# Western Riverside County Multiple Species Habitat Conservation Plan Section 6.1.2 Addendum Report

Plot Plan 180003

# WESTERN RIVERSIDE COUNTY MULTIPLE SPECIES HABITAT CONSERVATION PLAN SECTION 6.1.2 ADDENDUM REPORT

## PLOT PLAN 180003
## ASSESSOR'S PARCEL NUMBER 941-180-032


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**August 27, 2019**

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# 1.0 EXECUTIVE SUMMARY

This Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP) Section 6.1.2 Addendum Report provides the results of an updated MSHCP Section 6.1.2 *Protection of Species Associated with Riparian/Riverine Areas and Vernal Pools* (MSHCP Section 6.1.2) assessment that was conducted on March 5, 2019 to determine if Plot Plan 180003 (Project) was consistent with the goals and objectives of MSHCP Section 6.1.2. The initial assessment was conducted by Principe and Associates in 2017 and the report was submitted in June 2018 (Principe and Associates, 2018). The hydrologic regime has been altered upstream of the 44.6-acre subject property (Property and/or Site) where flows dissipate to sheetflow prior to entering the Site; therefore, this assessment represents the current conditions of any potential Riparian/Riverine areas on the Property.

Based on field evidence observed on March 5 and July 8, 2019, it appears that the majority of flows from Long Valley Wash have been diverted upstream and those that remain dissipate and flow through the Site as surface sheetflow. Impediments upstream of the Property, particularly the approximate 1,300-foot-wide area planted with vineyard, appear to disperse and dissipate any concentrated flows. Impediments included planted grapes and associated vineyard stakes and wires and perpendicular wire fence-lines.

Potential Riparian/Riverine areas were only present in the western portion of the Property. Surface sheetflow across the Property likely concentrates in this area, and is also collected in an agricultural drainage swale that is situated perpendicular to the vineyard. This swale, which is lined with rock, also collects storm runoff from De Portola Road. Road runoff, which originates on the eastside of De Portola Road, is conveyed onto the Property via three 24-inch culverts. Small collection basins are located at the terminus of these culverts which dissipate flows to sheetflow once the basins are filled. No evidence of concentrated flow was observed immediately downstream of the collection basins.

No Project-related impacts will occur to Riparian/Riverine areas.

# 2.0 INTRODUCTION

The purpose of this MSHCP Section 6.1.2 Addendum Assessment was to summarize the potential MSHCP Section 6.1.2 resources present on the Property and to document the Project's consistency with the goals and objectives of MSHCP Section 6.1.2.

The Project is proposed on a 44.6-acre property (Property and/or Site) located on the northeast corner of the intersection of De Portola Road and Monte de Oro Road east of the City of Temecula in an area commonly referred to as "wine country." *Figure 1 - Regional Map* (Page 2) and *Figure 2 - Vicinity Map* (Page 3) depict the location of the Property.

The Property was geographically located in Township 7 South, Range 1 West in Sections 29 and 30 of the Bachelor Mountain 7.5 Minute United States Geological Survey (USGS) California Quadrangle. *Figure 3 - USGS Topographic Map* (Page 4) depicts the Property's geographic location. The Universal Transverse Mercator (UTM) coordinates of the approximate center of the Project was 498,878-meters East, 3,711,131-meters North in Zone 11 (North American Datum [NAD] 83).

## 2.1 Project Area

The Property consisted of Assessor's Parcel Number (APN) 941-180-032 owned by Fertile Soil, LLC (Applicant/Owner). According to Figure 3, Long Valley Wash, a USGS-designated intermittent stream, enters the Property along the eastern Property boundary. Based on current field evidence, concentrated flow with a clear bed and bank does not enter the Property with upstream flows being both diverted due to

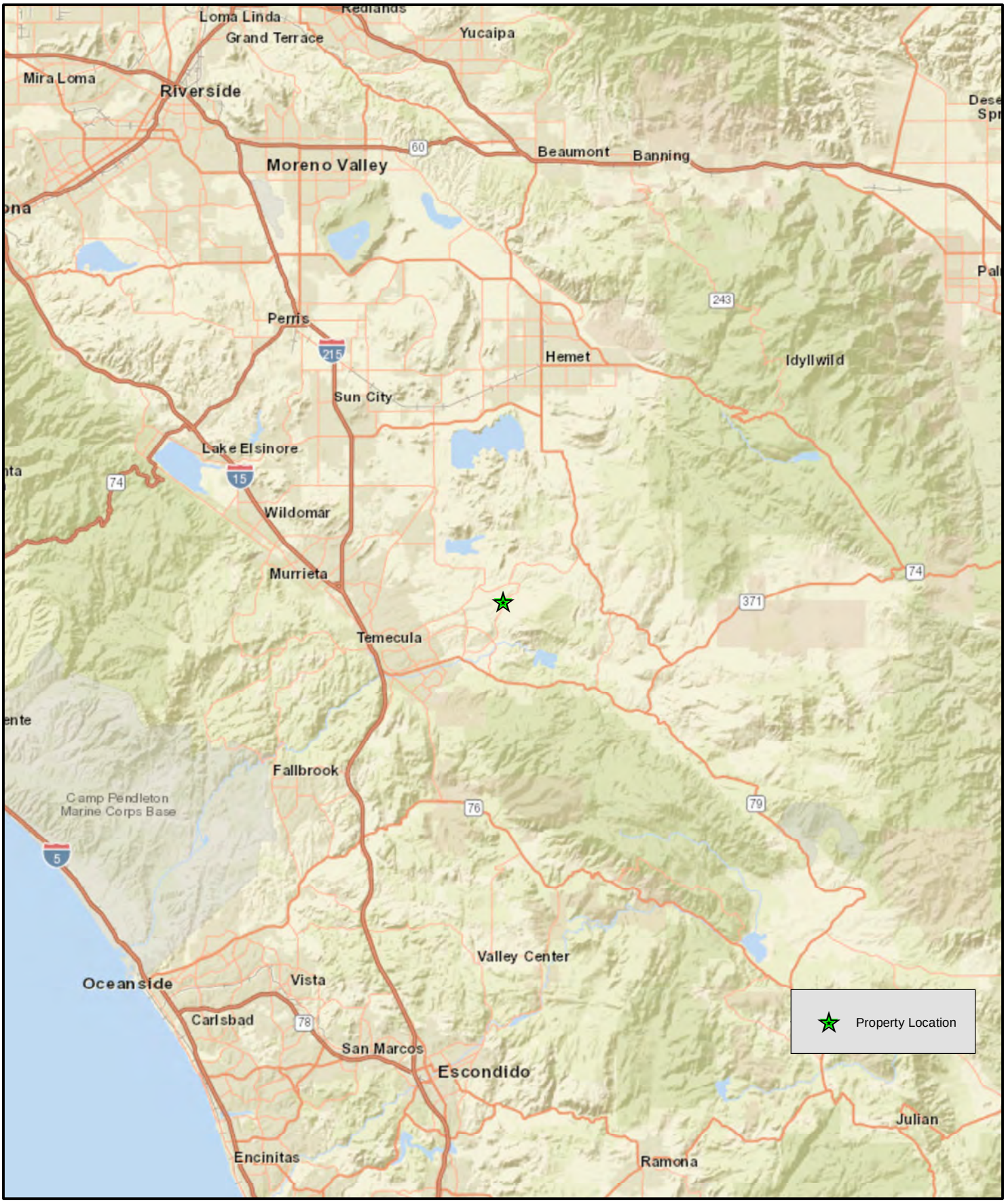


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**FIGURE 1**
**Regional Map**

DATE: July 9, 2019
COORDINATE SYSTEM: NAD 1983 UTM Zone 11
SOURCE: ESRI World Street Map, Ventura Engineering Inland, Inc.

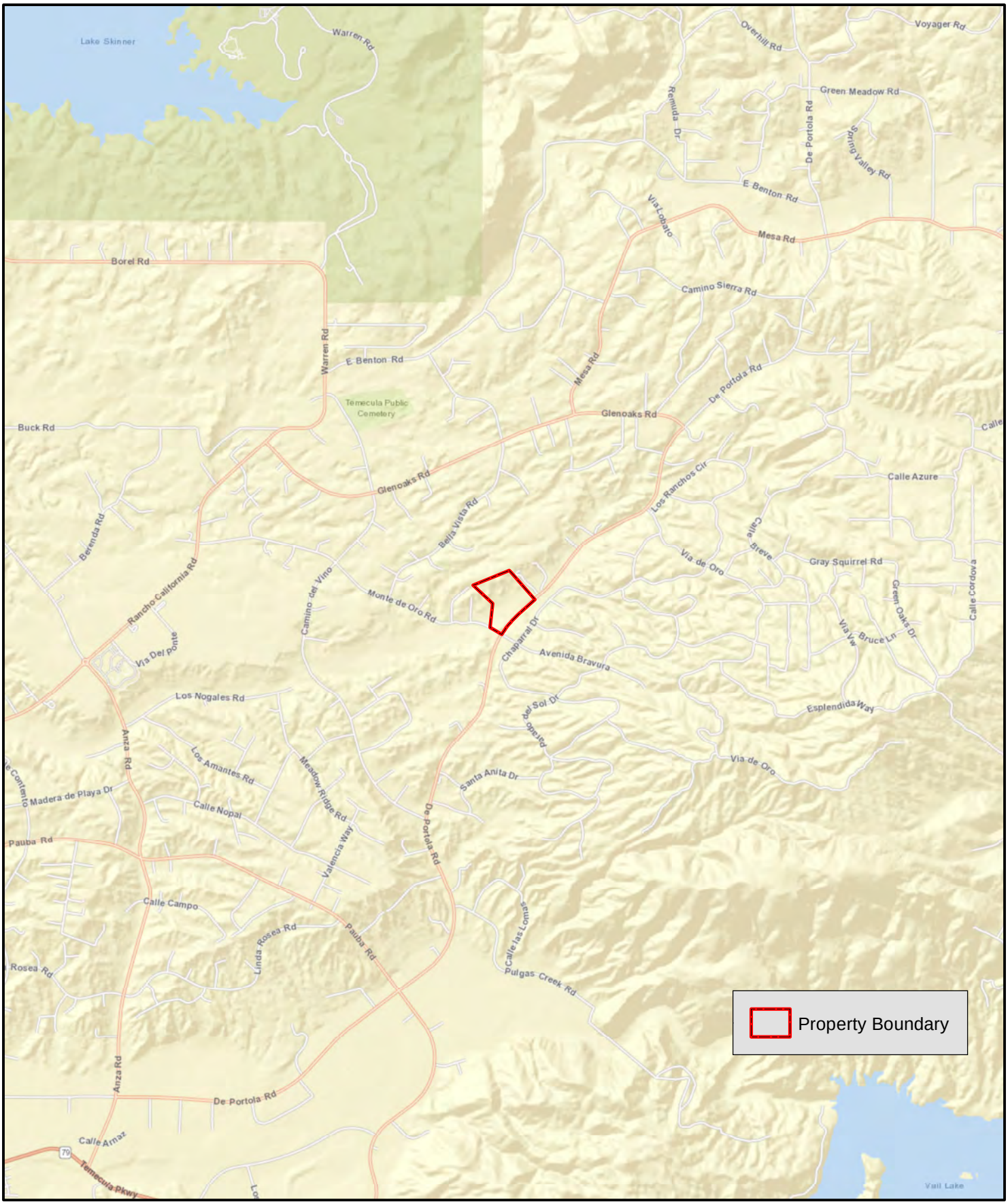
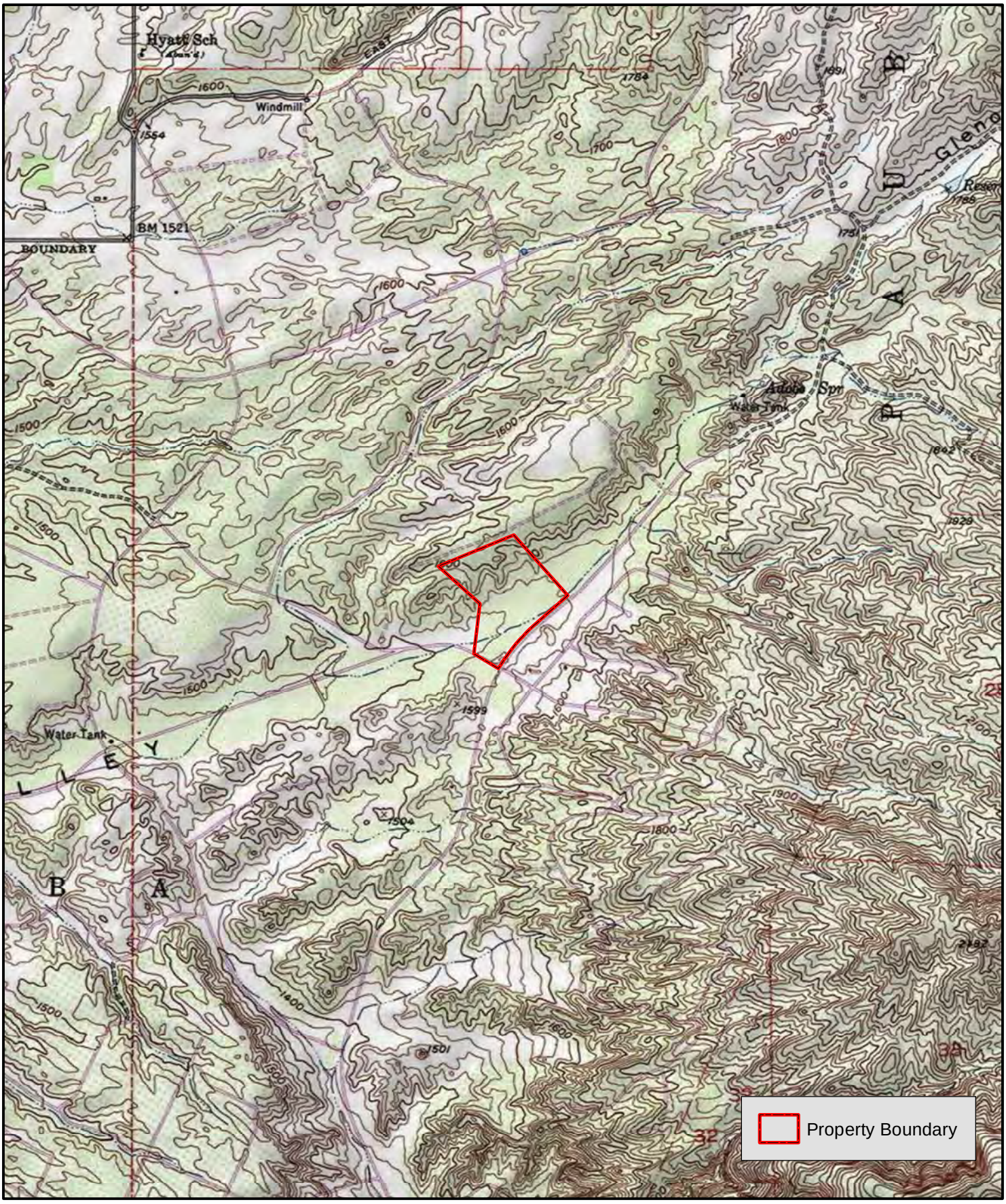



**FIGURE 2**
**Vicinity Map**

DATE: July 9, 2019
COORDINATE SYSTEM: NAD 1983 State Plane California VI FIPS 0406 (US Feet)
SOURCE: ESRI World Street Map, Ventura Engineering Inland, Inc.

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N W E S

0 0.25 0.5 1 Miles

**FIGURE 3**
**USGS Topographic Map**

DATE: July 9, 2019
COORDINATE SYSTEM: NAD 1983 State Plane California VI FIPS 0406 (US Feet)
SOURCE: ESRI USA Topo Maps, Ventura Engineering Inland, Inc.

anthropogenic alterations (i.e., vineyard, roads, culverts, fences, etc.) and dissipating to surface sheetflow. An agricultural drainage swale lined with rocks located in the western end of the vineyard was situated perpendicular to the vineyard. Sheetflow, and flows from De Portola Road, enter the drainage swale then flow through a natural area with a clearly defined bed and bank and associated riparian vegetation before exiting onto a dirt driveway offsite. The remaining areas of the Property consisted of vacant land comprised primarily of a mix of coastal sage scrub and non-native grassland. Riparian scrub was sparse and present in a few scattered locations near the historic[1] flow-line of Long Valley Wash.

17.73-acres in the southern portion of the 44.6-acre Property is currently an active vineyard. An Agricultural Grading/Clearing Certificate Exemption was obtained on August 7, 2017 (BFE 170055) by Ben Drake, President of Drake Enterprises, Inc., a farm management company specializing in the development, maintenance and marketing of wine grapes and avocados in Southern Riverside and Northern San Diego Counties. Per the certificate, 17.73 acres of land located in the southern portion of the site (south of Long Valley Wash) was ripped and blended, cross ripped to a depth of 3 feet then floated so planting could occur. The irrigation main lines were taken from an existing Rancho California Water District 3-inch water meter on De Portola Road. The grapevines were planted, and were put on a drip irrigation system. Service road access will be taken from De Portola Road. The southern portion of the Site where the vineyard is present is designated by the Farmland Mapping and Monitoring Program (FMMP) as having "Local Importance" as depicted by *Figure 4 – Farmland Mapping and Monitoring Program Map* (Page 6).

## 2.2 Project Description

The Project is the development of a new winery, associated retail tasting room, cave restaurant, and 80-room hotel with associated support structures. The Project will be developed in five phases:

- Phase 1 – tasting building with 4,934.1 square feet of building area production building with 9,554 square feet of building area offices/storage with 1,805 square feet of building area
    - Total 16,293.1 square feet (0.37 acre)
- Phase 2 – special occasions facility with 8,389.5 square feet (0.19 acre) of building area
- Phase 3 – restaurant building with 4,745.7 square feet (0.11 acre) of building area
- Phase 4 – cave building with 17,400 square feet of building area production expansion building with 6,000 square feet of building area case storage building with 8,750 square feet of building area
    - Total 14,750 square feet (0.34 acre)
- Phase 5 – 2-story hotel with a total of 74,010 square feet (1.70 acres) of building area

A total of 391 parking spaces will be provided, including ADA accessible spaces (Americans with Disabilities Act spaces). Infiltration trenches will be incorporated into some of the parking areas.

Area Calculations Summary (percent of 44.6-acre site):

- Buildings – 118,188.3 square feet (2.71 acres) or 6.4 %
- Parking/Landscaping – 279,239 square feet (6.41 acres) or 15%

[1] Evidence of concentrated/ordinary flow (i.e., Ordinary High Water Mark, distinct bed and bank, etc.) was absent throughout the majority of the Property, and therefore, the historic flow-line was mapped based on historic aerial photography review, previous biological studies prepared by Principe and Associates, and remnant field evidence of flow (i.e., topography and drought-stressed riparian scrub) using submeter GPS.

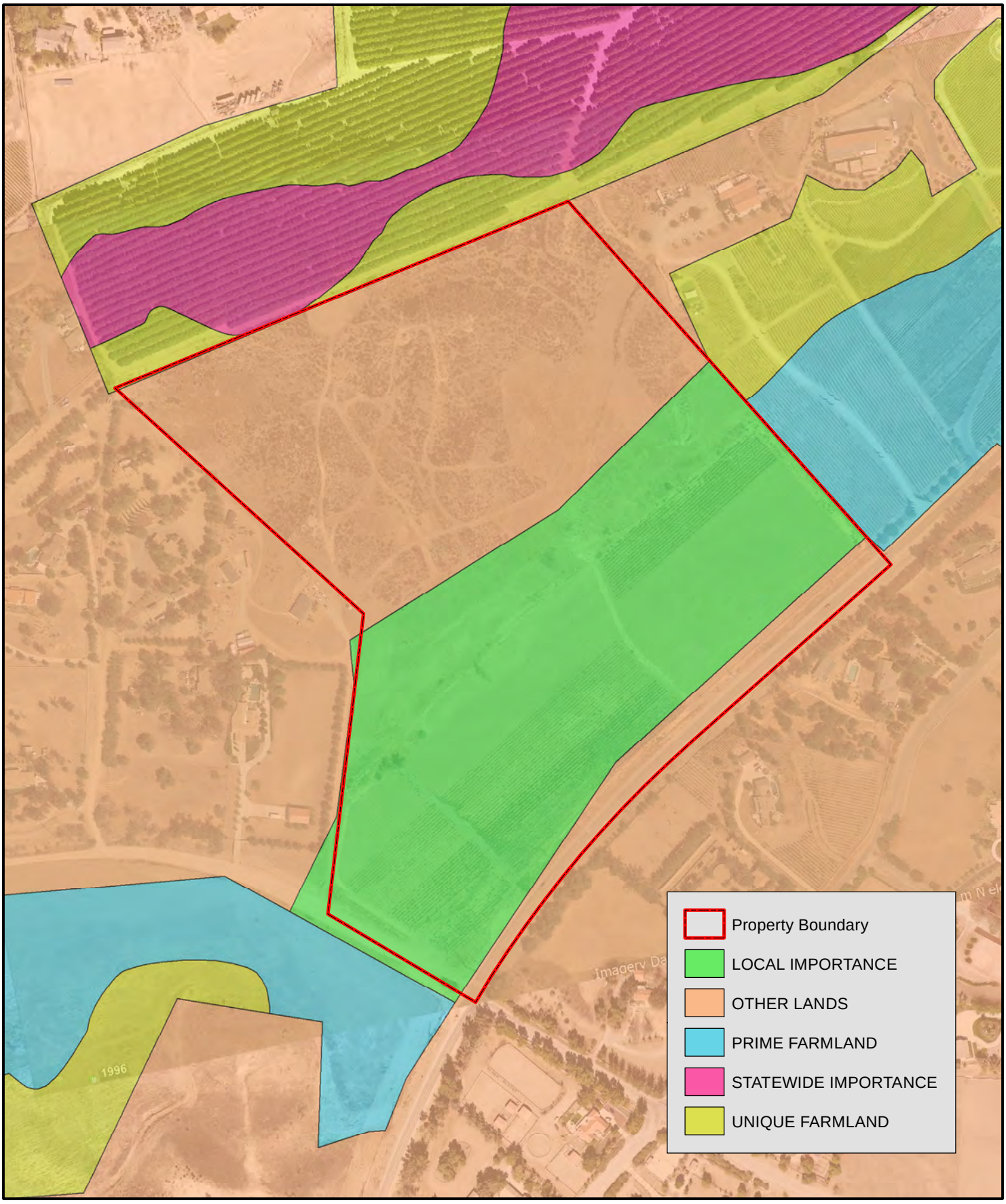


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**FIGURE 4**
**Farmland Mapping and Monitoring Program Map**

DATE: July 9, 2019
COORDINATE SYSTEM: NAD 1983 State Plane California VI FIPS 0406 (US Feet)
SOURCE: Ventura Engineering Inland, Inc., Riverside County GIS,
Google Earth August 24, 2018 Image (Georeferenced), FMMP

- Vineyard – 1,294,024.3 square feet (29.7 acres) or 70.3% (Note: The initial phase of the vineyard has been developed on 17.73 acres located in the southern portion of the site (see 2.1 Property Description above).
- Vineyard over cave building (Phase 4) – 67,541.3 square feet (1.55 acres) or 3.7 %
- Olive trees – 82,467 square feet (1.89 acres) or 4.4%

Access to the Project will be taken from a 24-foot-wide paved entry drive off of De Portola Road. It will include an Arizona Crossing through the historic low-flow area of Long Valley Wash. Acceleration/deceleration lanes will be constructed along De Portola Road.

Utilities and public services will be extended onto the site from existing facilities. Water will be provided by Rancho California Water District, gas by propane, electricity by Southern California Edison, telephone by Verizon – Business. Sewage disposal will be accomplished by a private septic tank system. Trash disposal will be provided by Waste Management of Inland Valley.

The development footprint is depicted on *Figure 5 – Project Footprint* (Page 9). Detailed Project information is provided in Appendix A.

# 4.0 VEGEATION MAPPING

Vegetation community classifications are typically conducted in accordance with the CDFW's Vegetation Classification and Mapping Program (VegCAMP) *List of Vegetation Alliances and Associations* (Natural Communities List) (California Department of Fish and Wildlife, 2018) and *A Manual of California Vegetation.* Vegetation communities and land covers are mapped in the field utilizing both Collector for ArcGIS installed on an IPhone 7 and 8 connected to an iSXBlue2+ 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, disturbed, agriculture, etc.); therefore, each land cover is designated with a common name for the purpose of this report. A description of the land cover types on the Property is presented in Table 1 (below). The distribution of vegetation communities and land covers on the Project are depicted on *Figure 6 – Land Covers* (Page 10).

Table 1 – Land Covers

| COMMON NAME/ VEGCAMP COMMUNITY | DESCRIPTION | TOTAL ACRES |
|---|---|---|
| Agriculture (Vineyard)<br><br>No Corresponding VegCAMP Classification | The southern portion of the Property was utilized for agricultural purposes and active agriculture areas consisted of vineyard. The mapped area only included the limit of the vineyard. | 15.67 |
| Coastal Sage Scrub<br><br>California buckwheat scrub 32.040.00 | Coastal sage scrub, with California buckwheat (*Eriogonum fasciculatum*) dominant, was present in the northern portion of the Property. Associate species included California sagebrush (*Artemisia californica*) deerweed (*Acmispon glaber*), and chaparral beard tongue (*Keckiella antirrhinoides*). | 15.78 |
| Developed<br><br>No Corresponding VegCAMP Classification | This land cover consisted of asphalt pavement on De Portola Road along the southern Property boundary. | 0.49 |

| COMMON NAME/ VEGCAMP COMMUNITY | DESCRIPTION | TOTAL ACRES |
|---|---|---|
| Disturbed<br><br>No Corresponding VegCAMP Classification | This land cover consisted of Monte de Oro Road and road shoulder areas where bare ground was dominant. | 0.81 |
| Fremont Cottonwood<br><br>No Corresponding VegCAMP Classification | Two Fremont cottonwood (*Populus fremontii*) trees were present in the western portion of the Property within the vineyard area. The dripline of the trees was not associated with active flow areas. | 0.01 |
| Non-native Grassland<br><br>Annual brome grasslands 42.026.00 | Non-native grassland was present as a community between the coastal sage scrub and vineyard and along the periphery of the vineyard; however, non-native grassland was also present throughout the coastal sage scrub and agriculture as an understory. The three dominant plants encountered in these areas included ripgut grass (*Bromus diandrus*), wall barley (*Hordeum murinum*), and red brome (*Bromus madritensis* subsp. *rubens*). Other common non-native species present included London rocket (*Sisymbrium irio*), shortpod mustard (*Hirschfeldia incana*), and filaree (*Erodium* spp.). Native forbs such as fiddleneck (*Amsinckia intermedia*) and miniature lupine (*Lupinus bicolor*) were also present but less commonly encountered. | 11.76 |
| Riparian Scrub<br><br>Mulefat thickets 63.510.00/Black willow thickets 61.211.00/Red willow thickets 61.205.00 | Riparian scrub was present along and near the historic low-flow area of Long Valley Wash. Much of these shrubs and trees were drought-stressed and a few were dead. The shrubs and trees were sparse, canopy open and intermittent, and the condition and vigor of the riparian scrub was poor. Black willow (*Salix gooddingii*) and red willow (*Salix laevigata*) were sparse and limited in distribution to the western portion of the Property. Mulefat (*Baccharis salicifolia*) was present throughout and sparsely distributed along the historic low-flow area. | 0.09 |
| Tamarisk<br><br>Tamarisk thickets 63.810.00 | Salt cedar (*Tamarix ramosissima*), a non-native, shrub with a *High* invasive rating from the California Invasive Plant Council (Cal-IPC) (California Invasive Plant Council, 2019), was present in 3 locations along the historic low-flow area of Long Valley Wash. | 0.02 |
| Tree Tobacco<br><br>No Corresponding VegCAMP Classification | Tree tobacco (*Nicotiana glauca*), a non-native, tree/shrub with a *Moderate* invasive rating from the Cal-IPC (California Invasive Plant Council, 2019), was present near the proposed Arizona crossing area along the historic low-flow area of Long Valley Wash. | 0.02 |

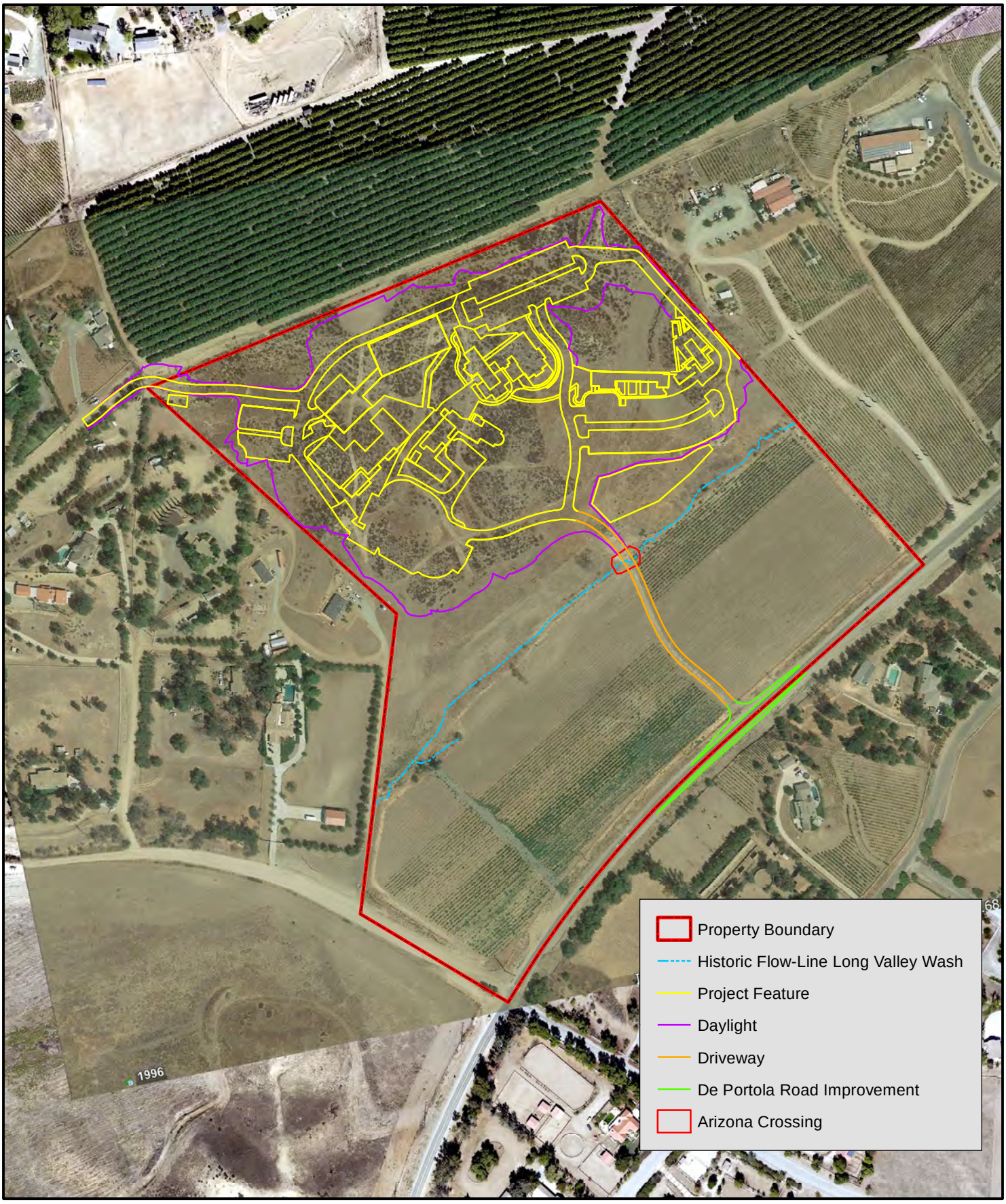


**FIGURE 5**
**Project Footprint**

DATE: July 9, 2019
COORDINATE SYSTEM: NAD 1983 State Plane California VI FIPS 0406 (US Feet)
SOURCE: ESRI World Transportation, Ventura Engineering Inland, Inc., Riverside County GIS, Google Earth August 24, 2018 Image (Georeferenced), SBS

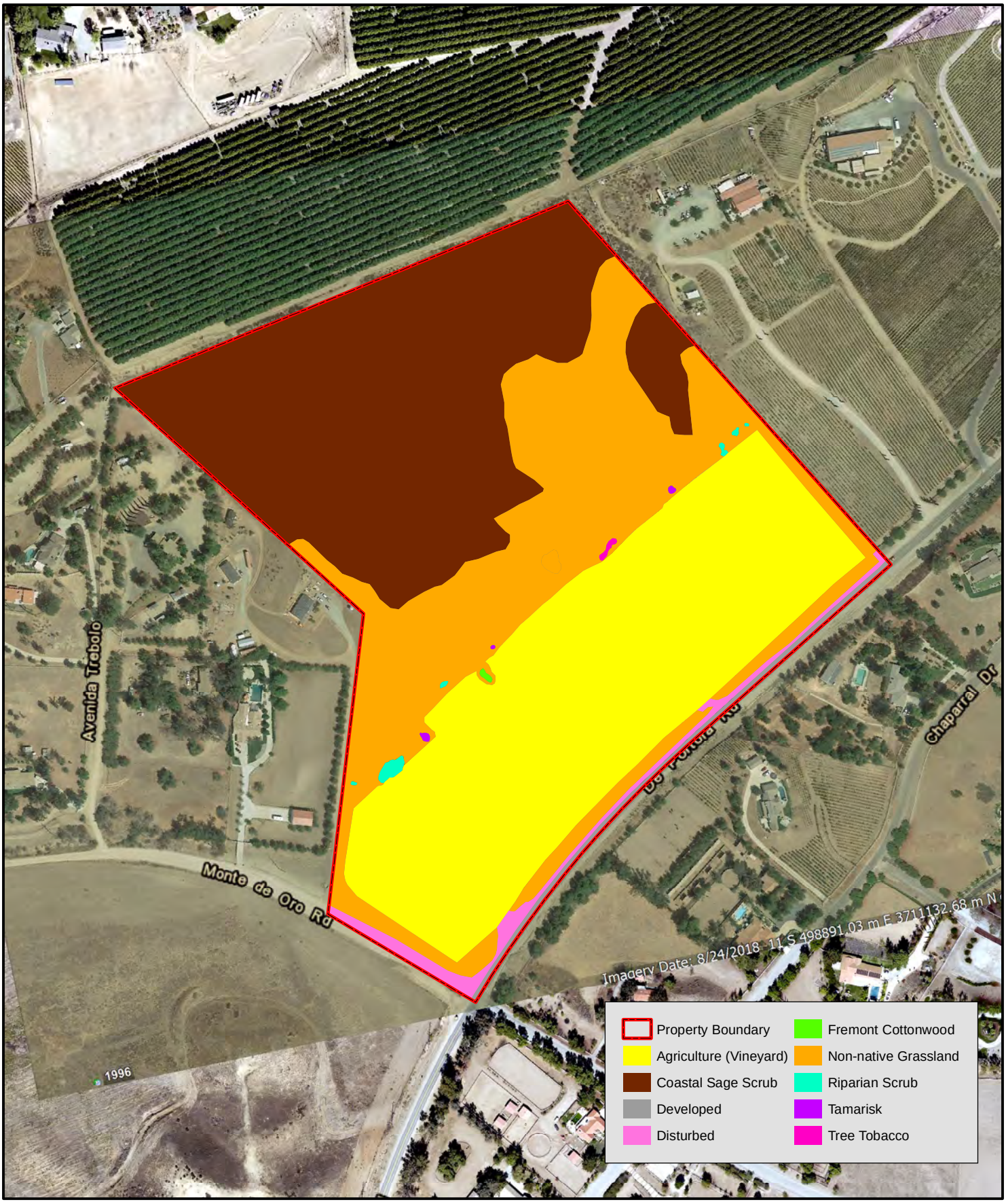


**FIGURE 6**
**Land Covers**

DATE: July 9, 2019
COORDINATE SYSTEM: NAD 1983 State Plane California VI FIPS 0406 (US Feet)
SOURCE: ESRI World Transportation, Ventura Engineering Inland, Inc., Riverside County GIS, Google Earth August 24, 2018 Image (Georeferenced), SBS

# 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)[2] 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.

According to Section 6.1.2 of the MSHCP:

> "***Riparian/Riverine Areas*** *are lands which contain Habitat dominated by tress* [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.*"
>
> "***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.*"
>
> "***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.*"

[2] 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)

"*With the exception of wetlands created for the purpose of providing wetlands Habitat or resulting from human actions to create open waters or from the alteration of natural stream courses, areas demonstrating characteristics as described above which are artificially created are not included in these definitions.*"

## 5.1 Riparian/Riverine

### 5.1.1 Methods

Prior to initiating the MSHCP Section 6.1.2 field assessment, Searl Biological Services (SBS) conducted a review and analysis of the Bachelor Mountain 7.5 Minute USGS California Quadrangle, historic aerial photography from Historic Aerials online (Historic Aerials by Netronline, 2019) and Google Earth, the U. S. Fish and Wildlife Service (USFWS) National Wetland Inventory (NWI), and Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps. Also reviewed was the *Revised Western Riverside County Multiple Species Habitat Conservation Plan Consistency Analysis for Plot Plan T180003* (Principe and Associates, 2018). Rainfall data were obtained from the Temecula, California Weather Currents website (Weather Currents, 2019) and the Riverside County Flood Control and Water Conservation District (Riverside County Flood Control and Water Conservation District, 2019).

Those areas potentially meeting the criteria of a MSHCP Section 6.1.2 resource are mapped in the field utilizing Collector. Field determinations are based on MSHCP Section 6.1.2 criteria, existing conditions, historic aerial photography and recent aerial photography reviewed on Google Earth, and review of the Bachelor Mountain USGS 7.5 Minute California Quadrangle.

A potential Riparian/Riverine feature is walked beginning in the downstream portion and ending at the upstream end. A "polyline" and/or "polygon," depending on the habitat type and field conditions (i.e., Riparian vs. Riverine), GIS shapefile is created in the field utilizing Collector while walking the length of the potential feature. The extent of a Riparian/Riverine area is the dripline[3]of the riparian vegetation or the boundary of the jurisdictional bank, generally whichever is of greater extent. Data collected while walking the potential Riparian/Riverine feature includes characteristics and functions such as hydrology, soils/substrates, dominant plant species/vegetation community, 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 or not the feature contributes to downstream resources for MSHCP Section 6.1.2 species and/or MSHCP Conservation Areas.

The MSHCP Section 6.1.2 assessment was conducted by biologist Tim Searl and field technician Marc Searl on March 5, 2019. An update assessment was conducted by Tim Searl on July 8, 2019. Detailed survey information and conditions are presented in Table 2 (Page 13).

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

Table 2 – MSHCP Section 6.1.2 Assessment Conditions

| DATE | FIELD PERSONNEL | SURVEY TIME | TEMPERATURE[4] | HUMIDITY | CLOUD COVER | WIND SPEED | ANNUAL PRECIPITATION TO-DATE[5] |
|---|---|---|---|---|---|---|---|
| 3/5/2019 | Tim Searl<br>Marc Searl | 07:00-15:00 | 42-66 | 98-52 | Partly cloudy | 1-7 | 17.40 |
| 7/8/2019 | Tim Searl | 07:30-11:30 | 67-74 | 86-72 | Partly cloudy | 1-4 | 0 |

*This portion of the document left blank intentionally*

[4] Temperature (Degrees Fahrenheit), Humidity (percent), and Wind Speed (mean miles per hour) were obtained in the field with a Kestrel 3500 weather meter.
[5] Annual Precipitation (July 01 to June 30) To-Date was obtained from *Past Weather* pages for Temecula, CA from WeatherCurrents.com (Weather Currents, 2019).

## 5.1.2 Existing Conditions and Results

### *5.1.2.1 Office Review*

Historic aerial photographs from 1967 and 1978 were purchased from Netronline georeferenced for GIS use. Google Earth images from 1996 and 2009 were georeferenced by SBS. As indicated by the analysis presented below, the Site and particularly the southern portion, has been utilized for agricultural purposes then reverted back to vacant then returned to agricultural since 1967.

The Site and the majority of the surrounding area in 1967 was likely utilized for dryland agriculture (i.e., wheat, barley, etc.) as agricultural disking is clearly evident. Long Valley Wash appears unimpeded upstream and flow was likely typical of an ephemeral alluvial valley wash with a primary low-flow channel and areas within the floodplain showing evidence of flow from high yield rain events. The primary low-flow channel was evident in the southern portion of the Site consistent with the mapping on the USGS Topographic Map. *Figure 7 – 1967 Aerial Photograph* (Page 15) depicts the conditions described above.

In 1978, the Site and the areas both east and west had been planted with what appears to be vineyard. The primary low-flow channel of Long Valley Wash was no longer evident. It is possible that the installation of vineyard upstream and on the Site dissipated flows to where the hydrologic regime was primarily surface sheetflow, similar to current conditions. A braided network of flow typical of an alluvial valley was still present immediately west of the Site before entering an agricultural ditch. *Figure 8 – 1978 Aerial Photograph* (Page 16) depicts the conditions described above.

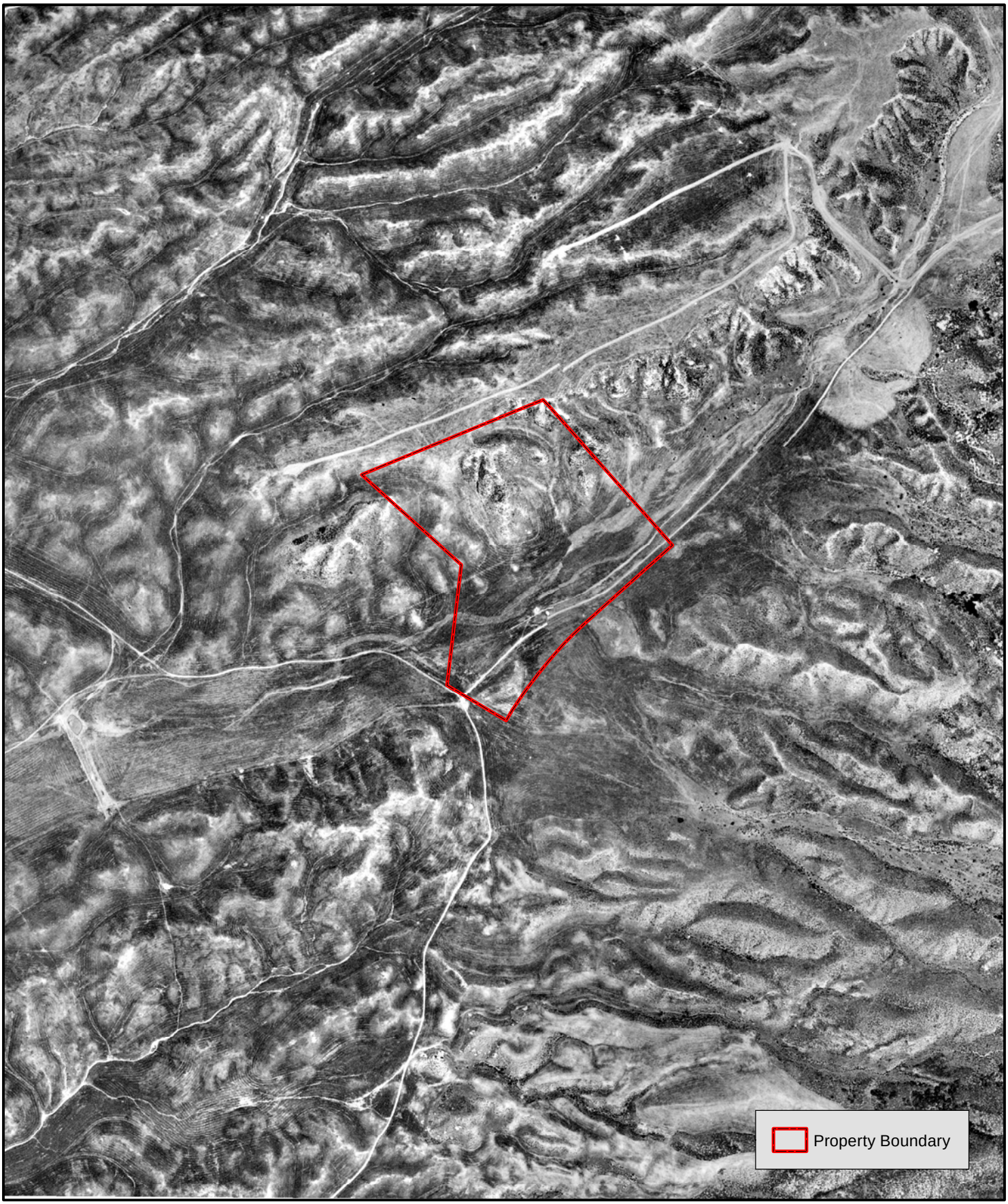
In 1996, the southwestern portion of the Property was in active agricultural use with what appears to be vineyard. A densely vegetated, linear area is evident within the agricultural area near the current alignment of the historic low-flow area of Long Valley Wash. This may have been an agricultural ditch. The southeastern portion of the Site was densely vegetated, along with the adjoining area to the east, and did not appear to be in active agricultural use. Single-family homes had been constructed west of the Site. *Figure 9 – 1996 Aerial Photograph* (Page 17) depicts the conditions described above.

The Property did not appear to be planted and appeared vacant in 2009. Conversely, the properties to the east/upstream were back in agricultural use and planted with vineyard. This includes the Long Valley Wash area. Hydrologic flow was evident upstream of the Site based on soil color and entered the Property near the current alignment of the historic low-flow area of Long Valley Wash. Flow exits the Property in the west and eventually enters a ditch along Monte de Oro Road. *Figure 10 – 2009 Aerial Photograph* (Page 18) depicts the conditions described above.

The NWI classifies Long Valley Wash as "Riverine" and follows the general alignment of the USGS-designated intermittent stream mapped on the Bachelor Mountain USGS Topographic Quadrangle as depicted by *Figure 11 – NWI* (Page 19). The *Classification of Wetlands and Deepwater Habitats of the United States* (Federal Geographic Data Committee (FGDC), 2013) defines "Riverine" as:

> *"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"*

FEMA classifies the Property and immediate surrounding area as an "Area of Minimal Flood Hazard."

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N
W E
S

0 250 500 1,000 1,500 2,000
Feet

**FIGURE 7**
**1967 Aerial Photograph**

DATE: July 9, 2019
COORDINATE SYSTEM: NAD 1983 State Plane California VI FIPS 0406 (US Feet)
SOURCE: Ventura Engineering Inland, Inc., Historic Aeraial by Netronline


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**FIGURE 8**
**1978 Aerial Photograph**

DATE: July 9, 2019
COORDINATE SYSTEM: NAD 1983 State Plane California VI FIPS 0406 (US Feet)
SOURCE: Ventura Engineering Inland, Inc., Historic Aeraial by Netronline


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N
W E
S

0 125 250 500 750 1,000
Feet

**FIGURE 9**
**1996 Aerial Photograph**

DATE: July 9, 2019
COORDINATE SYSTEM: NAD 1983 State Plane California VI FIPS 0406 (US Feet)
SOURCE: Ventura Engineering Inland, Inc., Google Earth September 29, 1996 Image (Georeferenced), Riverside County GIS


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N W E S

0 125 250 500 750 1,000 Feet

**FIGURE 10**
**2009 Aerial Photograph**

DATE: July 9, 2019
COORDINATE SYSTEM: NAD 1983 State Plane California VI FIPS 0406 (US Feet)
SOURCE: Ventura Engineering Inland, Inc., Google Earth November 15, 2009
Image (Georeferenced), Riverside County GIS

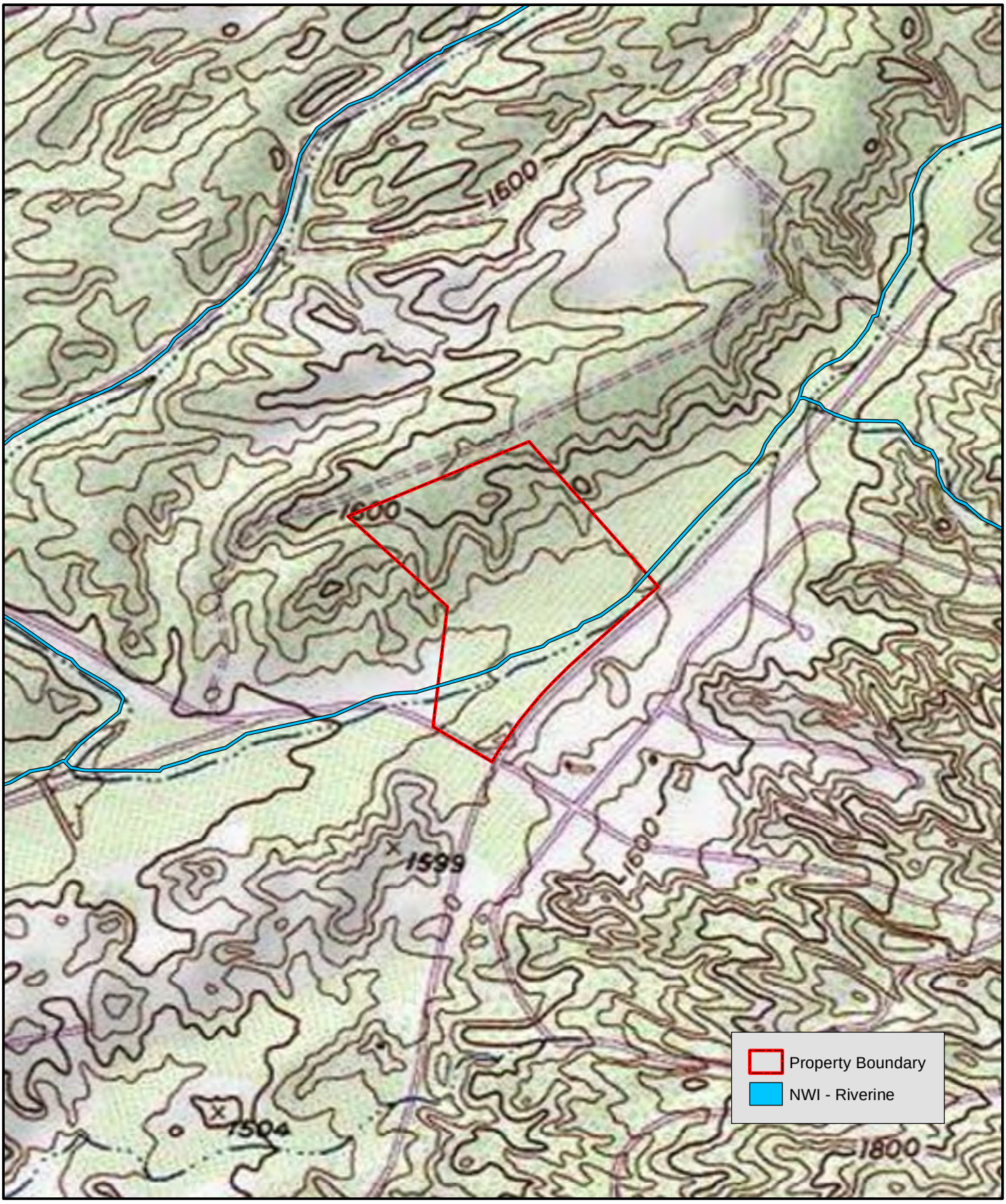


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**FIGURE 11**
**NWI**

DATE: July 9, 2019
COORDINATE SYSTEM: NAD 1983 State Plane California VI FIPS 0406 (US Feet)
SOURCE: Ventura Engineering Inland, Inc., ESRI USA Topo Maps, USFWS NWI

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, 2019), the Property consisted of six soil series as depicted by *Figure 12 – NRCS Soils* (Page 21). A brief description, as described by the NRCS, is presented in Table 3 (below). No hydric soils were present on the Property.

Table 3 – NRCS Soils

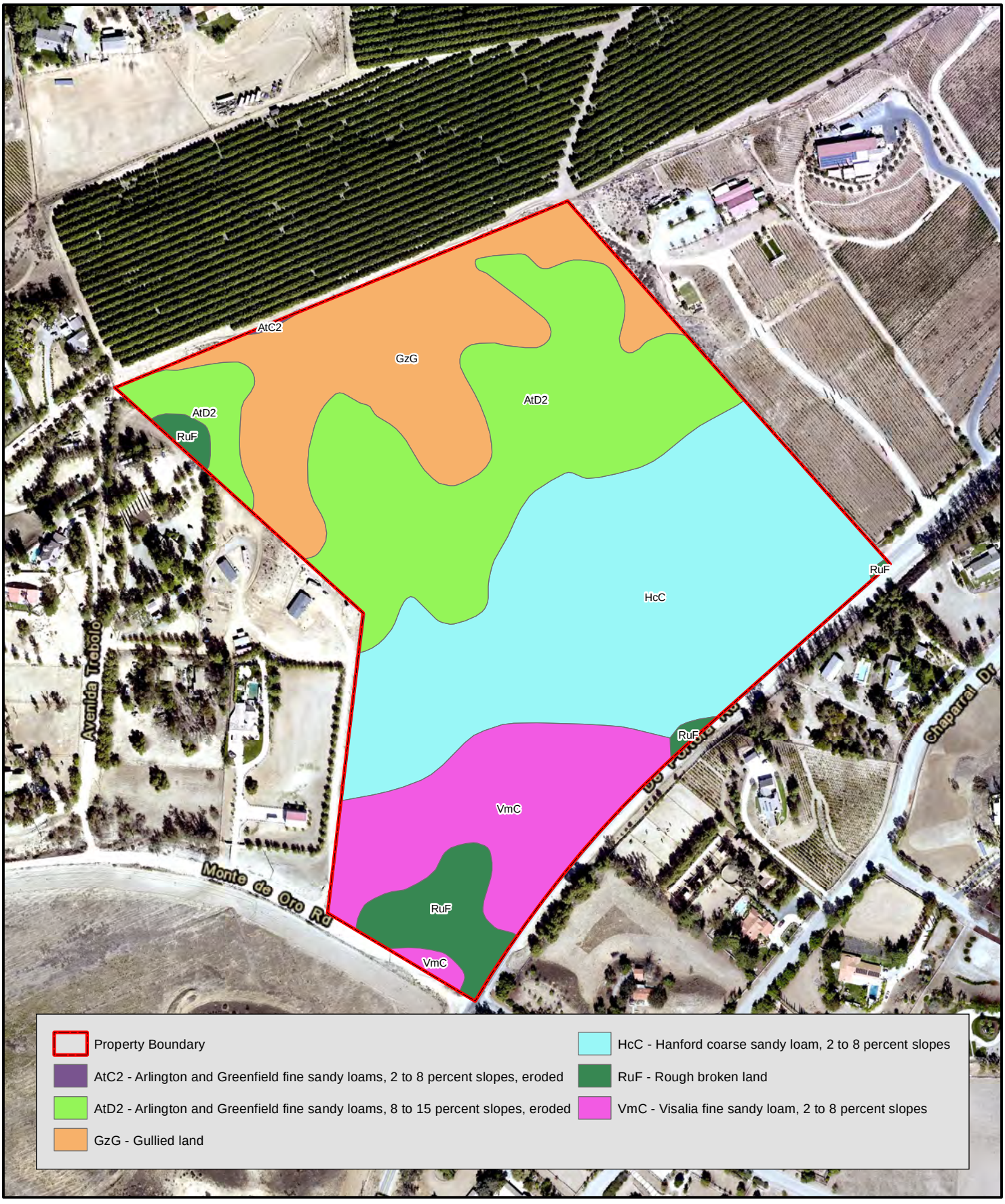
| ACRONYM | SOIL NAME | SOIL DESCRIPTION | PROPERTY ACRES |
|---|---|---|---|
| AtC2 | Arlington and Greenfield fine sandy loams, 2 to 8 percent slopes, eroded | A well-drained alluvium soil derived from granite. The depth to duripan ranges from 24 to 80 inches. The NRCS lists AtC2 as non-hydric. | 0.02 |
| AtD2 | Arlington and Greenfield fine sandy loams, 8 to 15 percent slopes, eroded | A well-drained alluvium soil derived from granite. The depth to duripan ranges from 24 to 80 inches. The NRCS lists AtD2 as non-hydric. | 11.79 |
| GzG | Gullied land | A non-hydric landform with diagnostic soil horizons absent. | 8.24 |
| HcC | Hanford coarse sandy loam, 2 to 8 percent slopes | A well-drained alluvium soil derived from granite. The depth to the restrictive feature is typically more than 80 inches. The NRCS lists HcC as non-hydric. | 16.17 |
| RuF | Rough broken land | A non-hydric soil derived from residuum from mixed sources. The depth to paralithic bedrock is typically only 0 to 3 inches. | 2.20 |
| VmC | Visalia fine sandy loam, 2 to 8 percent slopes | A somewhat poorly drained alluvium soil derived from granite. The depth to the restrictive feature is typically more than 80 inches. The NRCS lists VmC as non-hydric. | 6.23 |

### *5.1.2.2 Existing Conditions/Results*

Long Valley Wash is located in the Santa Margarita Watershed and is tributary to Santa Gertrudis Creek, which is tributary to Murrieta Creek, which is ultimately tributary to the Santa Margarita River.

Based on field evidence observed on March 5 and July 8, 2019, it appears that the majority of flows from Long Valley Wash have been diverted upstream and those that remain dissipate and flow through the Site as surface sheetflow. Impediments upstream of the Property, particularly the approximate 1,300-foot-wide area planted with vineyard, appear to disperse and dissipate any concentrated flows. Impediments included planted grapes and associated vineyard stakes and wires and perpendicular wire fence-lines.

The historic low-flow area of Long Valley Wash on the Property did not support evidence of concentrated flow. A remnant incised channel was present in the central portion near the Project crossing and was not connected up or downstream and did not appear to be currently hydrologically active. The crossing and the access dirt road did not support evidence of recent flow. This, even after the Temecula area had experienced a four-day storm event from February 13 to February 16 that produced 6.04 inches of rain (Riverside County Flood Control and Water Conservation District, 2019), indicates that these areas are no longer hydrologically active. Other field indicators of a historic hydrologic regime in the 1,300-foot area included the scattered, sparse, and drought stressed riparian scrub and the presence of an indistinct upland swale with what appeared to be a human-created earthen bank associated for approximately 530-feet in the downstream




BSEARL BIOLOGICAL SERVICES

**FIGURE 12**
**NRCS Soils**

DATE: July 9, 2019
COORDINATE SYSTEM: NAD 1983 State Plane California VI FIPS 0406 (US Feet)
SOURCE: ESRI World Transportation, Ventura Engineering Inland, Inc., Riverside County GIS, NRCS, Web Soil Survey, SBS

portion. The earthen bank was likely put in place for agricultural purposes and appeared to have been present for many years.

Potential Riparian/Riverine areas were only present in the western portion of the Property. Surface sheetflow across the Property likely concentrates in this area, and is also collected in an agricultural drainage swale that is situated perpendicular to the vineyard. This swale, which is lined with rock, also collects storm runoff from De Portola Road. Road runoff, which originates on the eastside of De Portola Road, is conveyed onto the Property via three 24-inch culverts. Small collection basins are located at the terminus of these culverts which dissipate flows to sheetflow once the basins are filled. No evidence of concentrated flow was observed immediately downstream of the collection basins.

The terminus of the agricultural swale supported clear hydrologic flow indicators which included a bed and bank, sparse riparian vegetation, sediment transport, bent vegetation, and small debris racks. The largest concentration of riparian scrub, though still with an open canopy, was also present in this area.

An erosional gully was present in the northeastern portion of the site. It was confined to a small ravine worn away by running water originating from the paved surfaces of the development located adjacent to the northeast corner of the site. The gully was evident for approximately 500-feet where it conveyed storm water runoff downslope before it dissipated on the surface as sheetflow. The gully did not connect to the historic low-flow area of Long Valley Wash and was not clearly evident on the Site in 1967, 1978, or 1996. It was present in 2009 subsequent to the construction of the development offsite.

The areas described above are depicted on *Figure 13 – MSHCP Section 6.1.2 Assessment Results* (Page 23). Representative photographs of the MSHCP Section 6.1.2 assessment and a photographic key map are provided in Appendix B.

#### *5.1.2.3 Impacts*

The Project will not impact any potential Riparian/Riverine areas. The existing hydrologic flow regime will remain unaltered. The flows conveyed by the two 24-inch culverts located within the proposed acceleration/deceleration lane improvement area will be equivalent to the existing condition with the installation and extension of the proposed two 24-inch culverts. Flows will exit the two 24-inch culverts and flow downstream as sheetflow along De Portola Road where they will end up in the agricultural swale.

No Project-related impacts are proposed within the agricultural swale or Riparian/Riverine area in the western portion of the Site. These areas will remain as-is.

#### *5.1.2.4 Mitigation*

No mitigation is required or proposed due to no Project-related impacts.

## 5.2 Vernal Pools

### 5.2.1 Methods

The perimeter of a potential Vernal Pool is walked and mapped by creating a "polygon" GIS shapefile 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 habitat meeting the criteria of a vernal pool was detected on the Property. The two small collection basins at the terminus of the culverts were deep and did not appear to support ponding for the duration

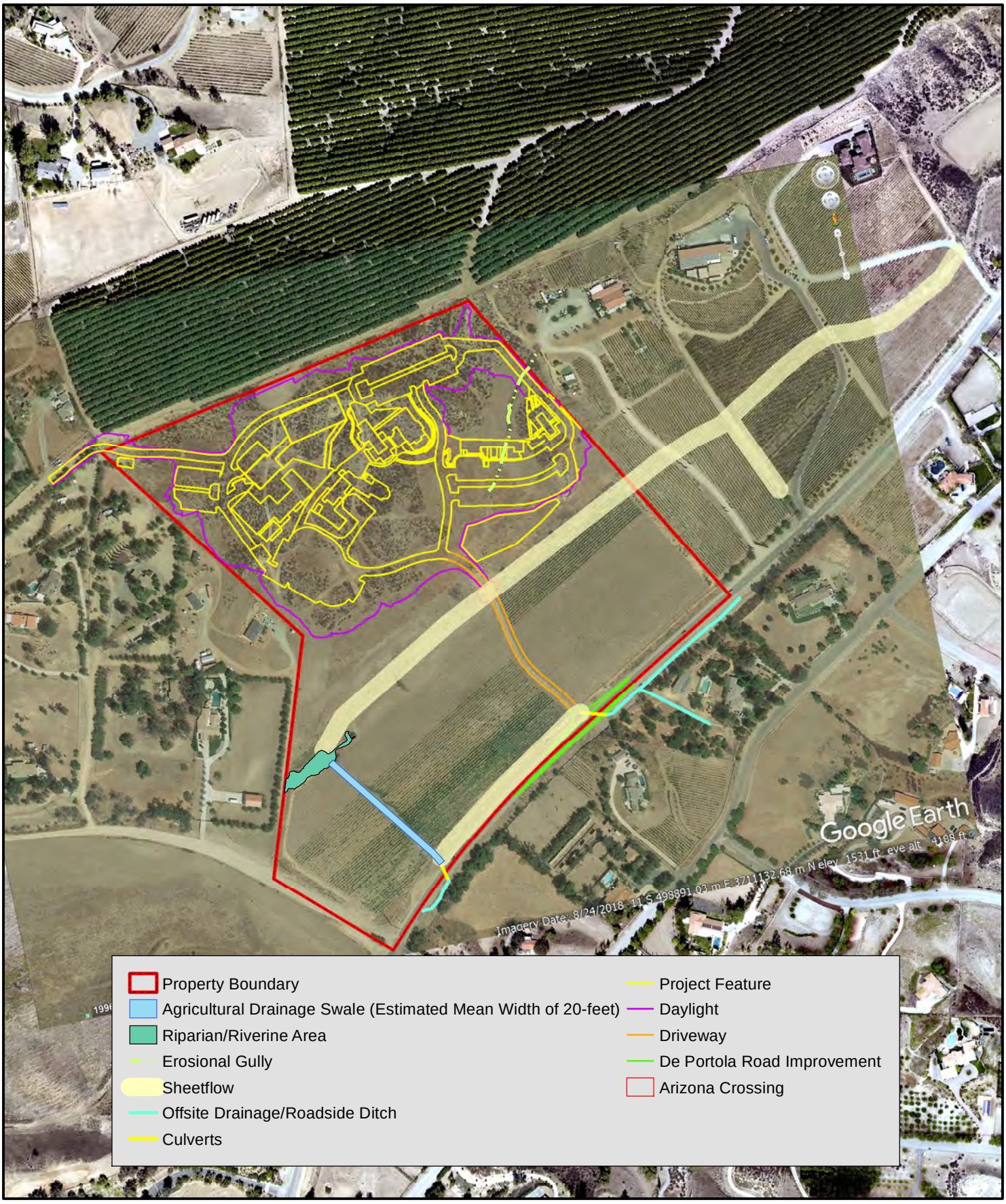



**FIGURE 13**
**MSHCP Section 6.1.2**
**Assessment Results**

DATE: July 9, 2019
COORDINATE SYSTEM: NAD 1983 State Plane California VI FIPS 0406 (US Feet)
SOURCE: Ventura Engineering Inland, Inc., Google Earth August 24, 2018
Image (Georeferenced), Riverside County GIS, SBS

required. Substrates were sandy indicating that ponding likely does not occur. Other areas of the Property did not support depression areas, and no evidence of long-lasting ponds (i.e., cracked mud, crusty soil, etc.) was detected. Saline-alkali or clay soils, a common component of vernal pools, were also absent. Plants typically associated with vernal pools, or remnants thereof, such as alkaline popcorn flower (*Plagiobothrys leptocladus*), western marsh cudweed (*Gnaphalium palustre*), Parish's glasswort (*Arthrocnemum subterminale*), and swamp pickle grass (*Crypsis schoenoides*) were also not detected on the Site.

### 5.2.3 Impacts
No Vernal Pool impacts will occur.

### 5.2.4 Mitigation
No Vernal Pool mitigation is required.

## 5.3 Fairy Shrimp
### 5.3.1 Methods
The perimeter of a potential Fairy Shrimp Habitat feature is walked and mapped by creating a "polygon" GIS shapefile 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 areas were detected on the Site that contained evidence of supporting long-lasting pools for the duration required to support fairy shrimp.

### 5.3.3 Impacts
No Fairy Shrimp impacts will occur.

### 5.3.4 Mitigation
No Fairy Shrimp mitigation is required.

## 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" GIS shapefile 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 riparian scrub on the Property was too sparse and lacked the connectivity and understory to provide suitable habitat for riparian birds.

### 5.4.3 Impacts
No impacts will occur to any suitable or potentially suitable habitat for riparian birds.

### 5.4.4 Mitigation

No mitigation is proposed or required for riparian birds.

# 6.0 REFERENCES

California Department of Fish and Wildlife. (2018, October 15). *Natural Communities - List.* Retrieved March 2019, from Ca.gov - California Department of Fish and Wildlife: https://www.wildlife.ca.gov/Data/VegCAMP/Natural-Communities/List

California Invasive Plant Council. (2019). *The Cal-IPC Inventory*. Retrieved March 2019, from https://www.cal-ipc.org/plants/inventory/

Dudek & Associates, Inc. (2003). *RCA Documents Library - Multiple Species Habitat Conservation Plan.* Retrieved February 2019, from Regional Conservation Authority (RCA) Western Riverside County: http://www.wrc-rca.org/about-rca/multiple-species-habitat-conservation-plan/

Dudek & Associates, Inc. (2004, August 9). *Errata to MSHCP - Clarifications and Corrections to the MSHCP*. Retrieved October 2018, 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 March 1, 2019, from National Wetland Inventory Wetland Classification Codes: https://www.fws.gov/wetlands/Data/Wetland-Codes.html

Historic Aerials by Netronline. (2019). *Historic Aerials*. Retrieved March 1, 2019, from https://www.historicaerials.com/

Holland, R. (1986). *Preliminary descriptions of the terrestrial natural communities of California.* Sacramento: Unpublished document. California Department of Fish and Game, Natural Heritage Division.

Lightner, J. (2006). *San Diego County Native Plants* (2nd Edition ed.). San Diego: San Diego Flora.

Principe and Associates. (2018). *Revised Western Riverside County Multiple Species Habitat Conservation Plan Consistency Analysis Plot Plan T180003.*

Riverside County. (2018). *Geographic Information Services*. Retrieved October 2018, from GIS Data: https://gis.rivcoit.org/GIS-Data-2

Riverside County Flood Control and Water Conservation District. (2019). *Rain Gauge Map*. Retrieved March 1, 2019, from http://www.rcflood.org/RainFallMap.aspx

Sawyer, J. O., Keeler-Wolf, T., & Evens, J. M. (2009). *A Manual of California Vegetation* (2nd Edition ed.). Sacramento: California Native Plant Society.

The Jepson Herbarium University of California, Berkeley. (2019). *Jepson Flora Project (eds.)*. Retrieved May 2019, from Jepson eFlora: http://ucjeps.berkeley.edu/eflora/

U. S. Fish and Wildlife Service - Pacific Region. (2019). *Little Known but Important Features of the Endangered Species Act*. Retrieved May 2019, from Distinct Population Segments, 4(d) Rules, and Experimental Populations: https://www.fws.gov/pacific/news/grizzly/esafacts.htm

United States Department of Agriculture Natural Resources Conservation Service. (2019). (USDA) Retrieved March 12, 2019, from Web Soil Survey: http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx

Weather Currents. (2019). *Temecula*. Retrieved July 1, 2019, from Past Weather: http://weathercurrents.com/temecula/Archive.do

# 7.0 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: August 27, 2019

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

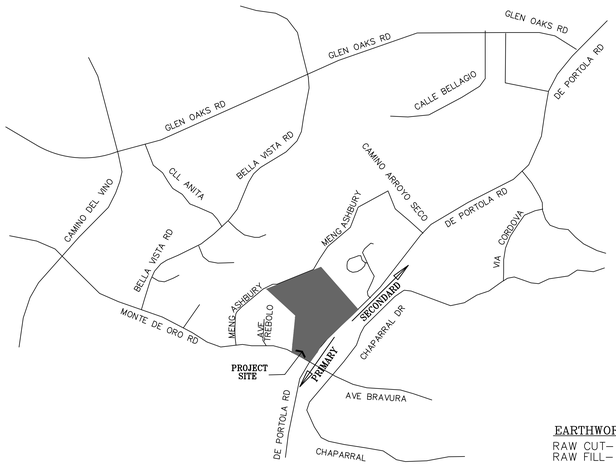
Site Plan

# PPT 180003 /SCHEMATIC GRADING PLAN

## FOR PROPOSED WINERY

LOT K14, RS 50/68

IN THE COUNTY OF RIVERSIDE, STATE OF CALIFORNIA




VICINITY MAP

NOT TO SCALE

**OWNER/APPLICANT:**

LONG JIANG
FERTILE SOIL,LLC

79 DUNMORE
IRVINE, CA 92620
949 981 9026

**SITE ADDRESS:**

DE PORTOLA ROAD
TEMECULA, CA 92592

**REPRESENTATIVE:**

CONTACT PERSON: GREG KOLL
Koll Custom Homes, Inc.
P.O. Box 1658
Temecula, CA 92593
951.225.1065, x501

**ENGINEER:**

CONTACT PERSON: WILFREDO VENTURA
VENTURA ENGINEERING INLAND, INC.
26811 HOBIE CIRCLE, STE 12
MURRIETA, CA 92562
(951)252-7632

**SOURCE OF TOPOGRAPHY**

DELTA SURVEY AND MAPPING
39305 SALINAS DRIVE
MURRIETA, CA 92563
(951)764-0158
DATE OF SURVEY: MARCH 2017

**ASSSESSORS PARCELS:**

941-180-032

**AREA**

42.63 ACRES (GROSS)

**THOMAS GUIDE**

RIVERSIDE COUNTY
PAGE: 930 GRID: F7
PAGE: 960 GRID: F1

**LEGAL DESCRIPTION**

LOT K14 OF RS 50/68 IN THE COUNTY OF RIVERSIDE, STATE OF CALIFORNIA.
T7S R1W SEC 29 & 30

**UTILITY PURVEYORS & SCHOOL DISTRICT**

| | |
|---|---|
| WATER: | EASTERN MUNICIPAL WATER DISTRICT |
| SEWER: | SEPTIC |
| GAS: | PROPANE |
| ELECTRIC: | SOUTHERN CALIFORNIA EDISON |
| TELEPHONE: | VERIZON |
| CABLE: | NO CABLE |
| SCHOOL DISTRICT: | TEMECULA VALLEY UNIFIED |

**ZONING/USE:**

| | |
|---|---|
| EXISTING ZONING: | C/V-10 |
| EXISTING LAND USE: | VACANT |
| PROPOSED ZONING: | WC-W |
| PROPOSED LAND USE: | WINERY |

**EARTHWORK QUANTITIES**

RAW CUT— 132,816 C.Y.
RAW FILL— 132,816 C.Y.

QUANTITIES ARE ESTIMATES ONLY AND CONTRACTOR IS TO VERIFY QUANTITIES PRIOR TO CONSTRUCTION

**LEGEND:**

| | |
|---|---|
| ℄ = | CENTERLINE |
| ℄ = | EXIST. PROPERTY LINE |
| = | PROJECT BOUNDARY |
| (1300) | EXISTING CONTOUR |
| | PROPOSED BUILDING |
| | INFILTRATION AREA |
| | RETAINING WALL |
| 1940 | EXISTING CONTOUR |
| | DRAINAGE FLOW |
| FLOW LINE | F.L. |
| HIGH POINT | H.P. |
| FINISHED GRADE | F.G. |
| PAD ELEVATION | P.E. |
| EDGE OF PAVEMENT | E.O.P |
| TOP OF WALL | T.W. |

THERE IS NO EASEMENT ON PROPERTY.



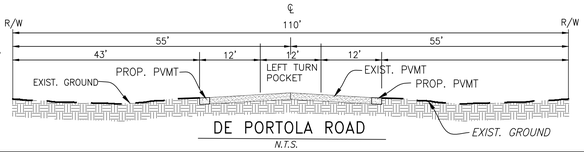

DETAIL A-A

SCALE 1:50



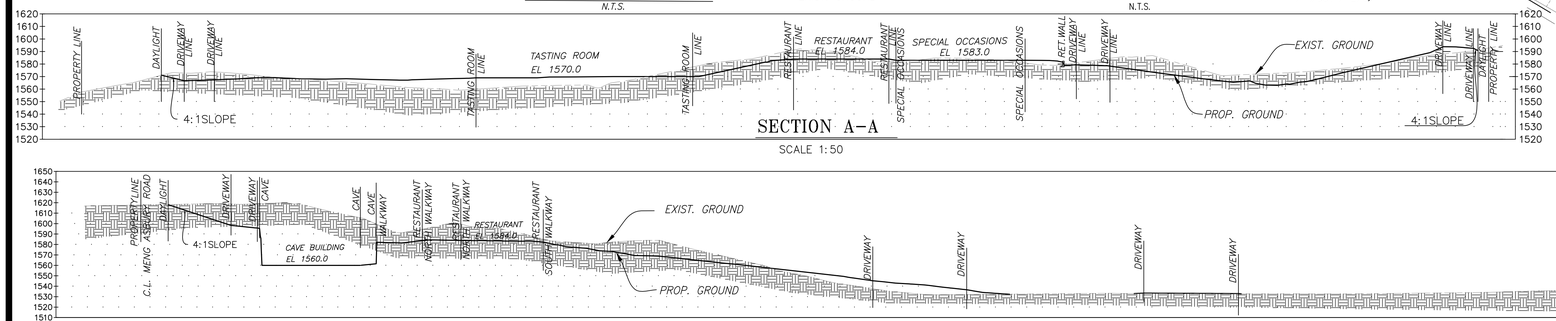

INFILTRATION AREA DETAIL

N.T.S.




DE PORTOLA ROAD

N.T.S.



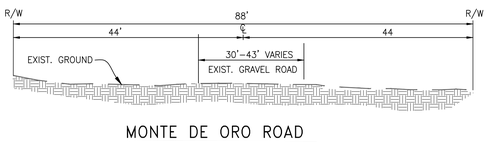

SECTION A-A

SCALE 1:50



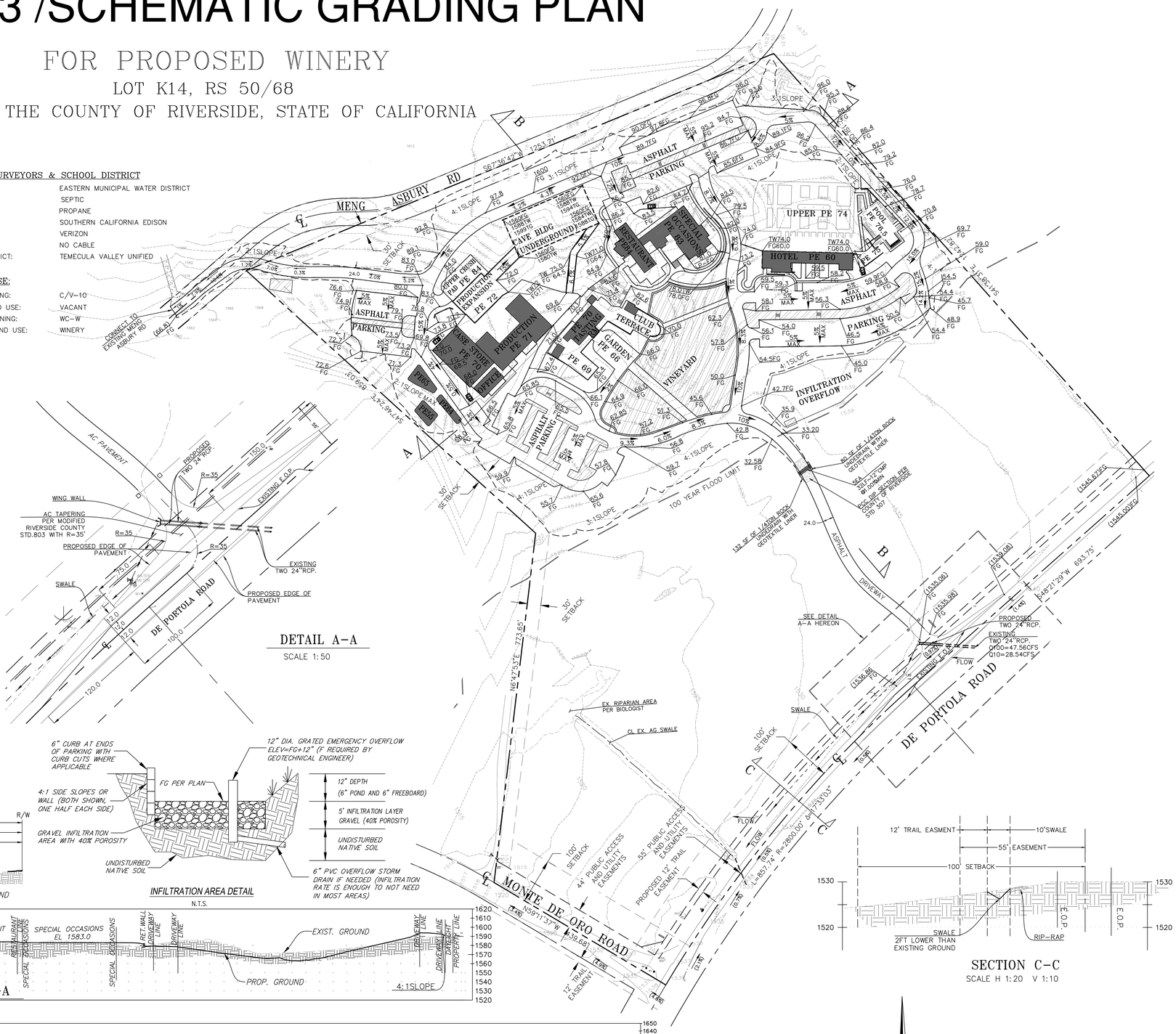

SECTION B-B

SCALE 1:60




MONTE DE ORO ROAD

N.T.S.







SECTION C-C

SCALE H 1:20 V 1:10

100 0 50 100 200 400

1" = 100'
GRAPHIC SCALE
CONTOUR INTERVAL 1'

REGISTERED PROF. SURVEYOR WILFREDO S.D. VENTURA No. 66532 Exp. 6-30-20 CIVIL STATE OF CALIFORNIA

VENTURA ENGINEERING INLAND, INC.
27393 Ynez Rd, Suite 159
Temecula, CA. 92591
PHONE (951) 252-7632

WILFREDO S.D. VENTURA
RCE 66532, EXP. 06/30/20

DATE: 03/04/19

REVISIONS:

PPT 180003
FOR
FOR PROPOSED WINERY
LOT K14, RS 50/68
A.P.N. 941-180-032

SHEET NO. 1 OF 1

# APPENDIX B

MSHCP Section 6.1.2 Assessment Photographs

# March 5, 2019


BSEARL BIOLOGICAL SERVICES

N W E S

0 125 250 500 750 1,000 Feet

**Assessment Photographs**
**March 5, 2019**

DATE: July 9, 2019
COORDINATE SYSTEM: NAD 1983 State Plane California VI FIPS 0406 (US Feet)
SOURCE: Ventura Engineering Inland, Inc., Google Earth August 24, 2018
Image (Georeferenced), Riverside County GIS, SBS

Monarch Winery


**PHOTOGRAPH 1:** Sediment transport and debris in the western end of the Property.


**PHOTOGRAPH 2:** No evidence of flow along the historic flow area of Long Valley Wash in the western portion of the Property.

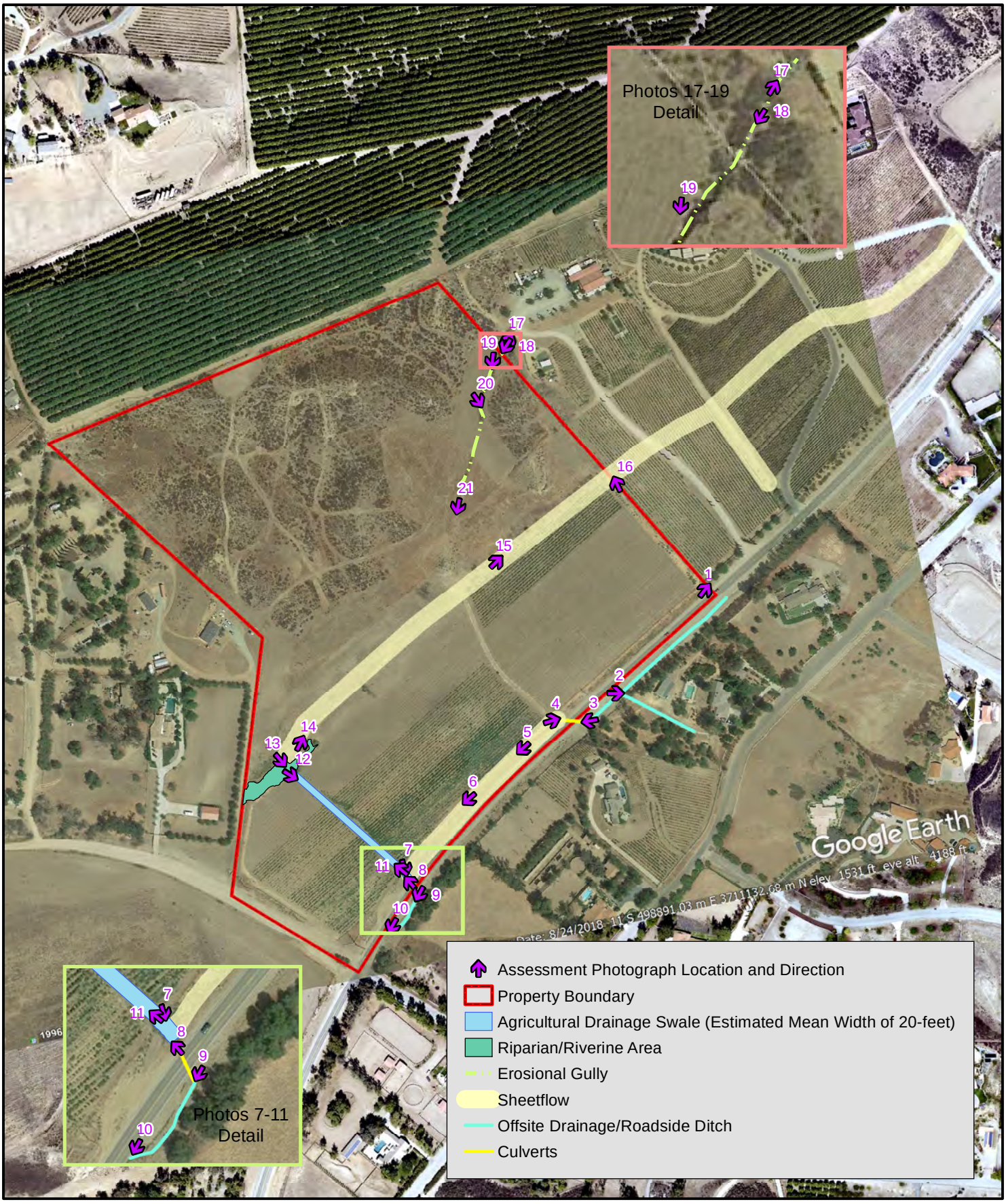

**PHOTOGRAPH 3:** No evidence of flow along the historic flow area of Long Valley Wash in the western portion of the Property.


**PHOTOGRAPH 4:** No evidence of flow on the dirt access road.


**PHOTOGRAPH 5:** No evidence of flow along the historic flow area of Long Valley Wash in the eastern portion of the Property. A salt cedar in the background.


**PHOTOGRAPH 6:** No evidence of flow along the historic flow area of Long Valley Wash in the eastern portion of the Property. Remnant riparian scrub, consisting of mulefat, in the background.

# July 8, 2019




**Assessment Photographs**
**July 8, 2019**

DATE: July 9, 2019
COORDINATE SYSTEM: NAD 1983 State Plane California VI FIPS 0406 (US Feet)
SOURCE: Ventura Engineering Inland, Inc., Google Earth August 24, 2018
Image (Georeferenced), Riverside County GIS, SBS

Monarch Winery


**PHOTOGRAPH 1:** No evidence of flow on the westside of De Portola Road near the northeast Property corner.


**PHOTOGRAPH 2:** A maintained, roadside drainage and sandy tributary from a nearby yard converge. Black willow in the background along the fence.


**PHOTOGRAPH 3:** Sediment has built-up within two 24-inch culverts where the roadside drainage enters.


**PHOTOGRAPH 4:** The two 24-inch culverts convey flows into a small collection area near the Site's entrance.


**PHOTOGRAPH 5:** No clear roadside drainage or Riverine feature was present downstream of the culvert conveyance area indicating flows dissipate to sheetflow.


**PHOTOGRAPH 6:** No clear roadside drainage or Riverine feature was present downstream of the culvert conveyance area indicating flows dissipate to sheetflow.


**PHOTOGRAPH 7:** A single 24-inch culvert conveys flows from the eastside of De Portola Road to this collection area.


**PHOTOGRAPH 8:** A western view of the collection area. The agricultural swale is located within the vineyard in the background.

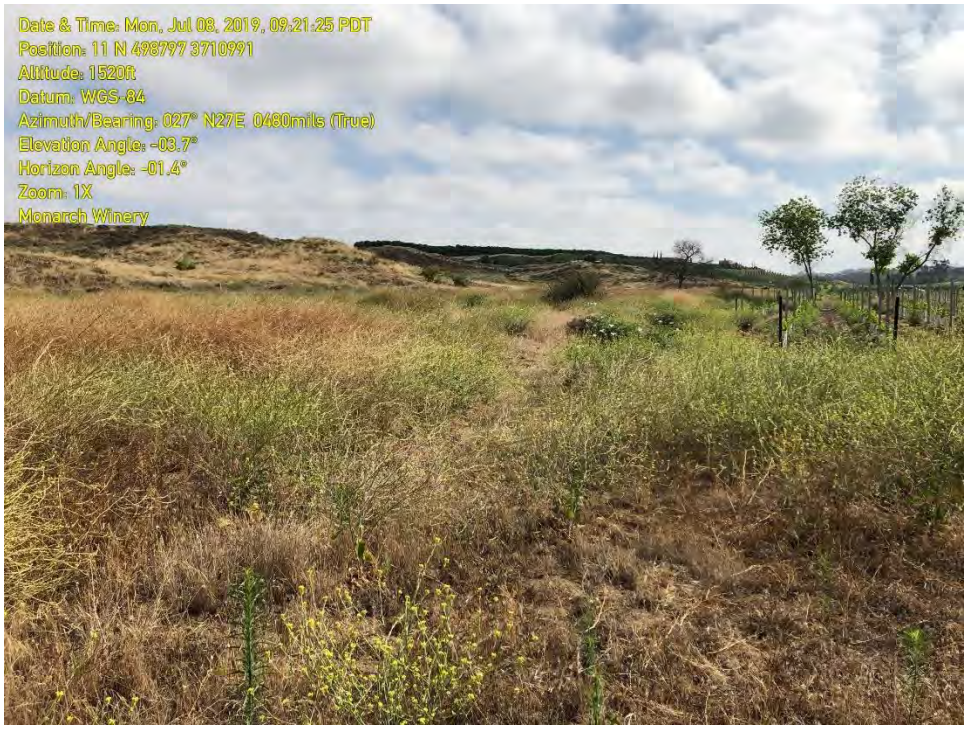

**PHOTOGRAPH 9:** Human-created channel leading into the single 24-inch culvert on the eastside of De Portola Road.


**PHOTOGRAPH 10:** The area where road runoff enters the human-created channel.


**PHOTOGRAPH 11:** The agricultural swale area within the vineyard.


**PHOTOGRAPH 12:** An easterly view of the agricultural swale near its terminus.


**PHOTOGRAPH 13:** The riparian area downstream of the agricultural swale.




**PHOTOGRAPH 14:** No evidence was observed along the historic flow area of Long Valley Wash in the western portion of the Property.


**PHOTOGRAPH 15:** No evidence was observed along the historic flow area of Long Valley Wash in the eastern portion of the Property.


**PHOTOGRAPH 16:** No evidence of recent flow was present along the eastern Property boundary within the historic flow area of Long Valley Wash. It was uncertain if the fence was bent from historic flows or the weight of individual grape plants.


**PHOTOGRAPH 17:** A concrete V-channel and sandbags offsite above where the erosional gully originates.


**PHOTOGRAPH 18:** A view of the same area looking downstream towards the Site. The boundary is at the fence.


**PHOTOGRAPH 19:** The erosional gully was deeply incised; typical of gullied lands.


**PHOTOGRAPH 20:** A view of the erosional gully farther downstream.


**PHOTOGRAPH 21:** Area downstream of the terminus of the erosional gully. No evidence of flow was present as the feature dissipates to sheetflow.

# Drone Photographs – July 8, 2019


BSEARL BIOLOGICAL SERVICES

N W E S

0 125 250 500 750 1,000 Feet

**Drone Photographs**
**July 8, 2019**

DATE: July 10, 2019
COORDINATE SYSTEM: NAD 1983 State Plane California VI FIPS 0406 (US Feet)
SOURCE: Ventura Engineering Inland, Inc., Google Earth August 24, 2018
Image (Georeferenced), Riverside County GIS, SBS

Monarch Winery


**PHOTOGRAPH 1:** A view of Long Valley Wash upstream of the Site. The "natural" wash enters a vineyard where flows still appear evident.


**PHOTOGRAPH 2:** A view of Long Valley Wash upstream of the Site. Evidence of flow begins to weaken.


**PHOTOGRAPH 3:** A view of Long Valley Wash upstream of the Site. Flows appear to collect and dissipate east and west in the dirt area not planted with vineyard.

**PHOTOGRAPH 4:** The eastern Property boundary where flows historically entered the Site. No evidence of concentrated flow is present.

**PHOTOGRAPH 5:** A view of the entire historic flow-line of Long Valley Wash on the Property. No evidence of flow was present.

**PHOTOGRAPH 6:** An angled view of the historic flow-line of Long Valley Wash on the Property. No evidence of flow was present.

**PHOTOGRAPH 7:** The western portion of the Site where the rock-lined agricultural swale conveys flows to the Riparian/Riverine area.