Do Not Enter.” The habitat of Herkey Creek could serve

¹⁶ Edge effects are defined by the MSHCP as “Adverse direct and indirect effects to species, Habitats and Vegetation Communities along the natural urban/wildlands interface. May include predation by mesopredators (including native and non-native predators), invasion by exotic species, noise, lighting, urban runoff and other anthropogenic impacts (trampling of vegetation, trash and toxic materials dumping, etc.)”

as an educational opportunity for patrons of the future Wellness Center through passive, unobtrusive use such as kiosks with information on the flora and fauna present, bird watching, etc.

- Grading/Land Development: No grading or land development will extend into the MSHCP Section 6.1.2 Riparian/Riverine Area. Additionally, fuel modification/weed abatement activities are not permitted in designated avoidance areas. BMPs, such as orange construction fencing, will be used to clearly define the Project footprint area and will be confirmed by a qualified biological monitor prior to construction/grading activities (i.e., BMP #4 below).

10.0 BEST MANAGEMENT PRACTICES (VOLUME I, APPENDIX C)

The following BMPs, taken directly from the MSHCP (Dudek & Associates, Inc., 2003), should be implemented to the extent feasible and where applicable.

1. A condition shall be placed on grading permits requiring a qualified biologist to conduct a training session for project personnel prior to grading. The training shall include a description of the species of concern and its habitats, the general provisions of the Endangered Species Act (Act) and the MSHCP, the need to adhere to the provisions of the Act and the MSHCP, the penalties associated with violating the provisions of the Act, the general measures that are being implemented to conserve the species of concern as they relate to the project, and the access routes to and project site boundaries within which the project activities must be accomplished.
2. Water pollution and erosion control plans shall be developed and implemented in accordance with RWQCB requirements.
3. The footprint of disturbance shall be minimized to the maximum extent feasible. Access to sites shall be via pre-existing access routes to the greatest extent possible.
4. The upstream and downstream limits of projects disturbance plus lateral limits of disturbance on either side of the stream shall be clearly defined and marked in the field and reviewed by the biologist prior to initiation of work.
5. Projects should be designed to avoid the placement of equipment and personnel within the stream channel or on sand and gravel bars, banks, and adjacent upland habitats used by target species of concern.
6. Projects that cannot be conducted without placing equipment or personnel in sensitive habitats should be timed to avoid the breeding season of riparian identified in MSHCP Global Species Objective No. 7.
7. When stream flows must be diverted, the diversions shall be conducted using sandbags or other methods requiring minimal instream impacts. Silt fencing or other sediment trapping materials shall be installed at the downstream end of construction activity to minimize the transport of sediments offsite. Settling ponds where sediment is collected shall be cleaned out in a manner that prevents the sediment from reentering the stream. Care shall be exercised when removing silt fences, as feasible, to prevent debris or sediment from returning to the stream.
8. Equipment storage, fueling, and staging areas shall be located on upland sites with minimal risks of direct drainage into riparian areas or other sensitive habitats. These designated areas shall be located in such a manner as to prevent any runoff from entering sensitive habitat. Necessary precautions shall be taken to prevent the release of cement or other toxic substances into surface waters. Project related spills of hazardous materials shall be reported to appropriate entities including but not limited to applicable jurisdictional city, FWS [USFWS], and CDFG [CDFW], RWQCB and shall be cleaned up immediately and contaminated soils removed to approved disposal areas.

9. Erodible fill material shall not be deposited into water courses. Brush, loose soils, or other similar debris material shall not be stockpiled within the stream channel or on its banks.
10. The qualified project biologist shall monitor construction activities for the duration of the project to ensure that practicable measures are being employed to avoid incidental disturbance of habitat and species of concern outside the project footprint.
11. The removal of native vegetation shall be avoided and minimized to the maximum extent practicable. Temporary impacts shall be returned to pre-existing contours and revegetated with appropriate native species.
12. Exotic species that prey upon or displace target species of concern should be permanently removed from the site to the extent feasible.
13. To avoid attracting predators of the species of concern, the project site shall be kept as clean of debris as possible. All food related trash items shall be enclosed in sealed containers and regularly removed from the site(s).
14. Construction employees shall strictly limit their activities, vehicles, equipment, and construction materials to the proposed project footprint and designated staging areas and routes of travel. The construction area(s) shall be the minimal area necessary to complete the project and shall be specified in the construction plans. Construction limits will be fenced with orange snow screen. Exclusion fencing should be maintained until the completion of all construction activities. Employees shall be instructed that their activities are restricted to the construction areas.
15. The Permittee shall have the right to access and inspect any sites of approved projects including any restoration/enhancement area for compliance with project approval conditions including these BMPs.

11.0 REFERENCES

- California Bird Records Committee. (2021, August 20). *Official California Checklist*. Retrieved 2021, from <https://www.californiabirds.org/checklist.asp>
- California Department of Fish and Wildlife. (2018, March 20). *Survey and Monitoring Protocols and Guidelines*. Retrieved 2021, from Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities: <https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=18959&inline>
- California Department of Fish and Wildlife. (2021, April). *California Natural Diversity Database* . Retrieved from Special Animals List: <https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=109406&inline>
- California Department of Fish and Wildlife. (2021, August 18). *Natural Communities*. Retrieved 2021, from California Natural Community List: <https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=153398&inline>
- California Native Plant Society. (2021). *About CNPS*. Retrieved 2021, from California Native Plant Society: <http://cnps.org/cnps/about/>
- California Native Plant Society. (2021). *The CNPS Ranking System*. Retrieved 2021, from California Native Plant Society: <http://cnps.org/cnps/rareplants/ranking.php>
- California Native Plant Society. (2021). *Rare Plant Program*. Retrieved 2021, from Inventory of Rare and Endangered Plants of California (online edition, v9-01 1.0): www.rareplants.cnps.org

- California Natural Diversity Database. (2021, October). *Special Animals List*. Retrieved 2021, from California Department of Fish and Wildlife: <https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=109406&inline>
- Chesser, R. T., K. J. Burns, C. Cicero, J. L. Dunn, A. W. Kratter, I. J. Lovette, P. C. Rasmussen, J. V. Remsen, Jr., D. F. Stotz, and K. Winker. (2021, July 01). *Sixty-first Supplement to the American Ornithological Society's Check-list of North American Birds (online)*, Volume 138, Issue 3. (American Ornithological Society) Retrieved 2021, from The Auk: <http://checklist.americanornithology.org/taxa>
- Dudek & Associates, Inc. (2003). *RCA Documents Library - Multiple Species Habitat Conservation Plan*. Retrieved 2021, from Regional Conservation Authority (RCA) Western Riverside County: <https://www.wrc-rca.org/document-library/>
- Dudek & Associates, Inc. (2004, August 9). *Errata to MSHCP - Clarifications and Corrections to the MSHCP*. Retrieved 2020, from RCA Documents Library: http://www.wrc-rca.org/archivecdn/Permit_Docs/Clarifications_and_Corrections_to_the_MSHCP.pdf
- Federal Geographic Data Committee (FGDC). (2013, August). *Classification of Wetlands and Deepwater Habitats of the United States*. Retrieved 2021, from National Wetland Inventory Wetland Classification Codes: <https://www.fws.gov/wetlands/Data/Wetland-Codes.html>
- Historic Aerials by Netronline. (2021). *Historic Aerials*. Retrieved 2021, from <https://www.historicaerials.com/>
- Kus, B. (2002). *Least Bell's Vireo (Vireo bellii pusillus)*. (California Partners in Flight) Retrieved 2021, from In The Riparian Bird Conservation Plan: a strategy for reversing the decline of riparian-associated birds in California: http://www.prbo.org/calpif/htmldocs/species/riparian/least_bell_vireo.htm
- Laymon, S. A. (1998). *Yellow-billed Cuckoo (Coccyzus americanus)*. (California Partners in Flight) Retrieved 2021, from In The Riparian Bird Conservation Plan: a strategy for reversing the decline of riparian-associated birds in California: http://www.prbo.org/calpif/htmldocs/species/riparian/yellow-billed_cuckoo.htm
- Lightner, J. (2006). *San Diego County Native Plants* (2nd Edition ed.). San Diego: San Diego Flora.
- Morey, S. (2014). *California Wildlife Habitat Relationships System*. (R. Duke, & E. C. Beedy, Eds.) Retrieved 2021, from SOUTHERN MOUNTAIN YELLOW-LEGGED FROG: <https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=1502&inline=1>
- Oscar F. Clarke, et al. (2007). *Flora of the Santa Ana River and Environs: with references to world botany*. Berkeley: Heyday Books.
- PWS Weather. (2021). *PWS Weather by Aerisweather*. Retrieved 2021, from F6108 Mountain Center, CA, US: <https://www.pwsweather.com/station/mid/f6108>
- Regional Conservation Authority. (2020, December 1). *Status of Covered Species Not Adequately Conserved (Table 9-3 Species)*. Retrieved 2021, from https://www.wrc-rca.org/annual_reports/Current_Status_of_Covered_Species_Not_Adequately_Conserved-REV2020.pdf

- Regional Conservation Authority. (2021). *RCA MSHCP Information App*. Retrieved 2021, from <http://wrcrca.maps.arcgis.com/apps/webappviewer/index.html?id=a73e69d2a64d41c29ebd3acd67467abd>
- Regional Conservation Authority. (n.d.). *Mountain yellow-legged frog (Rana muscosa)*. Retrieved 2021, from https://www.wrc-rca.org/species/survey_protocols/Yellow-Legged_Frogs.pdf
- Riverside County. (2020, December). *Geographic Information Services*. Retrieved 2020, from GIS Data: <https://gis.rivcoit.org/GIS-Data-2>
- Sawyer, J. O., Keeler-Wolf, T., & Evens, J. M. (2009). *A Manual of California Vegetation* (2nd Edition ed.). Sacramento: California Native Plant Society.
- Sogge, M. K., Ahlers, D., & Sferra, S. J. (2010). *A natural history summary and survey protocol for the Southwestern Willow Flycatcher*. U.S. Geological Survey Techniques and Methods 2A-10.
- The Cornell Lab of Ornithology. (2021). *eBird*. Retrieved 2021, from <https://ebird.org/home>
- The Declining Amphibian Task Force. (n.d.). Retrieved 2021, from <https://www.fws.gov/ventura/docs/species/protocols/DAFTA.pdf>
- The Jepson Herbarium University of California, Berkeley. (2014, July 1). *Jepson Flora Project (eds.)*. Retrieved 2021, from Jepson eFlora: <https://ucjeps.berkeley.edu/interchange/>
- U. S. Fish and Wildlife Service - Pacific Region. (2019). *Little Known but Important Features of the Endangered Species Act*. Retrieved June 2019, from Distinct Population Segments, 4(d) Rules, and Experimental Populations: <https://www.fws.gov/pacific/news/grizzly/esafacts.htm>
- U. S. Fish and Wildlife Service. (2021, November 30). *National Wetlands Inventory surface waters and wetlands*. Retrieved 2021, from <https://www.fws.gov/wetlands/data/Mapper.html>
- U. S. Fish and Wildlife Service Carlsbad Fish and Wildlife Office. (2021, November 3). *Species Occurrence Data*. Retrieved 2021, from <https://www.fws.gov/carlsbad/gis/cfwogis.html>
- U.S. Fish and Wildlife Service. (2018). *Recovery Plan for the southern California distinct population segment of the mountain yellow-legged frog*. Sacramento, California: Fish and Wildlife Service, Pacific Southwest Region. Retrieved 2021, from https://ecos.fws.gov/docs/recovery_plan/Southern%20CA%20MYLF%20Recovery%20Plan.pdf
- United States Department of Agriculture Natural Resources Conservation Service. (2021). (USDA) Retrieved 2021, from Web Soil Survey: <http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx>
- University of California Agriculture and Natural Resources. (2021). *California Fish Species*. Retrieved 2021, from California Fish Website: <https://calfish.ucdavis.edu/species/>
- Wilson, D. E., & Reeder, D. M. (2005). *Mammal Species of the World. A Taxonomic and Geographic Reference (3rd Edition)*. (2. p. Johns Hopkins University Press, Producer) Retrieved 2021, from <https://www.departments.bucknell.edu/biology/resources/msw3/>

12.0 CERTIFICATION

I hereby certify that the statements furnished above, the associated figures, and the attached appendices present data and information required for this biological evaluation, and that the facts, statements, and information presented are true and correct to the best of my knowledge and belief.

Signed: Tim Searl Date: December 17, 2021
Tim Searl, Owner/Biologist, Searl Biological Services
Permit Number: TE02351A-1

FIGURE DISCLAIMER

Figures and data are to be used for reference purposes only. Map features are approximate and are not necessarily accurate to surveying or engineering standards. Tim Searl, SBS makes no warranty or guarantee as to the content (the source is often third party), accuracy, timeliness, or completeness of any of the data provided, and assumes no legal responsibility for the information contained on any of the Figures associated with this report.

APPENDIX A

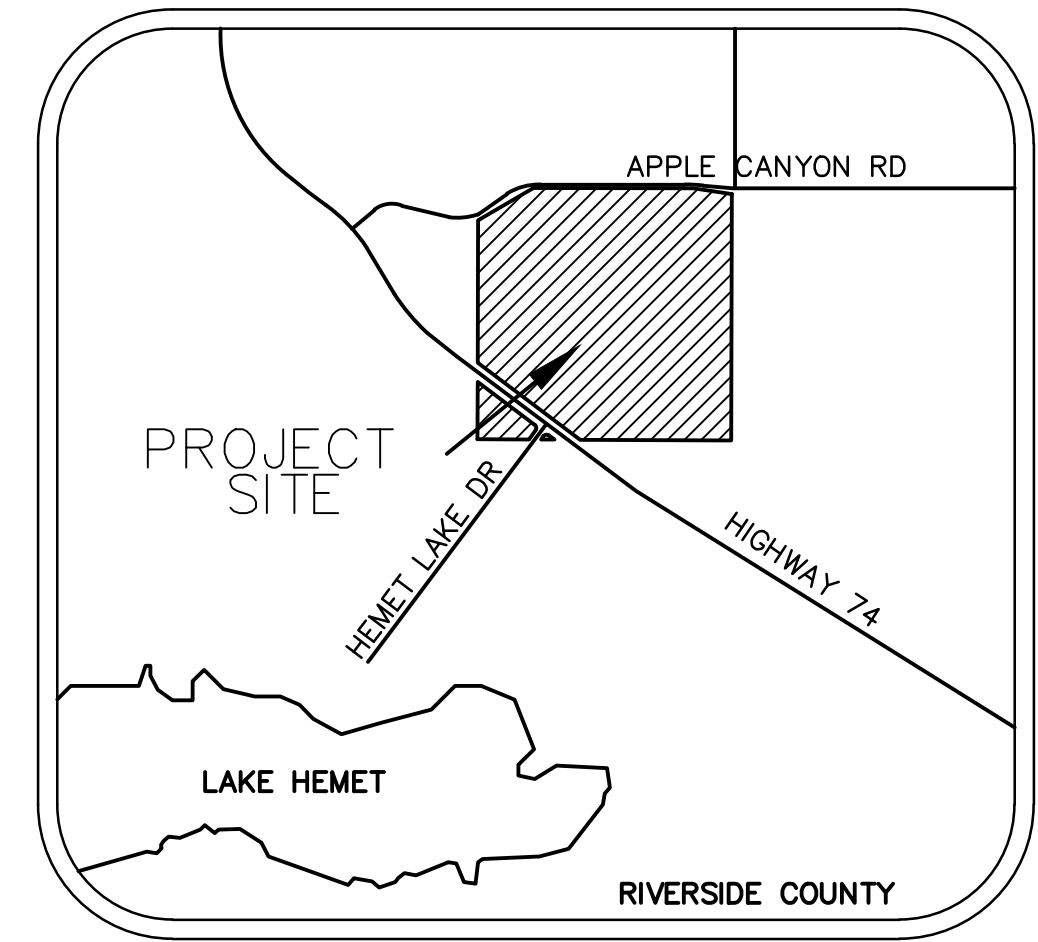
Site Plan

COUNTY OF RIVERSIDE C.U.P.

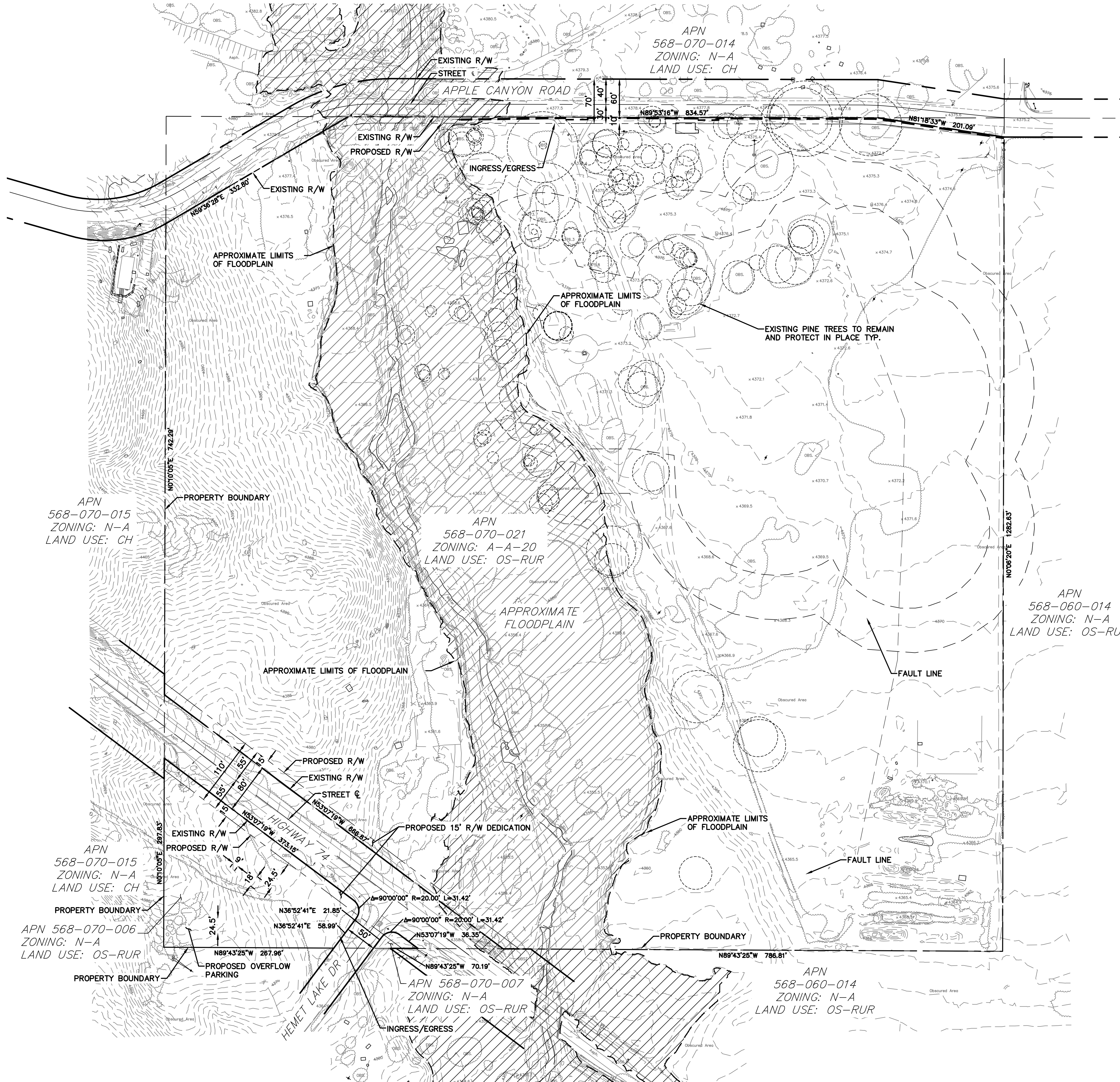
THE RIDGE

56475 APPLE CANYON ROAD MOUNTAIN CENTER, CA

SECTION 4, TOWNSHIP 6 SOUTH, RANGE 3 EAST
COMPREHENSIVE LANDSCAPE PLAN



VICINITY MAP
NO SCALE



PROJECT DESCRIPTION

THE RIDGE WELLNESS PROPOSES AN ECO-CONSCIOUS PRIVATE GUEST RANCH ON 36.11 ACRES (APN 568-070-021) LOCATED AT 56475 APPLE CANYON ROAD, MOUNTAIN CENTER IN THE COUNTY OF RIVERSIDE. THE PROJECT SITE WILL RETAIN ALL THE NATURAL VEGETATION AND ALL THE EXISTING LARGE PINE TREES WITHIN ITS DESIGNS.

THE RIDGE WILL BE DESIGNED TO FACILITATE A FULL IMMERSION NATURE EXPERIENCE IN MOUNTAIN CENTER. THE RANCH WILL OFFER A VARIETY OF SELF-DEVELOPMENT THERAPIES AND EXTENSIVE RECREATIONAL ACTIVITIES. IN ADDITION, GUESTS WILL BE ABLE TO PARTICIPATE IN CULTURAL AND ENVIRONMENTAL EDUCATIONAL ACTIVITIES AS PART OF THE EXPERIENCE AT THE RANCH.

THE PROJECT PROPOSES TO CONSTRUCT GUEST CABINS AND GUEST TENTS, WELLNESS CABINS, WELLNESS BASECAMP, ACTIVITY HUB WITH LAP POOL, DINING AREA, AND HEALTH-FOCUSED COMMERCIAL KITCHEN. EXISTING LARGE AGRICULTURAL SITE AND WORKING GREENHOUSE, APIARY AND FRUIT TREES WILL CONTRIBUTE TO A FULLY SUSTAINABLE FACILITY FOR GUESTS TO USE AND ENJOY WITHIN THE NATURAL SETTING OF THE PROPERTY.

PLEASE REVIEW OUR DETAILED PROJECT DESCRIPTION & RECREATIONAL ACTIVITIES EXHIBIT FOR A FULL SUMMARY OF THIS UNIQUE SUSTAINABLE PROJECT.

ENGINEER/REPRESENTATIVE

JLC ENGINEERING & CONSULTING, INC.
41680 IVY STREET, SUITE D
MURRIETA, CALIFORNIA 92562
(951)-304-9552

OWNER/APPLICANT

THE RIDGE
21352 RAMBLA VISTA
MALIBU, CA 90265
ATTN: CAROLINE LEGRAND
PHONE: (310) 666-3623
EMAIL: LEGRAND.CAROLINE@GOOGLEMAIL.COM

SCHOOL DISTRICTS

HEMET UNIFIED

UTILITIES:

- CABLE T.V.: DIRECT TV
1-(855)-842-4388
- ELECTRIC: ANZA ELECTRIC COOPERATIVE, INC
1-(951)-763-4333
- GAS: PROPANE ON SITE
- SEWER: ATU SEPTIC ON SITE
- WATER: WELL ON SITE
- INTERNET: FRONTIER
1-(800)-921-8101
VERIZON
1-(800)-225-5499

TOPOGRAPHY

INLAND AERIAL SURVEYS, INC.
7117 ARLINGTON AVENUE SUITE A
RIVERSIDE, CA 92503
PHONE: (951) 687 - 4252
DATED: 07-13-2020

LEGAL DISCRIPTION

THE SOUTHWEST QUARTER OF THE SOUTHWEST QUARTER OF SECTION 4, TOWNSHIP 6 SOUTH, RANGE 3 EAST, SAN BERNARDINO BASE AND MERIDIAN, AS SHOWN BY UNITED STATES GOVERNMENT SURVEY.

EXCEPTING THEREFROM ANY PORTION THEREOF LYING WITHIN STATE HIGHWAY 74, LAKE HEMET DRIVE AND APPLE CANYON ROAD;

ALSO EXCEPTING THEREFROM THAT PORTION CONVEYED TO THE COUNTY OF RIVERSIDE BY DEED RECORDED NOVEMBER 8, 1955 IN BOOK 1817 PAGE 296 OF OFFICIAL RECORDS OF RIVERSIDE COUNTY, CALIFORNIA.

PRIOR TO PROJECT CONSTRUCTION, I AGREE TO COMPLETE A LANDSCAPE CONSTRUCTION DOCUMENT PACKAGE THAT COMPLIES WITH THE REQUIREMENTS OF ORDINANCE NO. 859.3; ORDINANCE 348; ORDINANCE 461; PROJECT CONDITIONS OF APPROVAL; AND IN SUBSTANTIAL CONFORMANCE WITH THE APPROVED SPECIFIC PLAN AND LANDSCAPE CONCEPT PLAN. SHOULD THE ORDINANCES BE REVISED, THESE PLANS MAY BE SUBJECT TO CHANGE BASED ON THE UPDATED ORDINANCES.

APPLICANT'S SIGNATURE _____ DATE 7-02-21

GENERAL NOTES:

1. ASSESSORS PARCEL NOS.: 568-170-021
568-170-006, 568-170-007
2. CURRENT ZONING: A-1-20 (LIGHT AGRICULTURE),
N-A (NATURAL ASSETS)
3. PROPOSED ZONING: N-A (NATURAL ASSETS)
4. SURROUNDING ZONING:
NORTH - M-SC
SOUTH - M-SC
WEST - M-SC
EAST - M-SC
5. ADJACENT GENERAL PLAN LAND USE: NOT IN A GENERAL PLAN POLICY OVERLAY AREA.
6. EXISTING GENERAL PLAN LAND USE: OS-RUR (OPEN SPACE-RURAL)
7. PROPOSED GENERAL PLAN LAND USE: OS-RUR (OPEN SPACE-RURAL)
8. PUBLIC STREET IMPROVEMENTS: PER COUNTY OF RIVERSIDE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION.
9. SUBSURFACE ATU SEPTIC DISPOSAL PROPOSED.

BASIS OF BEARINGS

THE BASIS OF BEARINGS FOR THIS SURVEY IS THE CALIFORNIA STATE PLANE COORDINATE SYSTEM, CCS83, ZONE 6, BASED LOCALLY ON CONTROL STATIONS "DSSC" AND "P584", NAD 83 (NRS2011) AS SHOWN HEREON. ALL BEARINGS SHOWN ON THIS MAP ARE GRID, QUOTED BEARINGS AND DISTANCES FROM REFERENCE MAPS OR DEEDS ARE AS SHOWN PER THAT RECORD REFERENCE. ALL DISTANCES SHOWN ARE GROUND DISTANCES UNLESS SPECIFIED OTHERWISE. GRID DISTANCES, MAY BE OBTAINED BY MULTIPLYING THE GROUND DISTANCE BY A COMBINATION FACTOR OF 0.999767615. CALCULATIONS ARE MADE AT POINT #1 WITH COORDINATES OF N:2189110.805, E:6431632.718, USING AN ELEVATION OF 4367.894 FEET. THE CONVERGENCE ANGLE AT POINT #1 IS -00°14'05.51".

PROJECT BENCHMARK

RIVERSIDE COUNTY BM #1-30
ELEVATION = 4444.129' (NGVD 29)

NORTHWEST ALONG HIGHWAY 74 TOWARD MOUNTAIN CENTER TO THE "I" INTERSECTION OF MCCALL PARK ROAD AND HIGHWAY 74, 220.0 FEET NORTH OF THE INTERSECTION ALONG MCCALL PARK ROAD, 12.0 FEET EAST OF THE CENTERLINE OF MCCALL PARK ROAD. NEAR AN ANGLE POINT IN A FENCE LINE.

LAND AREA

36.11 AC GROSS

PROPOSED LANDSCAPE AREA

1.36 ACRES - 59,321 S.F.

SHEET INDEX

1. EXISTING COMPREHENSIVE LANDSCAPE PLAN
2. PROPOSED COMPREHENSIVE LANDSCAPE PLAN

WASTE DISPOSAL SYSTEM

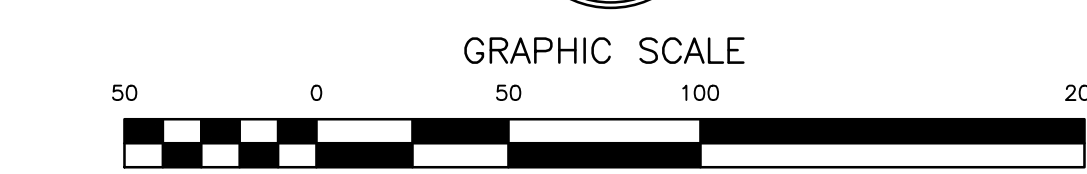
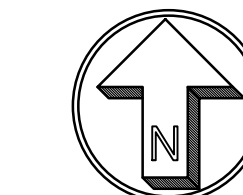
ONSITE ATU SEPTIC SYSTEM

ONSITE WATER NOTE

WATER FOR DOMESTIC, IRRIGATION, AND FIRE USES SHALL BE PROVIDED BY ONSITE WELLS.

ENCROACHMENT NOTE:
THE CONTRACTOR SHALL OBTAIN ALL ENCROACHMENT & GRADING PERMITS PRIOR TO STARTING ANY WORK.
THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE CLEARING OF THE PROPOSED WORK AREA, AND THE RELOCATION COSTS OF ALL UTILITIES. PERMITEE MUST INFORM COUNTY OF CONSTRUCTION SCHEDULE AT LEAST 48 HOURS PRIOR TO BEGINNING CONSTRUCTION. PHONE: (951) 955-8885

SOIL TESTING (SOIL MANAGEMENT REPORT):
OWNER SHALL PROVIDE A HORTICULTURAL SOILS ANALYSIS PERFORMED BY A LABORATORY OF THE CALIFORNIA ASSOC. OF AGRICULTURAL LABORATORIES. CONTRACTOR SHALL ADJUST SOIL AMENDMENT RECOMMENDATIONS TO CONFORM TO SOIL ANALYSIS RESULTS AS REQUIRED. SEND THE REPORT TO THE COUNTY ELECTRONICALLY BEFORE THE PRE-LANDSCAPE INSTALLATION INSPECTION.



1 INCH = 50 FT.
DATE: PREPARED JULY 2, 2021

OFFICE/UNTITLED ARCHITECT OF RECORD
4200 SEPULVEDA BLVD, STE 104, CULVER CITY, CA 90230
P.310.730.6698

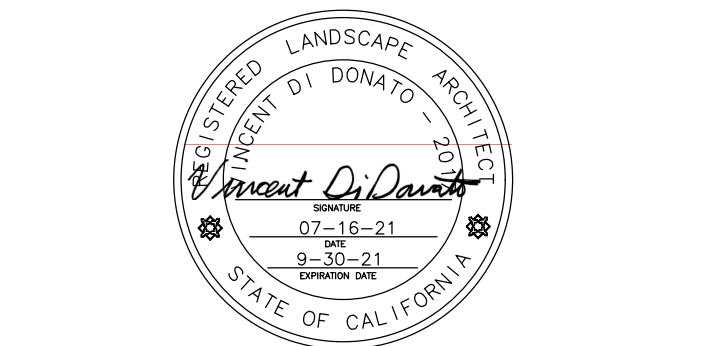
MANUEL CERVANTES ESTUDIO DESIGN ARCHITECT PASEO DE LAS PALMAS, 800 5TO PISO COL. LOMAS DE CHARLA TEPEC, COMEX P.52 1.55.5201.3508
HOLMES STRUCTURES STRUCTURAL ENGINEER 629 WEST 6TH ST, STE 1122 LOS ANGELES, CA 90014 P.213.481.5600
INTEGRAL GROUP MEP ENGINEER 15760 VENTURA BLVD, STE 1902 ENCINO, CA 91436 P.323.825.9955
ALHAMBRA GROUP LANDSCAPE ARCHITECT 41635 ENTERPRISE CIRCLE N. STE. C TEMECULA, CA 92591 P.951.268.6802
JLC ENGINEERING CIVIL ENGINEER 41680 IVY STREET, STE A MURRIETA, CA 92562 P.951.304.9552

THE RIDGE

56475 APPLE CANYON ROAD MTN. CENTER, CA 92549

OU PROJECT NO: 21.010.000

ALHAMBRA GROUP
LANDSCAPE ARCHITECTURE
CALIFORNIA LICENSE #2017
RECREATION FACILITIES PLANNING
41635 ENTERPRISE CIRCLE NORTH, SUITE C
TEMECULA, CA 92590 (951) 296-6802
cell: (951) 970 6156 E-MAIL: vince@alhambragroup.net
AG# 21-107

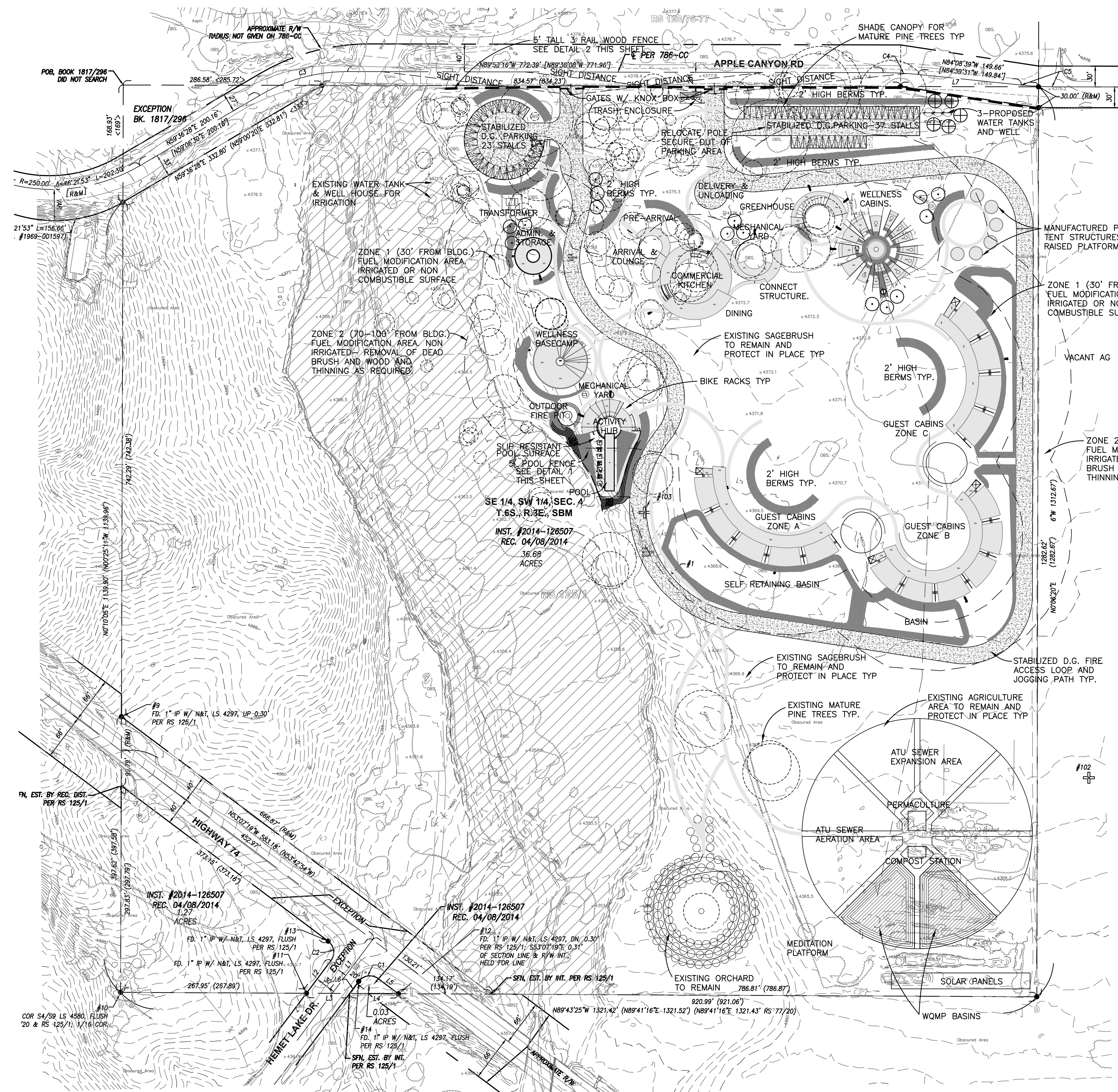


#	DESCRIPTION	DATE
1	REVISION 1	DATE 1

SCALE: NORTH
1 inch = 50 ft.

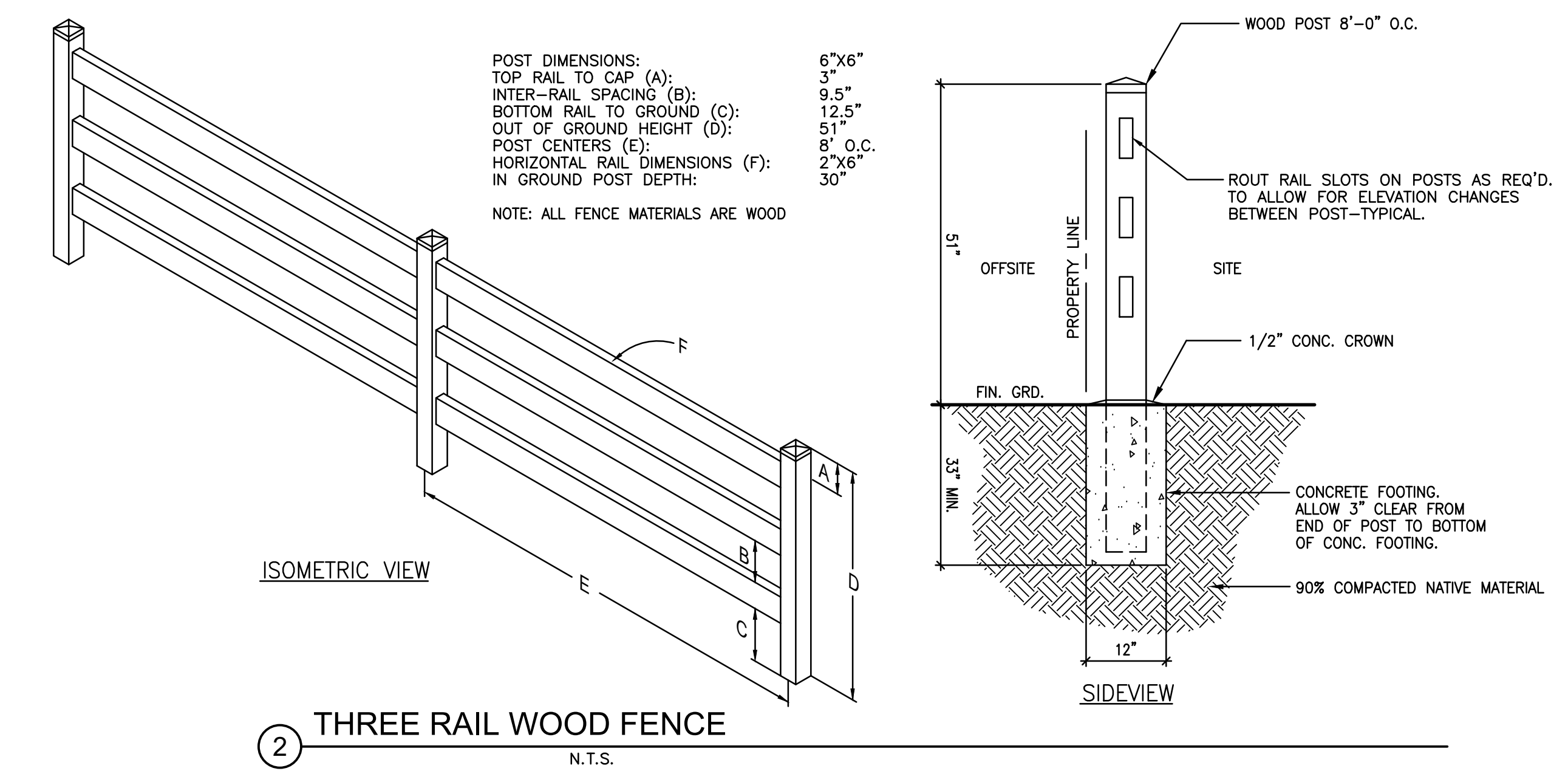
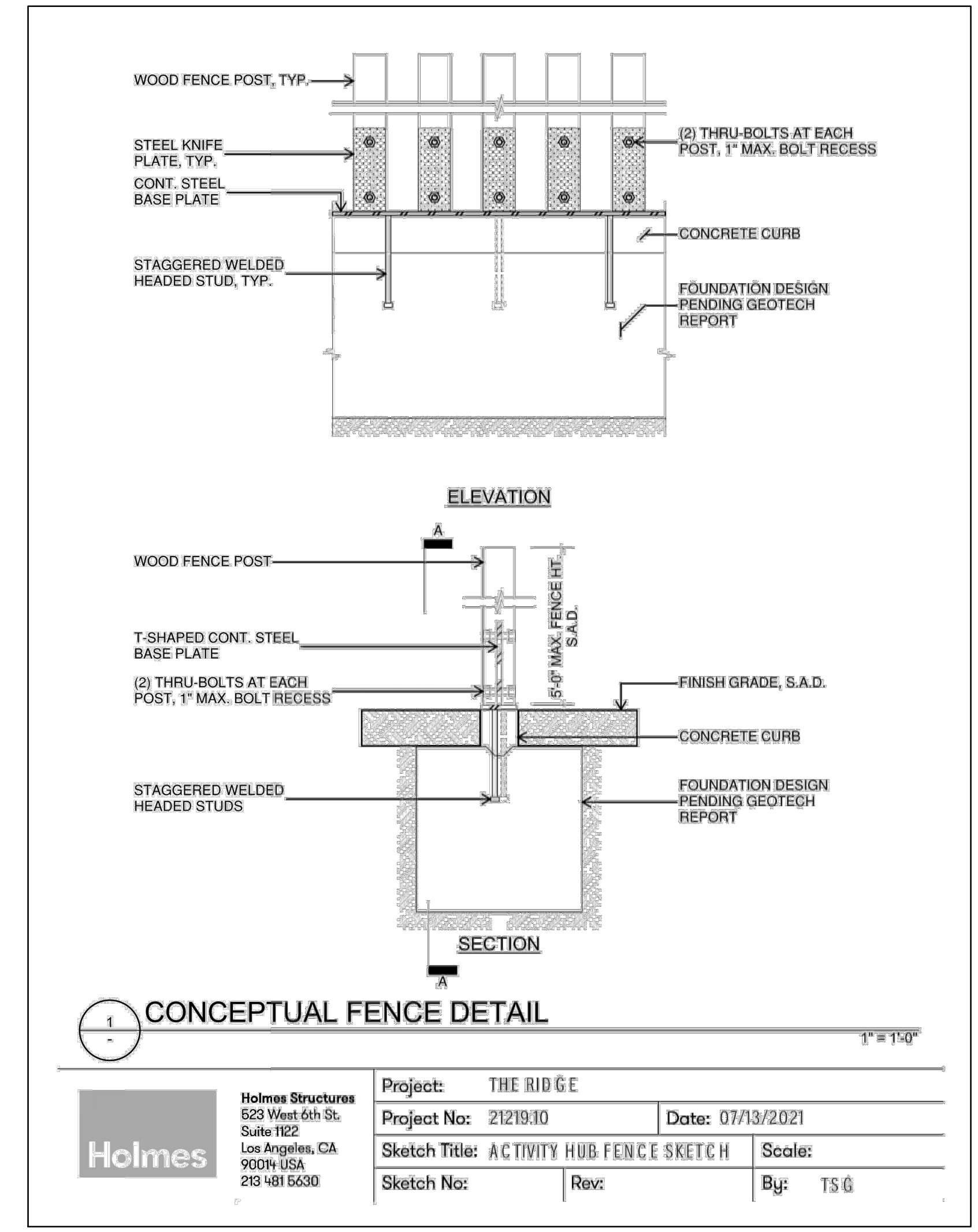
COMPREHENSIVE LANDSCAPE PLAN
L-1
OF 2 SHEETS

**COUNTY OF RIVERSIDE C.U.P.
THE RIDGE
56475 APPLE CANYON ROAD MOUNTAIN CENTER, CA
SECTION 4, TOWNSHIP 6 SOUTH, RANGE 3 EAST**



PROJECT LANDSCAPE APPROACH

THE PROJECT HAS AN ABUNDANCE OF EXISTING PINE TREES AND CALIFORNIA SAGE BRUSH. THE DESIGN INTENT IS TO KEEP ALL OF THE PINE TREES AND THE MAJORITY OF THE SAGE BRUSH AS POSSIBLE. THE BUILDING DESIGN AND FIRE AND ADA ACCESS HAVE BEEN LOCATED TO MINIMIZE THE IMPACT ON THE EXISTING TREES AND VEGETATION. THE SITE HAS A NATURAL WATER COURSE RUNNING THROUGH THE WEST SIDE OF THE PROPERTY THAT WILL BE UN TOUCHED AND PRESERVED. THE PROJECT IS WITHIN A HIGH FIRE ZONE AREA AND WE HAVE SHOWN THE FUEL MODIFICATION AREAS FOR THE BUILDINGS. THE PROPOSED LANDSCAPE SHALL CONSIST OF CALIFORNIA SAGE BRUSH ON MOUNDS THAT ARE LOCATED TO PROVIDE CONTINUITY THROUGH OUT THE SITE AND ADDITIONAL SCREENING FOR THE PARKING AND OTHER ITEMS THAT WILL NEED TO BE SCREENED. WE ARE PROPOSING ADDITIONAL NATIVE TREES FOR SCREENING AND PRIVACY. ALL OF THE ADJACENT PROPERTIES ARE VERY PASTORAL AND DO NOT HAVE STREET TREES IN THE RIGHT OF WAY. THE SHADE FOR THE PARKING AREAS IS PROVIDED BY THE MATURE EXISTING PINE TREES. THE LANDSCAPE SHALL BE PLANTED WITH WUCOLS AREA 4 LOW WATER USE TREES AND SHRUBS. THE LANDSCAPE WILL BE INSTALLED IN ONE PHASE AND THE OWNER SHALL BE RESPONSIBLE FOR THE MAINTENANCE. THE PROJECT WILL BE IRRIGATED BY AN EXISTING WELL AND TANK SYSTEM AND IS NOT SUBJECT TO THE STATE WATER REQUIREMENTS.



PLANTING LEGEND

SYMBOL	BOTANICAL NAME	COMMON NAME	SIZE	NUMBER	REMARKS	WUCOLS IV
TREES:						
	PINUS COULTERI	COULTER PINE	EXISTING	--	EXISTING TO REMAIN AND PROTECT IN PLACE	L
	PINUS JEFFREYI	JRFFREY PINE	EXISTING	--	EXISTING TO REMAIN AND PROTECT IN PLACE	L
	PINUS PONDEROSA	PONDEROSA PINE	EXISTING	--	EXISTING TO REMAIN AND PROTECT IN PLACE	L
	SAMBUCUS NIGRA	ELDERBERRY	15 GAL.	15	DOUBLE STAKE SIZE PER INDUSTRY STANDARDS	L
	ARCHTOSTAPHYLOS MANZANITA	MANZANITA TREE	15 GAL.	5	DOUBLE STAKE SIZE PER INDUSTRY STANDARDS	L
SHRUBS:						
	ARTEMISIA CALIFORNICA	CALIFORNIA SAGEBRUSH	1 GAL.	AS REQUIRED	FULL & BUSHY PLANT @ 6' O.C. BERMS & SLOPES	L
	JUNCUS PATENS	CALIFORNIA RUSH	1 GAL.	AS REQUIRED	FULL & BUSHY PLANT @ 3' O.C. IN BASINS	M
MULCH:						
	FOREST FLOOR WOOD MULCH	ONSITE VEGETATION MULCH	3" MAX.	AS REQ'D.	INSTALL 3" DEEP TO ALL PLANTING AREAS	

LANDSCAPE NOTES:

- THE FOLLOWING ITEMS WILL BE INCORPORATED INTO THE FINAL LANDSCAPE CONSTRUCTION PLANS AND SPECIFICATIONS.
- A SMART CONTROLLER W/ A WEATHER STATION WITH ACCESS TO REAL-TIME ET (CONTROLLER SHALL BE LIGHT COMMERCIAL RATING MINIMUM)
 - MASTER VALVE AND FLOW SENSOR (EXCEPT FOR PRIVATE RESIDENTIAL LOTS)
 - RAIN SENSING DEVICE
 - ANTI-DRAIN CHECK VALVES
 - PRESSURE REGULATOR (IF NEEDED)
 - HYDROZONES WILL BE PROPERLY DESIGNATED
 - NO OVERHEAD IRRIGATION WITHIN 24" OF NON-PERMEABLE SURFACES. (NO RESTRICTIONS TO METHOD IF ADJACENT TO PERMEABLE SURFACE W/ NO RUNOFF/OVERSPRAY)
 - SUBSURFACE OR LOW-VOLUME IRRIGATION WILL BE USED FOR IRREGULARLY SHAPED AREAS, OR AREAS LESS THAN 10' IN WIDTH.
 - PROVIDE A 3" LAYER OF MULCH (MIN.) IN SHRUB BED AND UNPLANTED AREAS; 2" LAYER OF MULCH IN GROUNDCOVER AREAS; 3" LAYER OF SHREDDED STABILIZING MULCH FOR SLOPES
 - PROPOSED TREES SHALL BE STAKED W/ 2-3 STAKES AND 6 TIES PER COUNTY STANDARD DETAILS.
 - ROOT BARRIERS SHALL BE INSTALLED FOR PROPOSED TREES PLANTED WITHIN 6' (MIN.) OF HARDSCAPE PER COUNTY STANDARD DETAILS. ROOT BARRIER SHALL NOT ENCIRCLE THE TREE ROOTBALL BUT SHALL BE LOCATED AT THE EDGE OF HARDSCAPE AND EXTEND BEYOND CENTER OF TREE A MINIMUM OF 8' IN EACH DIRECTION. THIS REQUIREMENT DOES NOT APPLY TO EXISTING TREES.
 - TREES SHALL HAVE BREATHER TUBES PER COUNTY STANDARD DETAILS.
 - PLANTER ISLANDS ADJACENT TO PARKING SPACES SHALL HAVE A STABILIZED DECOMPOSED GRANITE 12" WIDE EXTENSION OF THE PARKING.

NOTES:

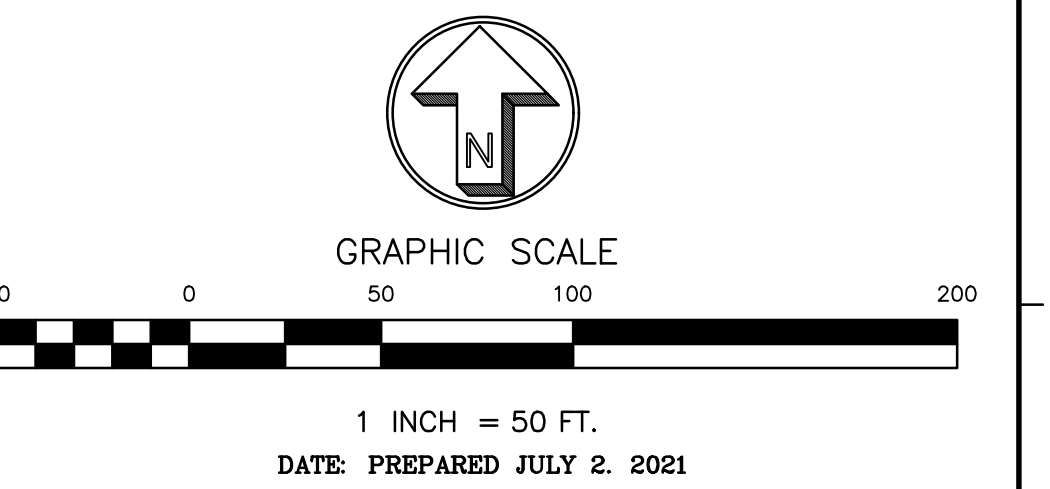
- ALL PLANTING AND IRRIGATION SHALL CONFORM TO THE COUNTY OF RIVERSIDE STANDARDS, ORDINANCE 859, THE GUIDE TO CALIFORNIA FRIENDLY LANDSCAPING AND THE TEMESCAL CANYON DESIGN GUIDELINES.
- A WELL WATER IRRIGATION SYSTEM SHALL BE UTILIZED FOR THIS PROJECT PER THE COUNTY OF RIVERSIDE'S WATER CONSERVATION ORDINANCE 859.
- ALL MATURE PLANTING SHALL NOT INTERFERE WITH UTILITY LINES OR TRAFFIC SITE LINES.
- ALL UTILITIES NOT IN SCE EASEMENT SHALL BE SCREENED W/ PLANTING TYP.
- INSTALL ROOT BARRIERS TO TREES WITHIN 6' OF ALL HARDSCAPE
- ALL SLOPES OVER 3' IN VERTICAL HEIGHT SHALL BE PLANTED AND IRRIGATED PER THE BUILDING AND SAFETY REQUIREMENTS.
- A 3" LAYER OF WOOD MULCH SHALL BE INSTALLED TO ALL PLANTING AREAS AS REQUIRED.
- ALL LANDSCAPE SHALL BE MAINTAINED BY THE OWNER.
- ALL LANDSCAPING SHALL BE INSTALLED IN ONE PHASE.

SHADE REQUIREMENT

REQUIRED 60 SPACES @ 162 S.F. EA = 10,020 S.F.
10,020 S.F. @ 50% COVERAGE REQUIRED= 5,010 S.F.
ACTUAL AREA SHADED= 6,110 S.F.

INTERIOR LANDSCAPE REQUIREMENT

REQUIRED 60 SPACES @ 162 S.F. EA = 10,020 S.F.
10,020 S.F. @ 10% COVERAGE REQUIRED= 1,002 S.F.
ACTUAL AREA = 1,100 S.F.



COMPREHENSIVE LANDSCAPE PLAN

OFFICE/UNTITLED ARCHITECT OF RECORD
4200 SEPULVEDA BLVD, STE 104, CULVER CITY, CA 90230
P.310.730.6688

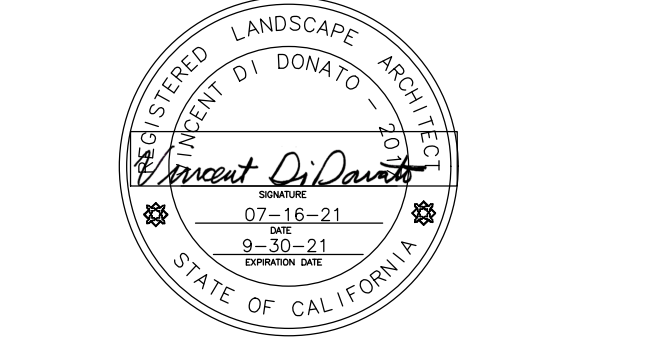
MANUEL CERVANTES ESTUDIO DESIGN ARCHITECT PASEO DE LAS PALMAS, 820 510 PASO COO. LOMAS DE CHAPARRITEPEC, 22049 P.52 | 55.5071.5508
HOLMES STRUCTURES STRUCTURAL ENGINEER 523 WEST 6TH ST, STE 1122 LOS ANGELES, CA 90014 P.213.481.5630
INTEGRAL GROUP MEP ENGINEER 15760 VENTURA BLVD, STE 1905 ENCINO, CA 91436 P.323.825.9055
ALHAMBRA GROUP LANDSCAPE ARCHITECT 41635 ENTERPRISE CIR. STE. C TEMECULA, CA 92591 P.951.269.6802
J.L.C. ENGINEERING CIVIL ENGINEER 41660 MY STREET, STE A MURFREESBORO, TN 37132 P.615.834.3043

THE RIDGE

56475 APPLE CANYON ROAD MTN. CENTER, CA 92549

OU PROJECT NO: 21.010.000

ALHAMBRA GROUP
LANDSCAPE ARCHITECTURE
CALIFORNIA LICENSE #2017
RECREATION FACILITIES PLANNING
41635 ENTERPRISE CIRCLE NORTH, SUITE C
TEMECULA, CA 92590 (951) 296-6802
cell: (951) 970-6156 | email: info@alhambragroup.net
AG# 21-107



#	DESCRIPTION	DATE
1	Revision 1	Date 1

SCALE:

APPENDIX B

Plants Observed

**PLANTS OBSERVED AT THE RIDGE, GARNER VALLEY,
SAN JACINTO MOUNTAINS, RIVERSIDE COUNTY, CALIFORNIA**

Fred M. Roberts

Observations made March 30th, May 20th, and Jun 22nd, 2021

* = introduced

agl = annual grassland

gbs = great basin scrub

mch = manzanita chaparral

opf = open pine forest

rip = riparian

dst = disturbed

GYMNOSPERMS

PINACEAE – PINE FAMILY

****Pinus attenuata*** KNOBCONE PINE. Scarce, dst.

Pinus jeffreyi JEFFREY PINE. Fairly common, opf.

ANGIOSPERMS: EUDICOTS

APIACEAE – CARROT FAMILY

****Cyclosporum leptophyllum*** MARSH-PARSLEY. Scarce along creek; rip.

APOCYNACEAE – DOGBANE FAMILY

Asclepias eriocarpa KOTOLO. Uncommon; opf.

ASTERACEAE – SUNFLOWER FAMILY

Achellia millifolium YARROW. Occasional; mch.

Agoseris retrosa SPEARLEAF AGOSERIS. Scarce; mch.

- Ambrosia acanthocarpa* ANNUAL BUR-SAGE. Scattered; mostly on sand; rip (wash), gbs, dst.
- Artemisia douglasiana* MUGWORT. Common along creek; rip.
- Artemisia dracunculus* TARAGON. Uncommon; gbs, rip.
- Artemisia tridentata* GREAT BASIN SAGE. Common; gbs, opf, mch, dst.
- Cirsium occidentale* CALIFORNIA THISTLE. Occasional; mch.
- Corethrogyne filaginifolia* SAND ASTER. Occasional to fairly common; agl, gbs, mch, opf
- Ericameria pinifolia* PINE GOLDENBUSH. Uncommon; opf.
- Erigeron canadensis* CANADUAN HORSEWEED. Uncommon in sandy wash; rip.
- Gutierrezia sarothrae* BROOM SNAKEWEED. Fairly common; mch.
- Heterotheca sessiliflora* FALSE GOLDENASTER. Occasional; agl.
- Hulsea vestita* subsp. *callicarpa* BEAUTIFUL HULSEA. CRPR 4.2. Local and patchy; opf, wash.
- Hymenopappus filifolius* FINELEAF WOOLLYWHITE. Scarce; opf.
- Lasthenia gracilis* COMMON GOLDFIELDS. Occasional to locally common in patches; opf, mch, gbs.
- Lessingia glandulifera* var. *glandulifera* VALLEY LESSINGIA. Uncommon; sandy wash, agl.
- **Matricaria discoidea* PINAPPLEWEED. Uncommon; dst.
- Pentachaeta aurea* subsp. *aurea* GOLDEN-RAYED PENTACHAETA. CRPR 4.2. Patchy, locally common; gbs, agl, mch.
- Achellia millifolium* YARROW. Occasional; mch FRAGRANT EVERLASTING CUDWEED. Uncommon along creek; rip.
- Pseudognaphalium stramineum* COTTON-BATTING PLANT. Scarce along creek; rip.
- Solidago velutina* subsp. *californica* CALIFORNIA GOLDENROD. Occasional; opf, rip.
- **Sonchus asper* PRICKLY SOW THISTLE. Uncommon along creek; rip.
- **Sonchus oleraceus* COMMON SOW THISTLE. Uncommon along creek; rip.
- Stephanomeria exigua* SMALL WIRELETTUCE. Uncommon; mch.
- Uropappus lindleyi* SILVER PUFFS. Scarce; gbs.

BORAGINACEAE – BORAGE FAMILY

[*Nemophila*, *Phacelia* being treated under Hydrophyllaceae again in some recent treatments]

- Cryptantha microstachys* TEJON CRYPTANTHA. Occasional; agl.
- Cryptantha muricata* POINTED CRYPTANTHA. Occasional; opf.

Eremocarya micrantha [*Cryptantha m.*] RED-ROOT EREMOCARYA. Fairly common, especially on sandy flats; agl, gbs, mch, opf.

Nemophila menzeisii BABY BLUE-EYES. Occasional; mch, gbs.

Pectocarya sp. COMBSEED. Occasional; gbs.

Phacelia imbricata IMBRICATE PHACELIA. Occasional; sandy wash.

Phacelia ramosissima BRANCHING PHACELIA. Occasional; rip (sandy wash), mch.

Plagiobothrys tenellus SLENDER POPCORN FLOWER. Fairly common, especially on sandy flats; agl, gbs, opf.

BRASSICACEAE – MUSTARD FAMILY

Barbarea Orthoceras ERECT-POD WINTER-CRESS. Occasional along creek; rip.

Boechera arcuata ARCHING ROCKCRESS. Occasional; mch, opf.

Descurainia pinnata TANSEY-MUSTARD. Occasional; agl, dst.

Draba verna VERNAL WHITLOW. Uncommon, sandy flats; opf.

**Hirschfeldia incana* SUMMER MUSTARD. Occasional; gbs, dst.

Lepidium virginicum var. *pubescens* WILD PEPPERGRASS. Occasional; rip.

**Sisymbrium altissimum* TUMBLE MUSTARD. Occasional; agl, gbs, opf, dst.

CACTACEAE – CACTUS FAMILY

Cylindropuntia bernardina [*C. californica* var. *parkeri*] VALLEY CHOLLA. Occasional; mch.

Opuntia phaeacantha DESERT PRICKLY PEAR CACTUS. Occasional; gbs, mch.

CAPRIFOLIACEAE – HONEYSUCKLE FAMILY

Lonicera subspicata var. *denudata* JOHNSTON'S HONEYSUCKLE. Uncommon; mch.

CHENOPODIACEAE – GOOSEFOOT FAMILY

Chenopodium berlandieri PIT-SEED GOOSEFOOT. Occasional; opf.

**Salsola tragus* RUSSIAN THISTLE. Occasional; gbs, opf, dst.

CRASSULACEAE – STONECROP FAMILY

**Crassula tillaea* MOSSY STONECROP. Scarce, sandy soil; opf.

DATISACEAE – DATISCA FAMILY

Datisca glomerata – DURANGO ROOT. Occasional along creek; rip.

ERICACACEAE – MANZANITA FAMILY

Arctostaphylos pungens POINTLEAF MANZANITA. Occasional to locally common, mostly west of creek; mch, opf.

EUPHORBIACEAE – SPURGE FAMILY

Euphorbia albomarginata WHOTEMARGIN SANDMAT. Occasional; agl.

FABACEAE – PEA FAMILY

Acmispon americanus SPANISH CLOVER. Occasional along stream; rip.

Acmispon heermannii HEERMANN'S LOTUS. Occasional to fairly common in sandy soil of wash along creek.

Acmispon strigosus STRIGOSE BIRD'S FOOT TREFOIL. Occasional, sandy flats; agl, opf.

Amorpha fruticosa FALSE INDIGO. Uncommon, sandy flats, washes; opf.

Astragalus douglasii var. *parishii* PARISH'S LOCOWEED. Occasional to fairly common; mostly gbs, ops.

Hosackia oblongifolia STREAMBANK BIRD'S-FOOT TREFOIL. Occasional to fairly common along creek; rip.

Lupinus bicolor MINIATURE LUPINE. Occasional; agl, gbs.

Lupinus albifrons var. *astromontanus* [*L. excubitus* var. *a.*] GRAPE SODA LUPINE. Uncommon; gbs.

Lupinus concinnus BAJADA LUPINE. Occasional, sandy flats; agl, opf.

Lupinus latifolius subsp. *parishii* PARISH'S STREAM LUPINE. Uncommon; rip.

Trifolium obtusifolium CREEK CLOVER. Occasional along creek; rip.

Trifolium variegatum WHITE-TIPPED CLOVER. Occasional along creek; rip.

**Vicia villosa* WINTER VETCH. Uncommon; gbs, opf.

FAGACEAE – PEA FAMILY

Quercus wislizenii INTERIOR LIVE OAK. Occasional; mch.

GENTIANACEAE – GENTIAN FAMILY

Frasera parryi DEER'S EARS. Uncommon; opf.

Zeltnera venusta CANCHALAGUA. Uncommon along creek; rip.

GERANIACEAE – GERANIUM FAMILY

**Erodium cicutarium* RED-STEMMED FILAREE. Occasional to fairly common, mostly east of creek; agl, gbs, mch, opf, dst.

HYPERICACEAE – ST. JOHN'S WORT FAMILY

Hypericum scouleri SCOULER'S ST. JOHN'S WORT. Occasional along creek; rip.

LAMIACEAE – MINT FAMILY

**Lamium amplexicaule* HENTBIT. Uncommon; agl, gbs.

Stachys rigida RIGID HEDGE-NETTLE. Occasional; rip.

LOASACEAE – LOASA FAMILY

Mentzelia veatchiana VETCH'S STICK-LEAF. Uncommon, sandy wash.

MALVACEAE – MALLOW FAMILY

Sidalcea sparsifolia CHECKER-BLOOM. Occasional to fairly common; opf, mch.

Sphaeralcea ambigua APRICOT MALLOW. Uncommon; opf, gbs, mch.

MONTIACEAE – MONTIA FAMILY

Calyptridium monardrum COMMON CALYPTRIDIDIUM. Scarce, sandy soil; opf.

NYCTAGINACEAE – FOUR O'CLOCK FAMILY

Abronia villosa var. *aurita* CHAPARRAL SAND VERBENA. CRPR 1B.1. Patchy, fairly common east of creek; agl, opf, gbs.

ONAGRACACEAE – EVENING-PRIMROSE FAMILY

Camissonia strigulosa SANDYSOIL SUNCUP. Uncommon; agl.

Camissoniopsis hirtella FIELD SUN CUP. Uncommon; opf.

Epilobium ciliatum WILLOW HERB. Occasional along stream; rip.

Epilobium densiflorum DENSE-FLOWERED WILLOW HERB. Occasional along stream; rip.

Gayophytum diffusum subsp. *parviflorum* SPREADING or HAIRY-LEAVED GUNSMOKE; Scarce, sandy wash margin; opf.

Oenothera californica CALIFORNIA EVENING-PRIMROSE. Fairly common, sandy flats and washes; opf, agl.

OROBANCHACEAE – BROOM-RAPE FAMILY

Castilleja minor subsp. *spiralis* CALIFORNIA THREAD-TORCH. Occasional along creek; rip.

PHRYMACEAE – MONKEY FLOWER FAMILY

Erythranthe cardinale [*Mimulus c.*] SCARLET MONKEY FLOWER. Scarce along creek; rip.

Erythranthe guttata [*Mimulus guttatus*] SEEP MONKEY FLOWER. Common along creek; rip.

Mimetanthe pilosa [*Mimulus p.*] FALSE MONKEYFLOWER. Occasional on sand along creek; rip.

PLANTAGINACEAE – PLANTAIN FAMILY

Penstemon centranthifolius SCARLET BUGLER. Fairly common; gbs, opf.

Penstemon spectabilis SHOWY PENSTEMON. Uncommon; gbs, opf, rip.

**Veronica anagallis-aquatica* WATER SPEEDWELL. Occasional along creek; rip.

POLEMONIACEAE – PHLOX FAMILY

Eriastrum densiflorum GIANT WOOLLYSTAR. Uncommon. Sandy wash along creek; opf.

Gilia achilleifolia BALL GILIA. Uncommon, sand; opf.

Leptosiphon liniflorus FLAX-FLOWERED LINANTHUS. Occasional to fairly common; gbs, agl

Saltugilia splendens SPLENDID WOODLAND-GILIA. Uncommon, sandy soils; opf.

POLYGONACEAE – BUCKWHEAT FAMILY

Eriogonum davidsonii DAVIDSON'S BUCKWHEAT. Fairly common; sandy soils, opf, washes, gbs, less common mch.

Eriogonum fasciculatum FLAT-TOP BUCKWHEAT. Occasional; opf.

Eriogonum wrightii BASTARD SAGE. Fairly common; gbs, opf, mch.

Pterostegia drymarioides GRANNY'S HAIRNET. Occasional; mch.

Rumex californicus CALIFORNIA DOCK. Uncommon; rip, dst, opf.

**Rumex crispus* CURLY DOCK. Scarce along creek; rip.

Sidotheca emarginata WHITE-MARGINED OXYTHECA. CRPR 1B.3. Scarce, sandy wash margin; opf.

RANUNCULACEAE – BUTTERCUP FAMILY

Ranunculus cymbalaria ALKALI BUTTERCUP. Occasional along creek; rip.

RHAMNACEAE – BUCKTHORN FAMILY

Frangula californica CALIFORNIA COFFEEBERRY. Fairly common; mch.

Rhamnus ilicifolia BIG-LEAVED REDBERRY. Occasional; mch.

ROSACEAE – ROSE FAMILY

Cercocarpus betuloides MOUNTAIN MAHAGONY. Occasional; mch.

Rosa californica CALIFORNIA ROSE. Occasional; rip.

RUBIACEAE – COFFEE FAMILY

Galium andrewsii subsp. *andrewsii* PHLOX-LEAF BEDSTRAW; Occasional to fairly common; mch.

Galium angustifolium subsp. *jacinticum* SAN JACINTO MOUNTAINS BEDSTRAW; CRPR 1B.3; occasional; mch, opf.

SALICACEAE – WILLOW FAMILY

Salix exigua BLACK WILLOW. Occasional only creek; rip.

Salix laevigata x *S. lasiolepis* Red willow-Arroyo willow hybrid. Scarce; rip.

Salix lasiolepis ARROYO WILLOW. Fairly common along creek; rip.

SOLANACEAE – NIGHTSHADE FAMILY

Nicotiana attenuata COYOTE TABACCO. Scarce, wash; opf edge.

URTICACEAE – NETTLE FAMILY

Urtica dioica HOARY NETTLE. Uncommon along creek; rip.

VERBENACEAE – VERVAIN FAMILY

Verbena lasiostachys WESTERN VERVAIN. Uncommon; rip.

ANGIOSPERMS: MONOCOTS

ARACEAE – ARUM/DUCKWEED FAMILY

Lemna sp. DUCKWEED. Occasional to fairly common along creek; rip.

CYPERACEAE – SEDGE FAMILY

Carex subfusca RUSTY SLENDER SEDGE. Occasional along creek; rip.

**Cyperus involucratus* AFRICAN UMBRELLA SEDGE. Occasional along creek; rip.

Eleocharis macrostachya PALE SPIKE-RUSH. Occasional to fairly common along creek; rip.

Eleocharis parishii PARISH'S SPIKERUSH. Occasional to fairly common along creek; rip.

JUNCACEAE – RUSH FAMILY

Juncus bufonius TOAD RUSH. Common along creek; rip.

Juncus mexicanus MEXICAN RUSH. Occasional along creek; rip.

Juncus patens SPREADING RUSH. Occasional along creek; rip.

Juncus rugulosus WRINKLED RUSH. Fairly common along creek; rip.

POACEAE – GRASS FAMILY

Agrostis exarata SPIKE REDTOP. Uncommon along creek; rip.

**Bromus hordaceus* SOFT CHESS. Uncommon; agl.

**Bromus diandrus* RIPGUT GRASS. Uncommon; dst, opf, gbs.

**Bromus tectorum* CHEAT GRASS. Occasional to abundant; agl, gbs, opf, mch, dst.

**Festuca myuros* RAT-TAIL FESCUE. Occasional' dst, gbs.

**Hordeum murinum* subsp. *leporinum* HARE BARLEY. Uncommon; dst.

Poa secunda PINE BLUE GRASS. Occasional; mch.

**Polypogon monspeliensis* RABBIT'S FOOT GRASS. Occasional along creek; rip.

**Polypogon viridis* WATER BENTGRASS. Occasional along creek; rip.

**Schismus barbatus* MEDITERRANEAN SCHISMUS. Occasional; mch.

Stipa cernua NODDING NEEDLEGRASS. Uncommon; gbs.

Stipa speciosa DESERT NEEDLEGRASS. Occasional to fairly common; gbs, opf, mch

THEMIDACEAE – BRODIAEA FAMILY

Dipterostemon capitatus [*Dichelostemma c.*] BLUE DICKS. Occasional; mch.

TYPHACEAE – CATTAIL FAMILY

Typha angustifolia NARROW-LEAF CATTAIL. Occasional; rip.

APPENDIX C

Wildlife Observed

Birds

The bird species listed below were detected either on, above, or near the Property during field surveys conducted in 2021. The list below is presented in alphabetic order. Nomenclature for the Family (i.e., Icteridae), Common Name, and Scientific Name follow the American Ornithologists' Union (AOU) *Checklist of North and Middle American Birds*.

COMMON NAME	SCIENTIFIC NAME
Blackbirds	Icteridae
Brewer's Blackbird	<i>Euphagus cyanocephalus</i>
Bullock's Oriole	<i>Icterus bullockii</i>
Red-winged Blackbird	<i>Agelaius phoeniceus</i>
Cardinals and Allies	Cardinalidae
Western Tanager	<i>Piranga ludoviciana</i>
Chickadees and Titmice	Paridae
Mountain Chickadee	<i>Poecile gambeli</i>
Oak Titmouse	<i>Baeolophus inornatus</i>
Crows and Jays	Corvidae
California Scrub-Jay	<i>Apelocoma californica</i>
Common Raven	<i>Corvus corax</i>
Steller's Jay	<i>Cyanocitta stelleri</i>
Ducks, Geese, and Swans	Anatidae
Mallard	<i>Anas platyrhynchos</i>
Finches and Allies	Fringillidae
Lesser Goldfinch	<i>Spinus psaltria</i>
Hawks, Kites, Eagles, and Allies	Accipitridae
Red-tailed Hawk	<i>Buteo jamaicensis</i>
Hummingbirds	Trochilidae
Anna's Hummingbird	<i>Calypte anna</i>
Kinglets	Regulidae
Ruby-crowned Kinglet	<i>Regulus calendula</i>
Long-tailed Tits and Bushtits	Aegithalidae
Bushtit	<i>Psaltriparus minimus</i>
New World Sparrows	Passerellidae
California Towhee	<i>Melospiza crissalis</i>
Lark Sparrow	<i>Chondestes grammacus</i>
Song Sparrow	<i>Melospiza melodia</i>
Spotted Towhee	<i>Pipilo maculatus</i>
New World Vultures	Cathartidae
Turkey Vulture	<i>Cathartes aura</i>
Nuthatches	Sittidae
Pygmy Nuthatch	<i>Sitta pygmaea</i>
Red-breasted Nuthatch	<i>Sitta canadensis</i>
White-breasted Nuthatch	<i>Sitta carolinensis</i>
Pigeons and Doves	Columbidae
Mourning Dove	<i>Zenaidura macroura</i>
Swallows	Hirundinidae
Northern Rough-winged Swallow	<i>Stelgidopteryx serripennis</i>
Sylviid Warblers	Sylviidae

COMMON NAME	SCIENTIFIC NAME
Wrenit	<i>Chamaea fasciata</i>
Thrushes	Turdidae
American Robin	<i>Turdus migratorius</i>
Mountain Bluebird	<i>Sialia currucoides</i>
Western Bluebird	<i>Sialia mexicana</i>
Typical Owls	Strigidae
Great Horned Owl	<i>Bubo virginianus</i>
Tyrant Flycatchers	Tyrannidae
Black Phoebe	<i>Sayornis nigricans</i>
Dusky Flycatcher	<i>Empidonax oberholseri</i>
Pacific-slope Flycatcher	<i>Empidonax difficilis</i>
Western Wood-Pewee	<i>Contopus sordidulus</i>
Woodpeckers and Allies	Picidae
Acorn Woodpecker	<i>Melanerpes formicivorus</i>
Hairy Woodpecker	<i>Dryobates villosus</i>
Northern Flicker	<i>Colaptes auratus</i>
Nuttall's Woodpecker	<i>Dryobates nuttallii</i>
Red-breasted Sapsucker	<i>Sphyrapicus ruber</i>
White-headed Woodpecker	<i>Dryobates albolarvatus</i>
Wood-Warblers	Parulidae
Wilson's Warbler	<i>Cardellina pusilla</i>
Yellow Warbler	<i>Setophaga petechia</i>
Wrens	Troglodytidae
Bewick's Wren	<i>Thryomanes bewickii</i>

Mammals

The mammals listed below were detected on or near the Property through diagnostic sign and/or physical sightings during surveys conducted in 2021. The list below is presented in alphabetic order. Nomenclature for the Family (i.e., Felidae), Common Name, and Scientific Name follow *Wilson & Reeder's Mammal Species of the World*.

COMMON NAME	SCIENTIFIC NAME
Cats	Felidae
bobcat	<i>Lynx rufus</i>
Ground Squirrels	Sciuridae
California ground squirrel	<i>Spermophilus beecheyi</i>
Hares and Rabbits	Leporidae
desert cottontail	<i>Sylvilagus audubonii</i>
Pocket Gophers	Geomyidae
Botta's pocket gopher	<i>Thomomys bottae</i>
Skunks and Stink Badgers	Mephitidae
striped skunk	<i>Mephitis mephitis</i>

Herpetofauna

The herpetofauna listed below were detected on or near the Property through diagnostic sign and/or physical sightings during surveys conducted in 2021. The list below is presented in alphabetic order. Nomenclature for the Family (i.e., Hylidae), Common Name, and Scientific Name follow the Society for the Study of Amphibian and Reptiles (SSAR) *Standard English and Scientific Names*.

Amphibians

COMMON NAME	SCIENTIFIC NAME
Treefrogs	Hylidae
California Treefrog	<i>Pseudacris cadaverina</i>
Pacific Treefrog	<i>Pseudacris regilla</i>

Reptiles

COMMON NAME	SCIENTIFIC NAME
Colubrids	Colubridae
Red Racer	<i>Coluber flagellum piceus</i>
Whiptails and Racerunners	Teiidae
San Diegan Tiger Whiptail	<i>Aspidoscelis tigris stejnegeri</i>
Zebra-tailed, Earless, Fringe-toed, Spiny, Tree, Side-blotched, and Horned Lizards	Phrynosomatidae
Great Basin Fence Lizard	<i>Sceloporus occidentalis longipes</i>
Southern Sagebrush Lizard	<i>Sceloporus graciosus vandenburgianus</i>
Western Side-blotched Lizard	<i>Uta stansburiana elegans</i>

Fish

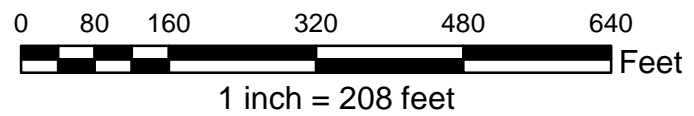
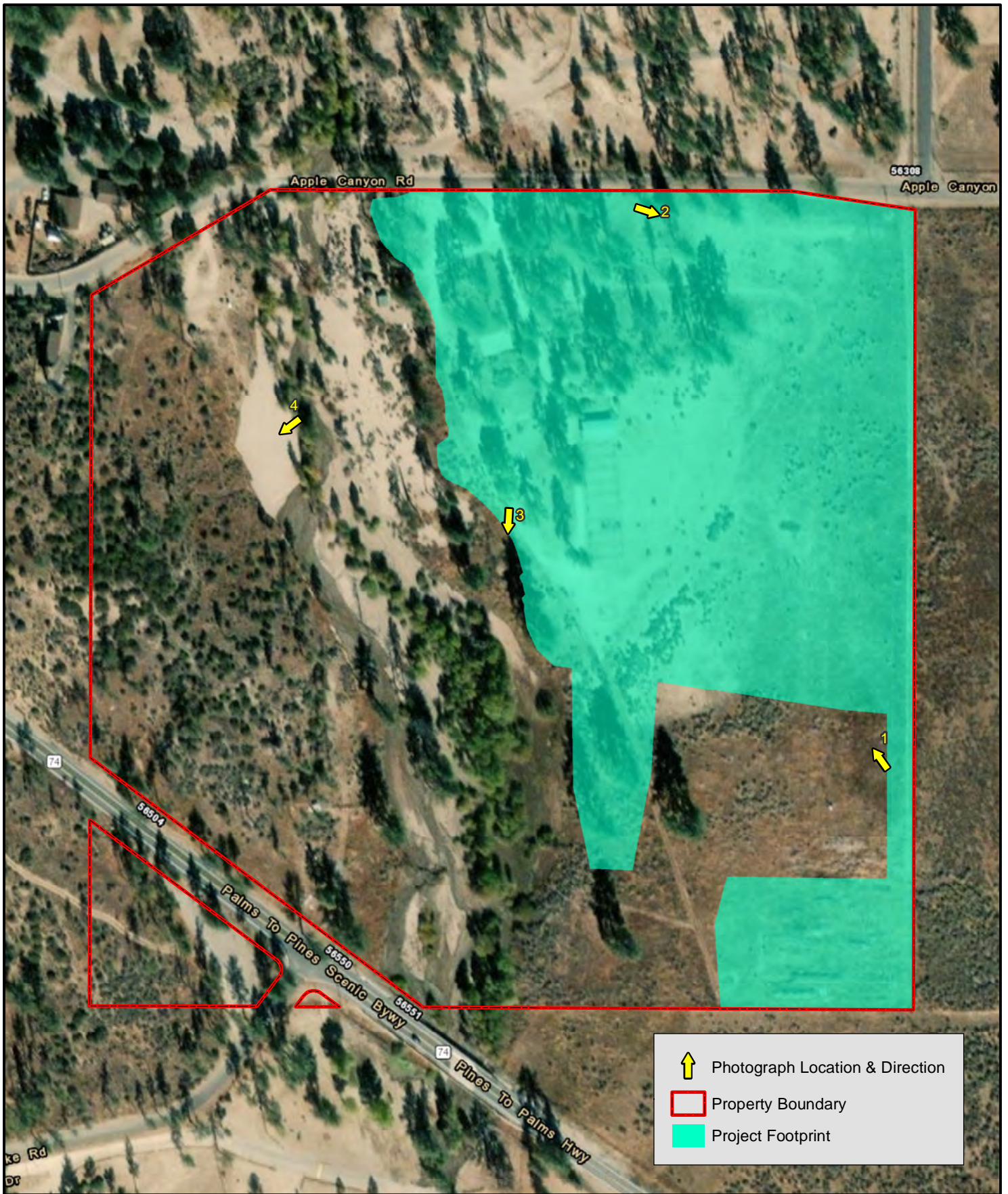
The fish listed below were detected on the Property during surveys conducted in 2021. The list below is presented in alphabetic order. Nomenclature for the Family (i.e., Poeciliidae), Common Name, and Scientific Name follow the University of California Agriculture and Natural Resources *California Fish Website*. Introduced species are indicated with an (I).

COMMON NAME	SCIENTIFIC NAME
Poeciliids	Poeciliidae
Mosquitofish (I)	<i>Gambusia</i> spp.

APPENDIX D

Assessment Photographs

General Site Photos



Appendix D
General Photographs



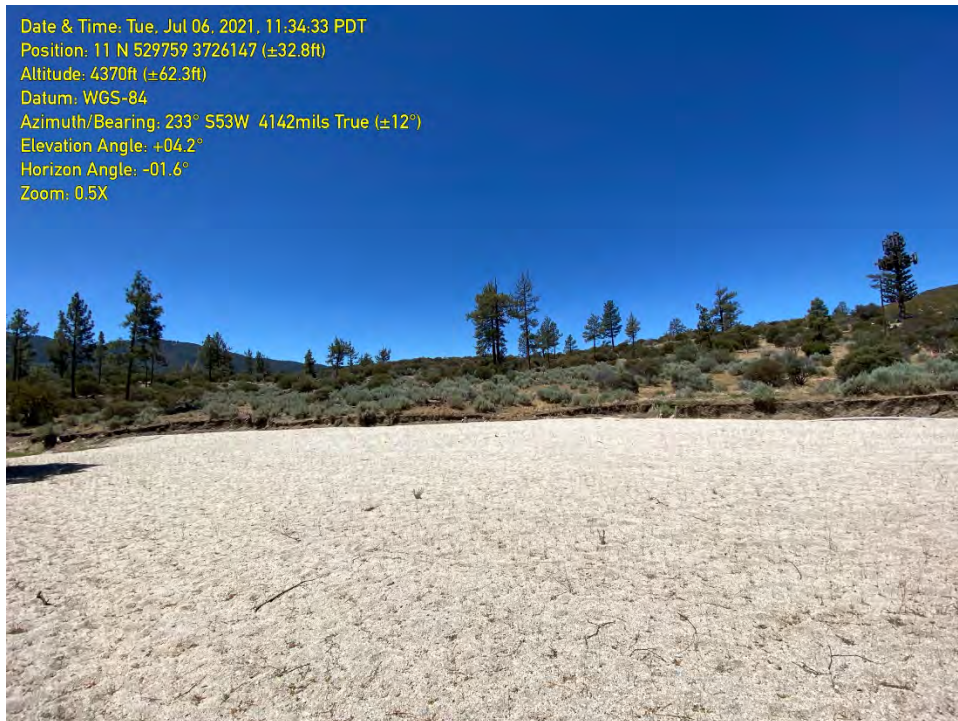
PHOTOGRAPH 1: Ruderal habitat with a few scattered Great Basin sagebrush.



PHOTOGRAPH 2: An easterly view near the northern Property boundary.

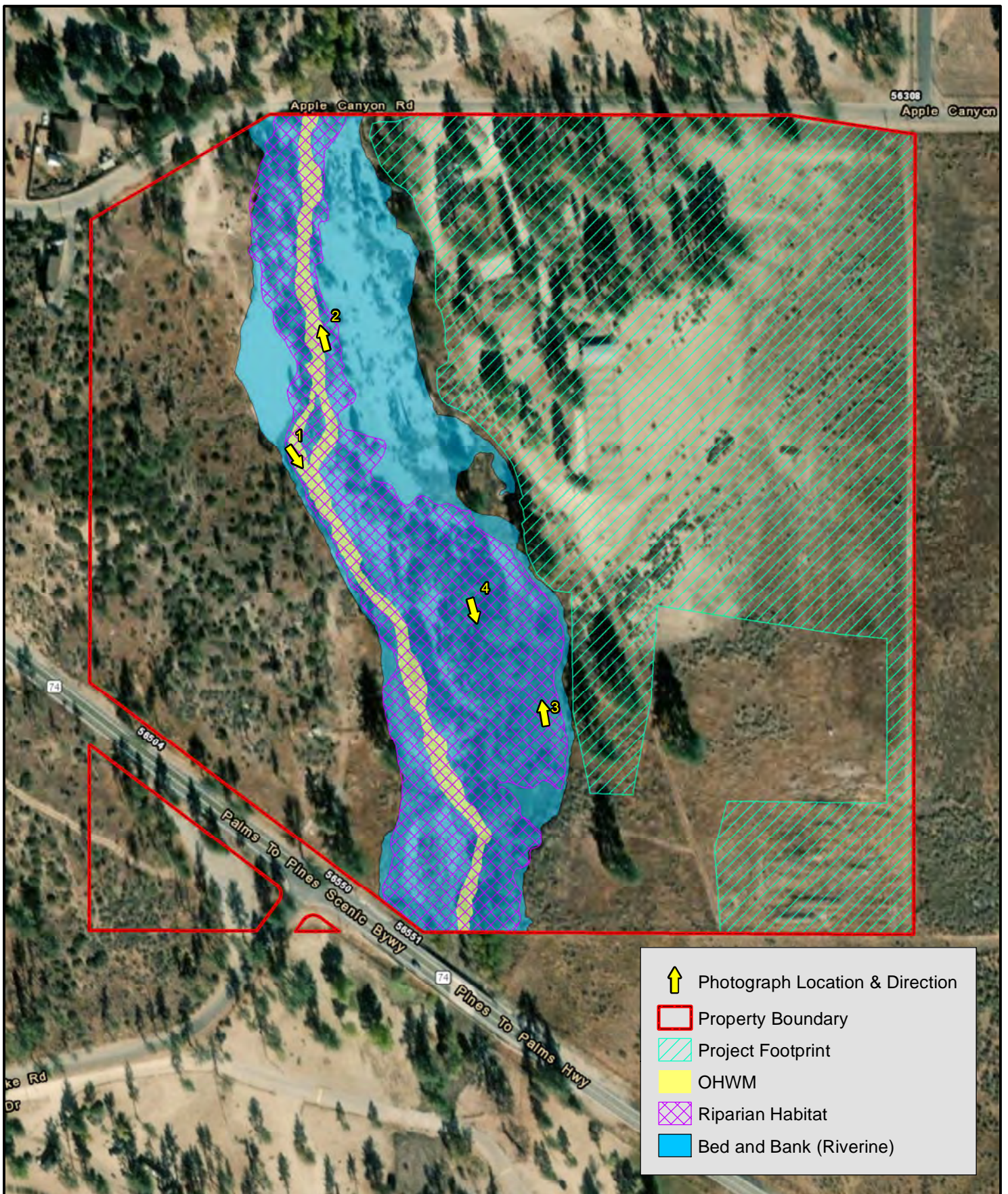


PHOTOGRAPH 3: A view of many of the habitats on the Site: Ruderal in foreground, Great Basin sagebrush scrub, scattered Jeffrey pine, and willow riparian scrub in the background.

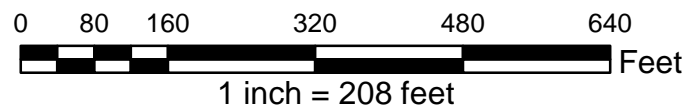


PHOTOGRAPH 4: A view of the sand deposit area from recent storm flows with the chaparral habitat in the background.

MSHCP Section 6.1.2 Assessment Photos



- Photograph Location & Direction
- Property Boundary
- Project Footprint
- OHWM
- Riparian Habitat
- Bed and Bank (Riverine)



Appendix D
MSHCP Section
6.1.2 Photographs



PHOTOGRAPH 1: A downstream view of Herkey Creek. Several Jeffrey pine snags were present near the active flow area.



PHOTOGRAPH 2: An upstream view of the perennial flow of Herkey Creek.

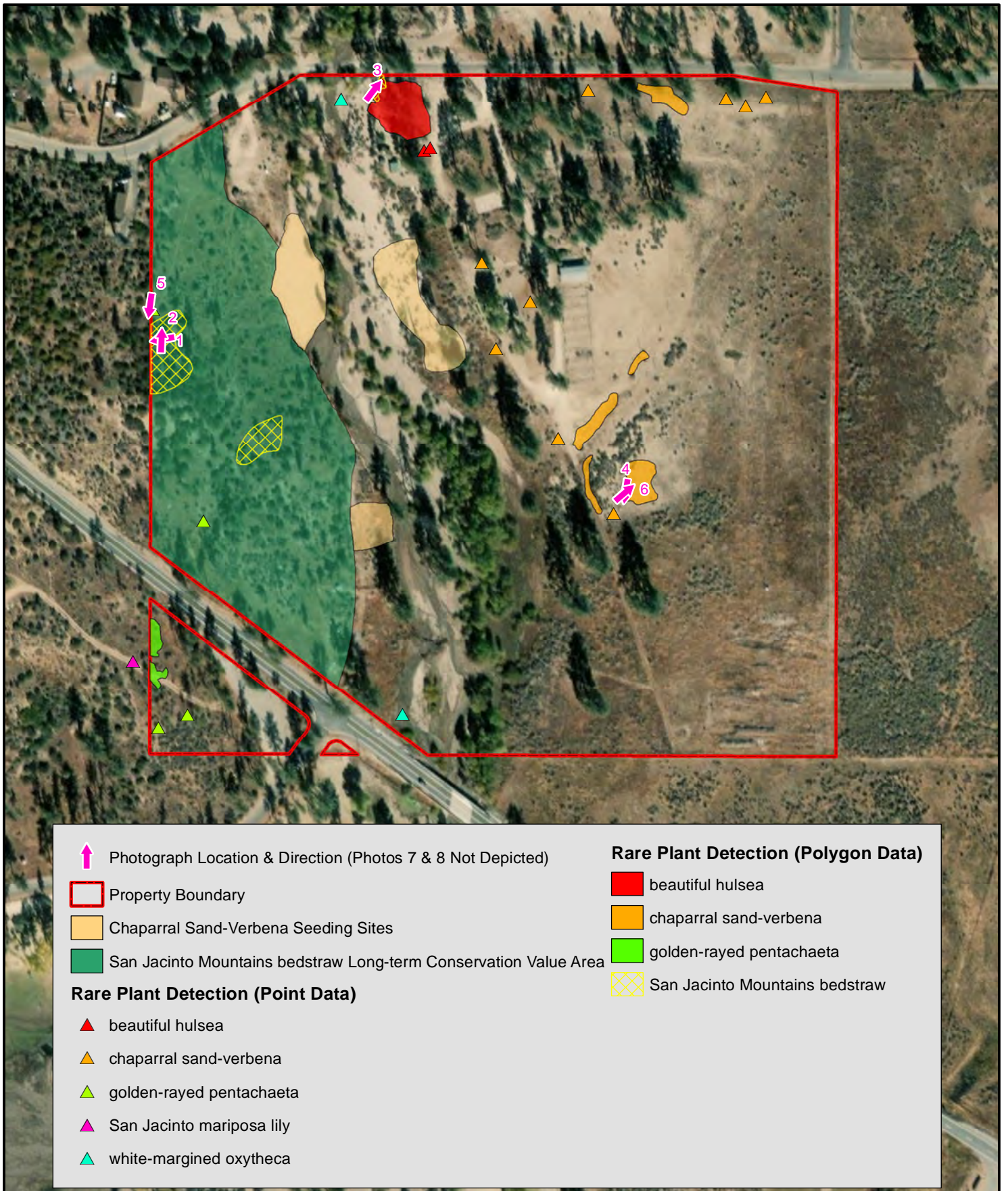


PHOTOGRAPH 3: The bed, bank, and riparian habitat of Herkey Creek.



PHOTOGRAPH 4: Portions of the willow scrub associated with Herkey Creek lacked an understory of vegetation.

MSHCP Section 6.1.3 NEPS/Rare Plant Assessment Photos



**Appendix D
NEPS/Rare Plant
Photographs**





PHOTOGRAPH 1: San Jacinto Mountains bedstraw growing through detritus.



PHOTOGRAPH 2: Typical habitat for San Jacinto Mountains bedstraw.



PHOTOGRAPH 3: San Jacinto Mountains bedstraw on the western edge of Polygon 1.



PHOTOGRAPH 4: Chaparral sand-verbena in sandy soils within ruderal/sage scrub habitat.



PHOTOGRAPH 5: Botanist Fred Roberts collecting data on golden-rayed pentachaeta near the Property boundary.



PHOTOGRAPH 6: Raking and collecting chaparral sand-verbena seeds.

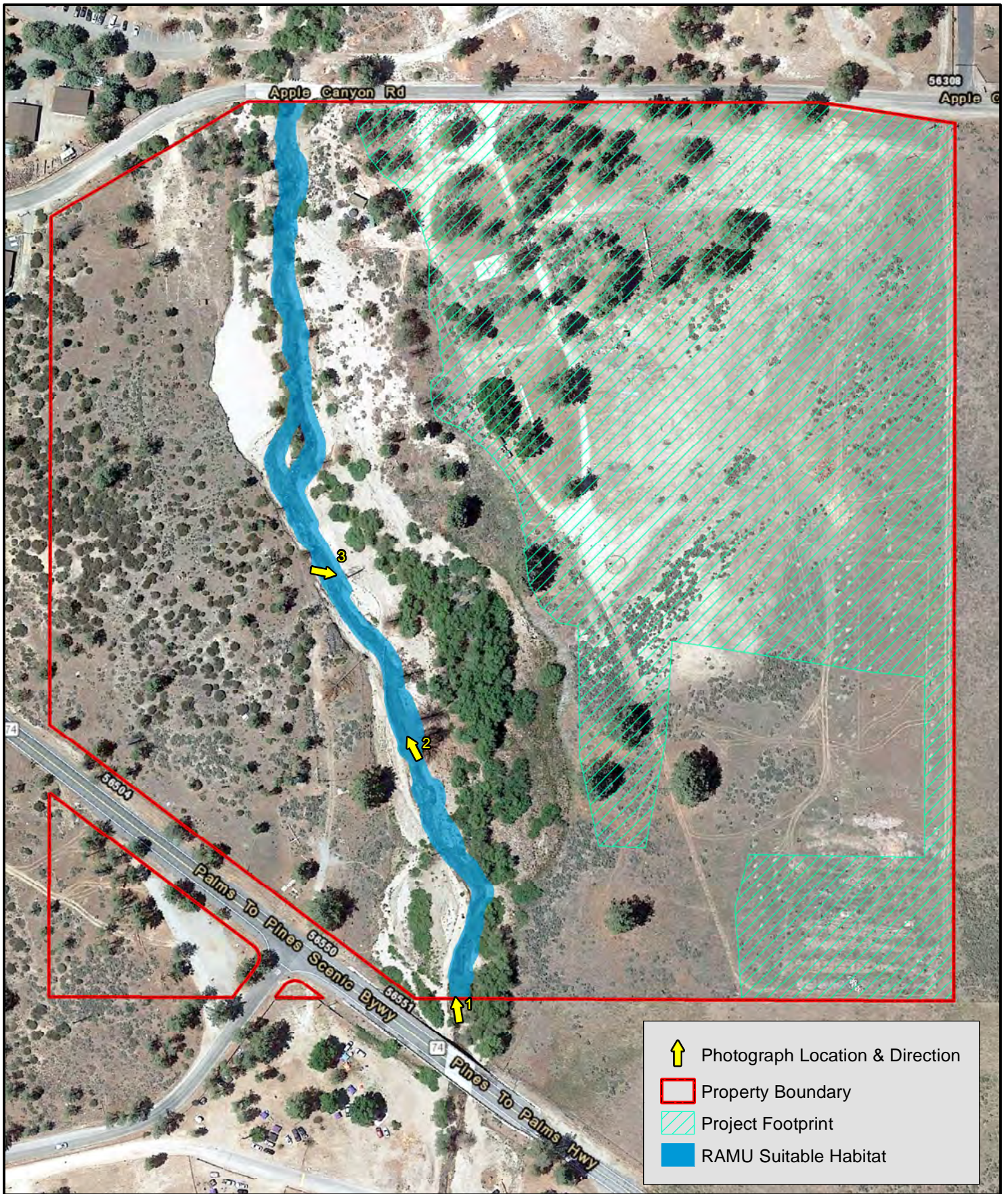


PHOTOGRAPH 7: A San Jacinto mariposa lily with a honeybee collecting nectar at a reference site north of the Property.

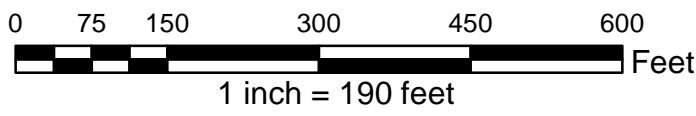


PHOTOGRAPH 8: Johnston's rockcress at a reference site southeast of the Property.

MSHCP Section 6.3.2 RAMU Assessment Photos



	Photograph Location & Direction
	Property Boundary
	Project Footprint
	RAMU Suitable Habitat



Appendix D
RAMU Photographs



PHOTOGRAPH 1: A view of RAMU habitat and SBS personnel in the downstream end of the Property.



PHOTOGRAPH 2: RAMU habitat.



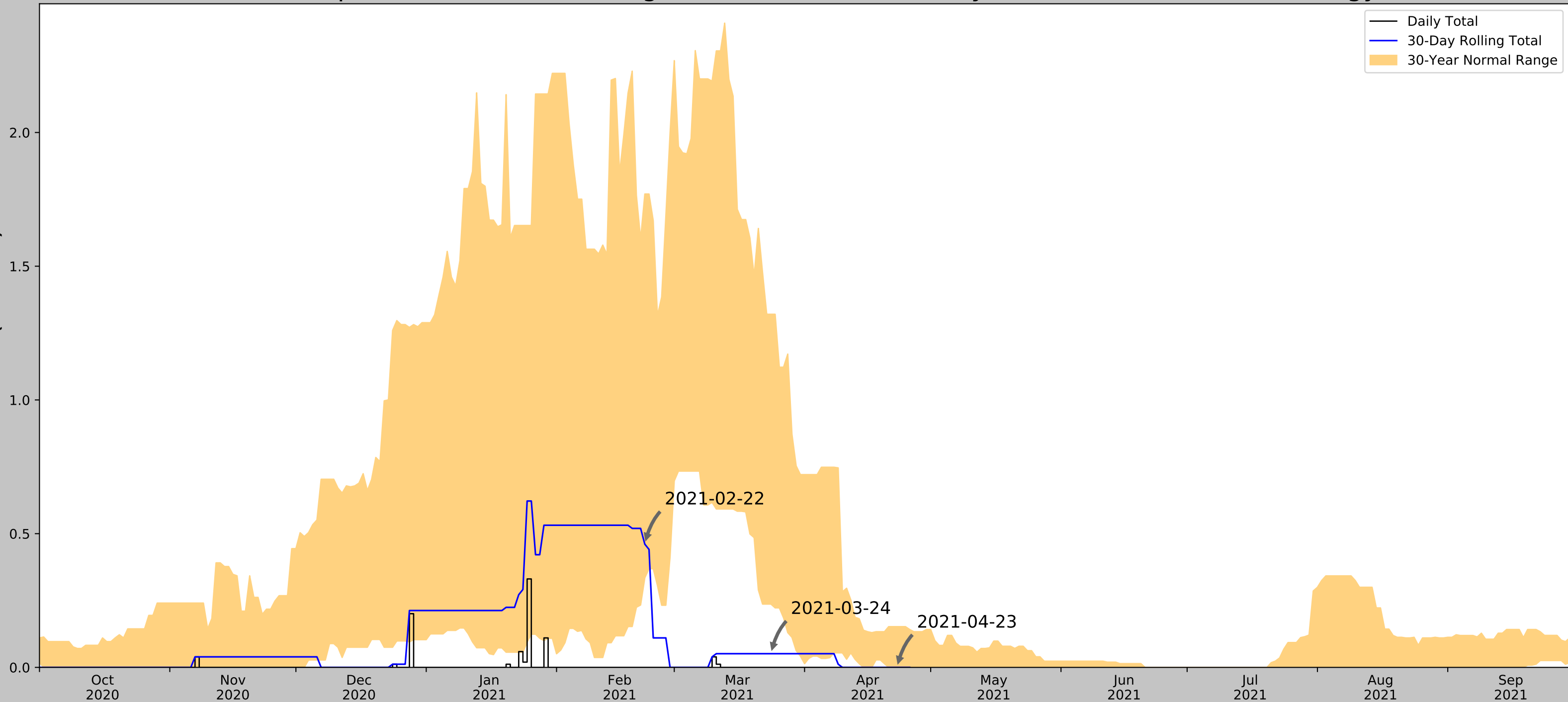
PHOTOGRAPH 3: A California Treefrog within the flow of Herkey Creek.

APPENDIX E

Wetlands Climate Tables

Antecedent Precipitation vs Normal Range based on NOAA's Daily Global Historical Climatology Network

Rainfall (Inches)



Coordinates	33.674, -116.678
Observation Date	2021-04-23
Elevation (ft)	4363.17
Drought Index (PDSI)	Severe drought (2021-03)
WebWIMP H ₂ O Balance	Dry Season

30 Days Ending	30 th %ile (in)	70 th %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2021-04-23	0.0	0.152362	0.0	Normal	2	3	6
2021-03-24	0.236614	1.320472	0.051181	Dry	1	2	2
2021-02-22	0.335039	1.770079	0.46063	Normal	2	1	2
Result							Normal Conditions - 10

Figure and tables made by the
Antecedent Precipitation Tool
Version 1.0

Written by Jason Deters
U.S. Army Corps of Engineers

Weather Station Name	Coordinates	Elevation (ft)	Distance (mi)	Elevation Δ	Weighted Δ	Days (Normal)	Days (Antecedent)
PALM SPRINGS RGNL AP	33.8281, -116.5053	420.932	14.553	3942.238	63.921	8209	90
ANZA	33.5558, -116.6739	3915.026	8.17	448.144	7.338	3026	0
IDYLLWILD FIRE DEPT	33.7572, -116.7067	5379.921	5.981	1016.751	8.772	116	0
PALOMAR MTN OBSY	33.3781, -116.84	5549.869	22.473	1186.699	36.782	2	0

APPENDIX F

Plants to Avoid Adjacent to the MSHCP Conservation Area

6.0 MSHCP Implementation Structure



**TABLE 6-2. PLANTS THAT SHOULD BE AVOIDED
ADJACENT TO THE MSHCP CONSERVATION AREA**

<u>BOTANICAL NAME</u>	<u>COMMON NAME</u>
<i>Acacia</i> spp. (all species)	acacia
<i>Achillea millefolium</i> var. <i>millefolium</i>	common yarrow
<i>Ailanthus altissima</i>	tree of heaven
<i>Aptenia cordifolia</i>	red apple
<i>Arctotheca calendula</i>	cape weed
<i>Arctotis</i> spp. (all species & hybrids)	African daisy
<i>Arundo donax</i>	giant reed or arundo grass
<i>Asphodelus fistulosus</i>	asphodel
<i>Atriplex glauca</i>	white saltbush
<i>Atriplex semibaccata</i>	Australian saltbush
<i>Carex</i> spp. (all species*)	sedge
<i>Carpobrotus chilensis</i>	ice plant
<i>Carpobrotus edulis</i>	sea fig
<i>Centranthus ruber</i>	red valerian
<i>Chrysanthemum coronarium</i>	annual chrysanthemum
<i>Cistus ladanifer</i> (incl. hybrids/varieties)	gum rockrose
<i>Cortaderia jubata</i> [syn. <i>C. Atacamensis</i>]	jubata grass, pampas grass
<i>Cortaderia dioica</i> [syn. <i>C. sellowana</i>]	pampas grass
<i>Cotoneaster</i> spp. (all species)	cotoneaster
<i>Cynodon dactylon</i> (incl. hybrids varieties)	Bermuda grass
<i>Cyperus</i> spp. (all species*)	nutsedge, umbrella plant
<i>Cytisus</i> spp. (all species)	broom
<i>Delosperma 'Alba'</i>	white trailing ice plant
<i>Dimorphotheca</i> spp. (all species)	African daisy, Cape marigold
<i>Drosanthemum floribundum</i>	rosea ice plant
<i>Drosanthemum hispidum</i>	purple ice plant
<i>Eichhornia crassipes</i>	water hyacinth
<i>Elaeagnus angustifolia</i>	Russian olive
<i>Eucalyptus</i> spp. (all species)	eucalyptus or gum tree
<i>Eupatorium coelestinum</i> [syn. <i>Ageratina</i> sp.]	mist flower
<i>Festuca arundinacea</i>	tall fescue
<i>Festuca rubra</i>	creeping red fescue
<i>Foeniculum vulgare</i>	sweet fennel
<i>Fraxinus uhdei</i> (and cultivars)	evergreen ash, shamel ash
<i>Gaura</i> (spp.) (all species)	gaura
<i>Gazania</i> spp. (all species & hybrids)	gazania

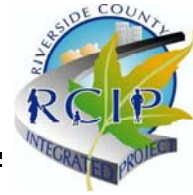
6.0 MSHCP Implementation Structure



**TABLE 6-2. PLANTS THAT SHOULD BE AVOIDED
ADJACENT TO THE MSHCP CONSERVATION AREA (Cont.)**

<u>BOTANICAL NAME</u>	<u>COMMON NAME</u>
<i>Genista</i> spp. (all species)	broom
<i>Hedera canariensis</i>	Algerian ivy
<i>Hedera helix</i>	English ivy
<i>Hypericum</i> spp. (all species)	St. John's Wort
<i>Ipomoea acuminata</i>	Mexican morning glory
<i>Lampranthus spectabilis</i>	trailing ice plant
<i>Lantana camara</i>	common garden lantana
<i>Lantana montevidensis</i> [syn. <i>L. sellowiana</i>]	lantana
<i>Limonium perezii</i>	sea lavender
<i>Linaria bipartita</i>	toadflax
<i>Lolium multiflorum</i>	Italian ryegrass
<i>Lolium perenne</i>	perennial ryegrass
<i>Lonicera japonica</i> (incl. 'Halliana')	Japanese honeysuckle
<i>Lotus corniculatus</i>	birdsfoot trefoil
<i>Lupinus arboreus</i>	yellow bush lupine
<i>Lupinus texanus</i>	Texas blue bonnets
<i>Malephora crocea</i>	ice plant
<i>Malephora luteola</i>	ice plant
<i>Mesembryanthemum nodiflorum</i>	little ice plant
<i>Myoporum laetum</i>	myoporum
<i>Myoporum pacificum</i>	shiny myoproum
<i>Myoporum parvifolium</i> (incl. 'Prostratum')	ground cover myoporum
<i>Oenothera berlandieri</i>	Mexican evening primrose
<i>Olea europea</i>	European olive tree
<i>Opuntia ficus-indica</i>	Indian fig
<i>Osteospermum</i> spp. (all species)	trailing African daisy, African daisy,
<i>Oxalis pes-caprae</i>	Bermuda buttercup
<i>Parkinsonia aculeata</i>	Mexican palo verde
<i>Pennisetum clandestinum</i>	Kikuyu grass
<i>Pennisetum setaceum</i>	fountain grass
<i>Phoenix canariensis</i>	Canary Island date palm
<i>Phoenix dactylifera</i>	date palm
<i>Plumbago auriculata</i>	cape plumbago
<i>Polygonum</i> spp. (all species)	knotweed
<i>Populus nigra</i> 'italica'	Lombardy poplar
<i>Prosopis</i> spp. (all species*)	mesquite
<i>Ricinus communis</i>	castorbean

6.0 MSHCP Implementation Structure



**TABLE 6-2. PLANTS THAT SHOULD BE AVOIDED
ADJACENT TO THE MSHCP CONSERVATION AREA (Cont.)**

<u>BOTANICAL NAME</u>	<u>COMMON NAME</u>
<i>Robinia pseudoacacia</i>	black locust
<i>Rubus procerus</i>	Himalayan blackberry
<i>Sapium sebiferum</i>	Chinese tallow tree
<i>Saponaria officinalis</i>	bouncing bet, soapwort
<i>Schinus molle</i>	Peruvian pepper tree, California pepper
<i>Schinus terebinthifolius</i>	Brazilian pepper tree
<i>Spartium junceum</i>	Spanish broom
<i>Tamarix</i> spp. (all species)	tamarisk, salt cedar
<i>Trifolium fragiferum</i>	strawberry clover
<i>Tropaeolum majus</i>	garden nasturtium
<i>Ulex europaeus</i>	prickly broom
<i>Vinca major</i>	periwinkle
<i>Yucca gloriosa</i>	Spanish dagger

An asterisk (*) indicates some native species of the genera exist that may be appropriate.

Sources: California Exotic Pest Plant Council, United States Department of Agriculture-Division of Plant Health and Pest Prevention Services, California Native Plant Society, Fremontia Vol. 26 No. 4, October 1998, The Jepson Manual; Higher Plants of California, and County of San Diego-Department of Agriculture.