

November 9, 2017

Transportation Corridor Agencies

Attn: Ms. Valarie McFall
125 Pacifica, Suite 120
Irvine, California 92618

SUBJECT: Saddle Club Property (Assessor's Parcel Number 125-035-34) – Existing Conditions Analysis, Trabuco Canyon, Orange County, California

Dear Ms. McFall:

On behalf of the Transportation Corridor Agencies (TCA), Michael Baker International (Michael Baker) has prepared this letter report to document the results of a biological resources reconnaissance and preliminary jurisdictional delineation for the approximately 30.5-acre parcel (survey area) located adjacent to and northeast of County Route S19 and O'Neill Regional Park, approximately 0.5-mile northeast of the State Route (SR) 241, within the unincorporated Orange County community of Trabuco Canyon, California (refer to Figure 1 – *Regional Vicinity*, Figure 2 – *Site Vicinity*, and Figure 3 – *Potential Mitigation Parcel*). All figures and attachments are located at the end of this report.

Methods

Prior to the site visit, Michael Baker conducted a records search of the California Department of Fish and Wildlife (CDFW) California Natural Diversity Database (CNDDDB) RareFind 5 and the California Native Plant Society (CNPS) Online Inventory of Rare and Endangered Plants within the U.S. Geologic Survey (USGS) *Santiago Peak, California* 7.5-minute topographic quadrangle map. Other sources included the U.S. Fish and Wildlife Service (USFWS) Information for Planning and Conservation (IPaC) online system and Environmental Conservation Online System (ECOS) Critical Habitat online mapper, U.S. Department of Agriculture/Natural Resources Conservation Service (USDA/NRCS) Web Soil Survey, Federal Emergency Management Agency (FEMA) 100-Year Flood Zones, USFWS National Wetlands Inventory (NWI) maps online, U.S. Climate Data, topographic maps, historic and current aerial photography, and hydrology and watershed data.

On November 1, 2017, between the hours of 8:00 a.m. and 2:30 p.m., Michael Baker biologists Dan Rosie and Linda Nguyen conducted a biological resources reconnaissance and preliminary jurisdictional delineation within the survey area. Weather conditions varied between overcast and partly cloudy skies, a temperature ranging between approximately 57 and 68 degrees Fahrenheit, and winds between approximately 0 and 5 miles per hour. The survey was conducted by traversing the parcel on foot (and using binoculars for areas inaccessible) documenting all plant and wildlife species observed (Attachment A – *Plant and Wildlife Species Observed List*), mapping vegetation communities (Figure 4 – *Vegetation Communities and Land Uses*), photographing existing site conditions (Attachment B – *Site Photographs*), and evaluating the site's potential to support special-status plant and wildlife species known to occur in the area. In addition, the U.S. Army Corps of Engineers (Corps) ordinary high water mark (OHWM) and adjacent wetlands (if present), the outer limits of streambed/banks and associated riparian

vegetation subject to CDFW jurisdiction, and the Regional Water Quality Control Board (Regional Board) limits of waters of the State where features are isolated were mapped using the ESRI ArcGIS Collector application on an Apple iPad connected via Bluetooth to an iSX Blue II+ GNSS Global Positioning System (GPS) unit with sub-meter accuracy (Figure 5 – *Preliminary Jurisdictional Delineation*).

Results

Existing conditions within the survey area are considered to have moderate to high value. A key benefit of the parcel is that it is surrounded by other mitigation lands and or park/open space. The site generally falls between O'Neill Regional Park and mitigation lands owned by the Orange County Transportation Authority (OTCA). The following is a discussion of existing biological resources, jurisdictional features (and according to the California Rapid Assessment Method), and potential restoration opportunities to enhance the biological and hydrological values within the survey area.

Biological Resources

The survey area consists of an active equestrian center located in the southwestern portion of the parcel. The remaining portions of the parcel consist of undeveloped lands with high ridges/steep slopes and gentle- to moderate-sloped valley bottoms. Surface elevations within the survey area vary between approximately 933 feet above mean sea level (amsl) at the downstream end of the Live Oak Canyon Drainage up to approximately 1,095 feet amsl along the highest ridge in the southeastern portion of the survey area. The drainage enters the survey area upstream at approximately 990 feet amsl.

The CNDDDB revealed that four (4) special-status vegetation communities have been recorded within the vicinity of the survey area. However, only one of these communities were observed on-site: Southern Coast Live Oak Riparian Forest. The remainder of the survey area includes six (6) other relatively distinct vegetation communities and land uses. The following is a description of each vegetation community observed and mapped within the survey area (refer to Figure 4).

Coast Live Oak Riparian Woodland

The Live Oak Canyon Drainage, which conveys flows from north to south along the western boundary of the survey area, is comprised of a relatively broad riparian corridor primarily consisting of coast live oak riparian woodland vegetation. The riparian canopy is primarily dominated by mature coast live oak (*Quercus agrifolia*), and inclusive of mature western sycamore (*Platanus racemosa*) and scattered blue elderberry (*Sambucus nigra* spp. *caerulea*). The understory within this community is dominated by native species such as mule fat (*Baccharis salicifolia*), wild parsley (*Apiastrum angustifolium*), California mugwort (*Artemisia douglasiana*), wild tarragon (*A. dracunculus*), desert indigobush (*Amorpha fruticosa*), and threenerve goldenrod (*Solidago velutina*), and nonnative grasses, including common ripgut grass (*Bromus diandrus*), red brome (*B. rubens*), and smilo grass (*Stipa miliacea*).

Coast Live Oak Woodland

Coast live oak woodland vegetation, mapped primarily within the northern and southeastern portions of the survey area (including scattered remnants of the woodland throughout develop

portions of the property), primarily consists of mature coast live oak. These areas were mapped separate from the riparian corridor based on distance from the Live Oak Canyon Drainage channel. Understory within this community is primarily leaf litter, with scattered nonnative grasses listed above.

Coastal Sage Scrub

Coastal sage scrub vegetation was observed primarily on south-facing slopes located in the northern and southern portions of the survey area. These areas were dominated by California sagebrush (*Artemisia californica*) and California buckwheat (*Eriogonum fasciculatum*), with other components such as deerweed (*Acmispon glaber*), common sandaster (*Corethrogyne filaginifolia*), giant wild rye (*Elymus condensatus*), chaparral yucca (*Hesperoyucca whipplei*), coast prickly pear (*Opuntia littoralis*), and white sage (*Salvia apiana*) scattered throughout.

Coastal Sage Scrub/Chaparral Mix

Comprising the majority of the southeastern portion of the survey area is a mosaic of coastal sage scrub and scrub oak chaparral vegetation, with the interstices consisting of disturbed habitat vegetation described below. Sage scrub species present in this community primarily include California sagebrush, California buckwheat, and black sage (*Salvia mellifera*), with others observed such as chaparral yucca, toyon (*Heteromeles arbutifolia*), lemonade berry (*Rhus integrifolia*), and laurel sumac (*Malosma laurina*). Dominant chaparral species observed include inland scrub oak (*Quercus berberidifolia*) and peninsular beargrass (*Nolina cismontana*), with scattered individuals of holly leaf redberry (*Rhamnus ilicifolia*), sweetbush (*Bebbia juncea*), and slender poreleaf (*Porophyllum gracile*).

Mule Fat Scrub

Dominated by mule fat, and to a lesser extent by other species, including California mugwort, wild tarragon, and western ragweed (*Ambrosia psilostachya*), mule fat scrub vegetation is dominant along portions of the Live Oak Canyon Drainage where coast live oak and/or western sycamore canopies are absent.

Disturbed Habitat

Disturbed habitat are areas that are frequently and repeatedly disturbed, and thereby consist of compacted soils or otherwise dominated by opportunistic, primarily nonnative species that often limit the reestablishment of native vegetation. Dominants within this nonnative vegetation community on-site primarily include nonnative grasses listed above, foxtail barley (*Hordeum murinum*), pigweed (*Amaranthus albus*), black mustard (*Brassica nigra*), Italian thistle (*Carduus pycnocephalus*), tocalote (*Centaurea melitensis*), redstem filaree (*Erodium cicutarium*), short-pod mustard (*Hirschfeldia incana*), horehound (*Marrubium vulgare*), tree tobacco (*Nicotiana glauca*), castor bean (*Ricinus communis*), and Russian thistle (*Salsola tragus*).

Ornamental

Ornamental vegetation was mapped along southwestern boundary as planted white alder (*Alnus rhombifolia*) adjacent to Live Oak Canyon Road, and Italian cypress (*Cupressus sempervirens*) lining the channelized portion of the Live Oak Canyon Drainage north of the culverted portion.

Developed

Developed lands within the survey area include buildings and other structures, stables, and compacted soils devoid of vegetation where active equestrian, site maintenance, and management activities typically occur, all located within the southwest portion of the parcel.

Table 1 below provides the acreages of each vegetation community and land use mapped within the survey area.

Table 1. Vegetation Communities and Land Uses (acres)

Vegetation Community	Total*
Coast Live Oak Riparian Woodland	3.34
Coast Live Oak Woodland	9.36
Coastal Sage Scrub	2.63
Coastal Sage Scrub/Chaparral Mix	9.67
Mule Fat Scrub	0.33
Disturbed Habitat	2.26
Ornamental	0.21
Developed	2.64
TOTAL*	30.45

* Totals may not equal to sum due to rounding.

Soils mapped by the USDA/NRCS within the parcels primarily consist of Cienega sandy loam (eroded) on 30 to 75 percent slopes (Map Unit Symbol: 142), with Soboba cobbly loamy sand on 0 to 15 percent slopes (198) mapped along the western and southern portions of the survey area and Botella clay loam on 9 to 15 percent slopes (133) in the northwestern portion of the survey area. Soil textures observed on-site were generally consistent with those mapped by the Soil Survey, with the streambed of the Live Oak Canyon Drainage primarily consisting of sediment deposition as fine to gravelly sand.

A total of seventy-eight (78) plant species were identified during the site visit (refer to Attachment A). Based on the records search, a total of twenty-three (23) special-status plant species have been recorded within the vicinity of the project by the CNDDDB, CNPS, and USFWS. Many of these species have a low potential or are not expected to occur on-site due to a lack of habitat suitable to support them, or the survey area is outside of their known elevation range. One special-status plant species, peninsular beargrass (California Rare Plant Rank [CRPR] 1B.2), was observed in abundance throughout the coastal sage scrub/chaparral vegetation on-site, particularly within the southeast portion of the survey area. There is a moderate to high potential for other special-status plant species to occur within the survey area, including, but not limited to, Catalina mariposa lily (*Calochortus catalinae*), intermediate mariposa-lily (*Calochortus weedii* var. *intermedius*), summer holly (*Comarostaphylis diversifolia* ssp. *diversifolia*), Robinson's pepper-grass (*Lepidium virginicum* var. *robinsonii*), white leaf monardella (*Monardella hypoleuca* ssp. *intermedia*), Allen's daisy (*Pentachaeta aurea* ssp. *allenii*), Cooper's rein orchid (*Piperia cooperi*), and Fish's milkwort (*Polygala cornuta* var. *fishiae*). Focused rare plant surveys conducted during the appropriate blooming periods for special-status plant species occur within the survey area would be necessary

to determine the presence and location(s) of these species.

A total of nineteen (19) wildlife species were detected during the site visit, including those common to woodland and scrub habitats such as California scrub jay (*Aphelocoma californica*), red-tailed hawk (*Buteo jamaicensis*), American crow (*Corvus brachyrhynchos*), acorn woodpecker (*Melanerpes formicivorus*), California towhee (*Melospiza crissalis*), and California ground squirrel (*Otospermophilus beecheyi*). See Attachment A for a complete list of wildlife species observed during the survey. No special-status wildlife species were observed on-site. Based on the records search, a total of twenty-three (23) special-status wildlife species have been recorded within the vicinity of the project by the CNDDDB and USFWS. Several of these species have a low potential or are not expected to occur on-site due to a lack of habitat suitable to support them. There is a moderate to high potential for various special-status wildlife species to occur within the survey area, including, but not limited to, Crotch bumble bee (*Bombus crotchii*), Riverside fairy shrimp (*Streptocephalus woottoni*), coastal whiptail (*Aspidoscelis tigris stejnegeri*), coast horned lizard (*Phrynosoma blainvillii*), orange-throated whiptail (*Aspidoscelis hyperythra*), red-diamond rattlesnake (*Crotalus ruber*), coastal California gnatcatcher (*Poliophtila californica californica*), southern California rufous-crowned sparrow (*Aimophila ruficeps canescens*), white-tailed kite (*Elanus leucurus*), pallid bat (*Antrozous pallidus*), and western mastiff bat (*Eumops perotis californicus*). Focused special-status wildlife surveys conducted during their active periods would be necessary to determine the presence and location(s) of these species.

Of the forty-six (46) special-status species known to occur within the vicinity of the survey area, five (5) wildlife species and one (1) plant species are listed under the Federal Endangered Species Act and/or the California Endangered Species Act warranting protection from take. There is a moderate potential for coastal California gnatcatcher, a Federally-listed as threatened (FT) avian species and California Species of Special Concern (SSC), to occur within the survey area, with few areas consisting of low-growing coastal sage scrub vegetation suitable to support this species. There is a moderate potential for Riverside fairy shrimp, a Federally-listed as endangered (FE) aquatic invertebrate species, to occur within the seasonally inundated stock pond located in the southeastern portion of the survey area. Further, there is a moderate potential for arroyo toad (*Anaxyrus californicus*), a FE amphibian species and SSC, to migrate upstream of the Live Oak Canyon Drainage from Arroyo Trabuco. Due to a lack of suitable habitat within the survey area, nesting least Bell's vireo (*Vireo belli pusillus*; FE and State-listed as endangered [SE]) and southwestern willow flycatcher (*Empidonax traillii extimus*; FE/SE) are not expected to occur on-site, and Santa Monica dudleya (*Dudleya cymosa* ssp. *ovatifolia*; FT and CRPR 1B.1) was determined to have a low potential to occur on-site.

The entire survey area is mapped as USFWS-designated Critical Habitat for coastal California gnatcatcher, with only portions mapped as coastal sage scrub suitable to support the species. The southern portions of the survey area located adjacent to Arroyo Trabuco are mapped as USFWS-designated Critical Habitat for arroyo toad. Further, USFWS-designated Critical Habitat for Riverside fairy shrimp is mapped approximately 1/3-mile northwest of the survey area.

Jurisdictional Resources

The survey area is located within the San Juan Creek Watershed. Specifically, it is located within the San Juan Hydrologic Unit (HU 901; Hydrologic Unit Code 18070301), Mission Viejo Hydrologic Area (HA 901.2), and Upper Trabuco Hydrologic Subarea (HSA 901.22) of the Water

Quality Control Plan for the San Diego Basin. The average annual precipitation within the watershed ranges from 13 inches near the coast to 18 inches in the mountains. The FEMA maps indicate that the survey area along the western boundary (associated with the Live Oak Canyon Drainage floodplain) is within the 1% Annual Chance Flood Hazard Zone (Zone A), with a small portion at the southern end within the 0.2% Annual Chance Flood Hazard Zone (Zone X), and the remainder of the survey area in an Area of Minimal Flood Hazard (Zone X). The USFWS NWI has mapped several features within the survey area; however, all features having regulatory oversight have been mapped during the site visit. A formal jurisdictional delineation would be necessary to determine the precise limits of jurisdictional features if impacts to these features are proposed.

All jurisdictional features on-site are ephemeral and convey storm flows generally north to south through the survey area. No areas warranting an investigation of wetland conditions were observed within the survey area, rather only non-wetland waters of the U.S. were observed on-site. Tributary to Arroyo Trabuco, flows from the Live Oak Canyon Drainage eventually discharge into San Juan Creek near San Juan Capistrano approximately 8 miles to the southwest, and ultimately to the Pacific Ocean. The Unnamed Drainage in the southeastern portion of the survey area does not convey flows to downstream waters. The following are detailed descriptions of the jurisdictional features within the survey area.

Live Oak Canyon Drainage

The primary drainage feature that conveys most surface flows from the site to downstream waters is the Live Oak Canyon Drainage. It conveys flows into the survey area through two large, partially-buried corrugated metal pipe (CMP) culverts under Live Oak Canyon Road. The drainage meanders flow through survey area for approximately 1,600 feet in a generally south direction until it is then channelized for approximately 200 feet and converted underground via two large concrete culverts. The drainage remains underground through the Saddle Club for approximately 350 feet where it resurfaces for another 200 feet before entering a two large, partially buried CMP culverts and under Live Oak Canyon Road. The OHWM throughout the Live Oak Canyon Drainage, which is used to identify the limits of non-wetland waters of the U.S. on-site subject to Corps and Regional Board jurisdiction pursuant to the Federal Clean Water Act (CWA) Sections 404 and 401, respectively, averages approximately 10 feet wide. Streambed and active banks subject to CDFW jurisdiction pursuant to California Fish and Game Code Sections 1600 *et seq.* average approximately 15 feet wide. Where coast live oak riparian woodland and mule fat scrub was observed, particularly in areas along the feature that are not culverted or channelized, the outer drip line of the canopy extends CDFW jurisdictional limits. There are four (4) ephemeral, unvegetated features within the survey area that are tributary to the Live Oak Canyon Drainage (Tributaries 1-4).

Tributary 1 originates on-site via a small CMP culvert that conveys ephemeral flows under Live Oak Canyon Road and generally east for approximately 40 feet before converging with the Live Oak Canyon Drainage. The OHWM averages approximately 6 feet wide, with banks averaging approximately 10 feet wide. The riparian canopy associated with the primary drainage extends CDFW limits of this feature on-site.

Tributary 2 conveys ephemeral flows from the northeast, southwest into the survey area in the northern portion of the survey area for approximately 420 feet before converging with the primary drainage. The OHWM averages approximately 2 feet wide, with unvegetated banks approximately

5 feet wide on average. CDFW jurisdictional limits are extended where it reaches the riparian canopy of the primary drainage.

Tributary 3 conveys ephemeral flows east and southeast into the survey area via a small CMP culvert under Live Oak Canyon Drainage for approximately 100 feet, with an OHWM averaging approximately 2 feet wide and banks averaging approximately 10 feet wide. The riparian canopy associated with the primary drainage extends CDFW limits of this feature on-site.

Tributary 4 conveys ephemeral flows for approximately 700 feet (approximately 485 feet on-site) from the east in a west and then southwest direction, primarily along the northern border of the southeastern portion of the survey area, before converging with the primary drainage. Several concrete pipe segments were previously placed consecutively within a portion of this feature, but nonetheless, it shows having a consistent OHWM averaging approximately 1 foot wide and unvegetated banks approximately 2 feet wide. CDFW jurisdictional limits are extended where it reaches the riparian canopy of the primary drainage.

One additional topographical feature observed in the mid-northeastern portion of the survey area did not reveal any evidence of ordinary flows or active banks, albeit mapped as a vegetated wetland by the NWI, is mapped as non-jurisdictional.

Unnamed Drainage

In the eastern portion of the survey area, a manufactured stock pond receives ephemeral flows from the north into the area that appears to have been dammed for historical uses when cattle grazed on-site. The area within this feature that typically ponds, as evidenced by cracked soils, and the two tributaries (Tributaries 1-2) are considered waters of the State subject to jurisdiction of the Regional Board pursuant to Section 13263 of the California Porter-Cologne Water Quality Control Act, but not to the Corps due to a lack of connection to downstream waters. CDFW jurisdictional limits within a lacustrine (lake or pond) situation are consistent with the spillway (or dam in the absence of a spillway) elevation and any associated riparian vegetation, whichever is greater. There are two mature willow (*Salix* spp.) trees present in the upstream portion of the ponded area that are included in the CDFW jurisdictional limits.

Tributaries 1 and 2 associated with the Unnamed Drainage, convey ephemeral flows from the north for approximately 335 feet and 505 feet, respectively, into the stock pond, each having an OHWM approximately 1 foot wide and banks approximately 2 feet wide. These features are also subject to Regional Board and CDFW jurisdiction only.

Table 2 below provides the acreages of jurisdictional features on-site, and is broken down by drainage and agency.

Table 2: Jurisdictional Limits (acres)

Feature	Linear Feet	Corps/Regional Board Non-wetland WoUS	CDFW Streambed/Banks and Riparian Vegetation	Regional Board Waters of the State
<i>Live Oak Canyon Drainage</i>				
Primary Drainage	2,554	0.58	3.85	--
Tributary 1	39	0.00	0.00	--
Tributary 2	420	0.02	0.04	--
Tributary 3	99	0.00	0.00	--
Tributary 4	487	0.01	0.02	--
<i>Unnamed Drainage</i>				
Stock Pond	--	--	0.13	0.03
Tributary 1	334	--	0.02	0.01
Tributary 2	507	--	0.02	0.01
TOTAL*	4,439	0.62	4.09	0.05

* Totals may not equal to sum due to rounding.

California Rapid Assessment Method

Michael Baker analyzed the existing conditions of the aquatic features through the California Rapid Assessment Method (CRAM). The CRAM is a tool designed to assess the habitat condition of wetlands and riparian areas using four universal attributes to quantify overall condition: Buffer and Landscape Context, Hydrology, Physical Structure, and Biotic Structure. Generally, the CRAM allows users to understand potential habitat gains through ecosystem restoration. Two Assessment Areas (AAs) were assessed within the largest drainage, Live Oak Canyon Drainage.

Buffer and Landscape Context: Assessment Area 1 (AA1), located the furthest downstream, and Assessment Area 2 (AA2), located upstream of AA1, are surrounded by well-conditioned buffers due to the low human visitation within the area. The drainage is bordered by human development on the west (roads, horse paddocks), but otherwise is encircled by open vegetation.

Stream Corridor Continuity expresses the overall health of the riverine system as well as whether wildlife can enter the stream corridor from the outside within 500 meters upstream and downstream of the AA. Immediately downstream of AA1, the drainage is converted into an underground pipeline, totaling an approximately 350-meter break in corridor. This significant break increases the obstacles for wildlife to move towards Arroyo Trabuco Creek. AA2 contained no breaks in the corridor, providing an open area for wildlife movement. The Buffer and Landscape Context score for AA1 was 53 percent, while AA2 was 90 percent.

Hydrology: Both AAs contain ephemeral flows, the source of water mostly natural with some influence from nearby homes with septic systems. Less than 20 percent of the surrounding land is developed, limiting the amount of urban runoff influencing the site. The structure and composition of the wetland plant communities within the survey area are very stable due to the smaller, lower velocity flows entering both assessment areas. There are no signs of significant erosion. The surveyed areas of the drainage exhibited equilibrium conditions, conducive of typical

sediment transport processes. However, the downstream portion of AA1 showed signs of aggradation, with the drainage bed more planar.

The entrenchment ratio was similar throughout, with AA1 having a 1.30 ratio and AA2 a 1.18 ratio. The lower entrenchment ratios reflect the minimal change between the flood prone width and bankfull width, resulting in the drainage being more entrenched. The Hydrology scores for AA1 and AA2 were both 67 percent.

Physical Structure: The physical surfaces along the drainage varied within each AA. AA1 exhibited abundant wrack lines within the drainage, cobbles and boulders, and riffles. AA2 contained these features as well as undercut banks in the drainage, large woody debris, point bars, standing snags, and a variegated foreshore. The entire drainage lacked any benches, well-characterized by single, uniform slopes with minimal micro-topographic complexity. The drainage does not appear to receive high velocity flows due to the flat terrain, resulting in a lack of benches. The Physical Structure score for AA1 was 25 percent, while AA2 was 38 percent.

Biotic Structure: The drainage is characterized by a lack of diverse vegetation, comprised of only three plant layers (short, medium, and very tall) at each AA. AA1 is more disturbed and contained more nonnative species, with evident changes made to the drainage and its surrounding area due to its close proximity to the horse paddocks and other structures. The main vegetation consisted of bird-of-paradise (*Strelitzia reginae*), Italian cypress, western sycamore, coast live oak, and horseweed (*Erigeron canadensis*). For AA2, the entire short layer was dominated by periwinkle (*Vinca major*) whereas smilo grass dominated the medium layer, both species listed as invasive. The remainder of the study area was comprised of California mugwort, coast live oak, and western sycamore.

The site offered slight variation in composition of plant zones or multi-species associations. Despite this, there was moderate overlap between two plant layers on over 50 percent total area of both AAs. The Biotic Structure score for AA1 was 55 percent, while AA2 was 50 percent.

CRAM Results

AA1 resulted in a CRAM score of 50 percent and AA2 resulted in a score of 61 percent. There were multiple stressors noted during the site visit, impacting the health of the overall riverine system. AA1 is exposed to more direct human impacts, adjoining the horse paddocks and residential buildings. Along the drainage, ornamental trees and shrubs were planted in areas not containing oaks and sycamore. This, combined with the informal piping of the drainage, results in a less desirable buffer for the site. AA2 was dominated by 40 percent invasive species within the study area. The site was previously burned, which resulted in more invasive species outcompeting the natives. Low usage trails were also noted along the northern half of the study area.

Potential Restoration Opportunities

Restoration opportunities exist within upland areas, such as the potential for oak plantings, as well as exotics removal with coastal sage scrub planting. Restoration is also available within existing jurisdictional areas, particularly where the bulk of past disturbances have occurred. Since features are jurisdictional by State and Federal agencies, there is an increased value in aquatic restoration as it can be used for compensatory mitigation associated with regulatory permit approvals. A majority of the aquatic restoration would depend on the removal (full removal or

partial removal) of existing structures, pipes, and/or culverts. When such structures were built, the aquatic features were generally realigned, put underground with pipes, or filled with earthen material.

Moving forward, there are good opportunities for stream restoration within the Live Oak Canyon Drainage. The greatest potential for restoration activities is associated with the recontouring of the drainage so that the active immediate floodplain can be reestablished. Furthermore, the general drainage topography and habitat can be restored through planting of native species and other measures typical of riparian corridor systems. Lastly, and throughout the entire survey area, the site would benefit from the removal of nonnative species, particularly those rated by the California Invasive Plant Council (Cal-IPC) as described in the legend at the end of the species observed list (Attachment A).

Please contact me at (949) 855-3687 or at rbeck@mbakerintl.com with any questions you may have regarding the results of the biological resources reconnaissance and preliminary jurisdictional delineation.

Sincerely,



Richard Beck
Vice President
Natural Resources/Regulatory Permitting



Dan Rosie
Ecologist
Natural Resources/Regulatory Permitting

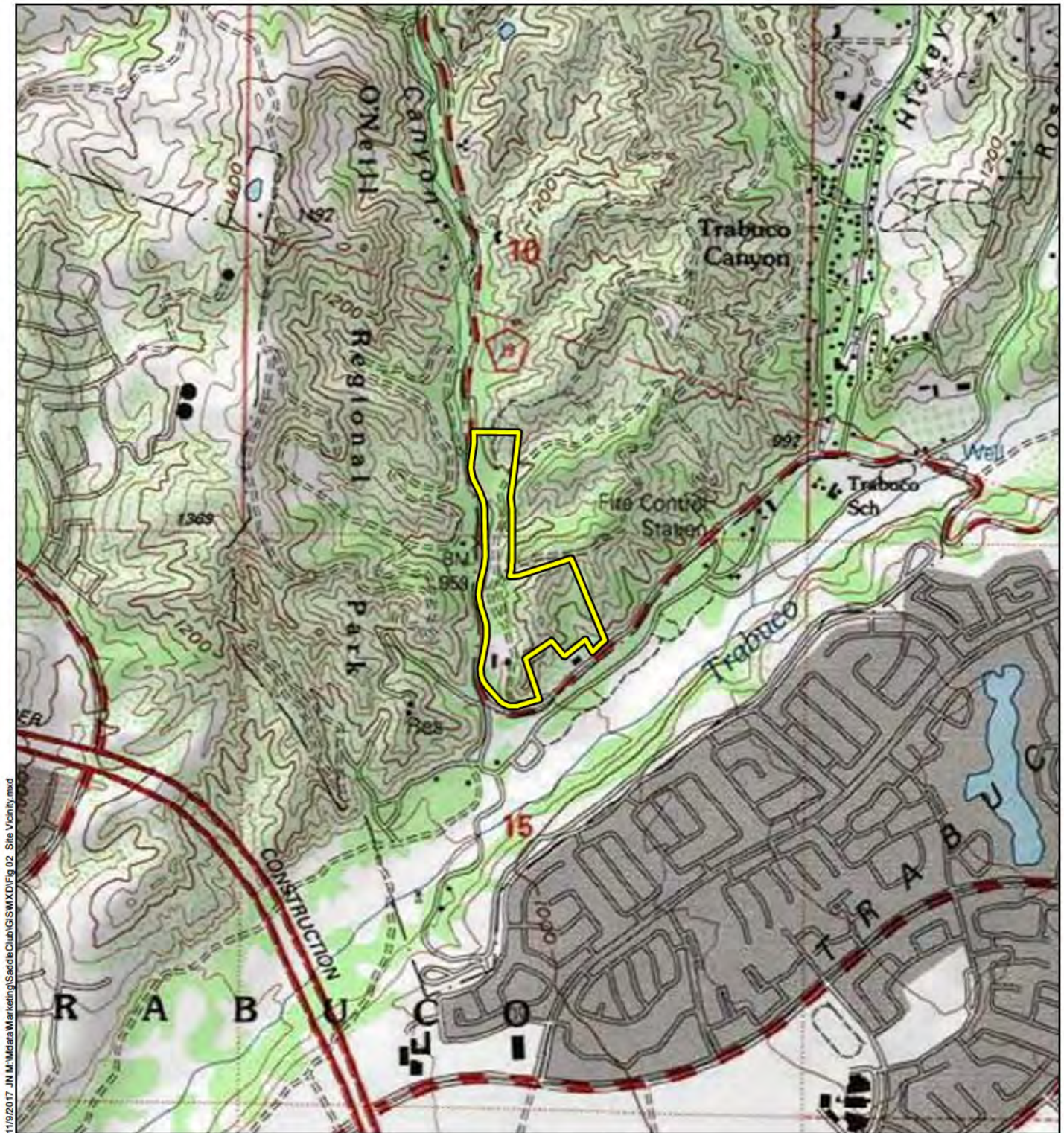
- Figures:
1. Regional Vicinity
 2. Site Vicinity
 3. Potential Mitigation Parcel
 4. Vegetation Communities and land Uses
 5. Preliminary Jurisdictional Delineation

- Attachments:
- A. Plant and Wildlife Species Observed List
 - B. Site Photographs



11/8/2017 11:01 AM \\Data\Marketing\SaddleClub\GIS\MXD\Fig 01 Regional Vicinity.mxd

Figure 1



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Legend

 Survey Area

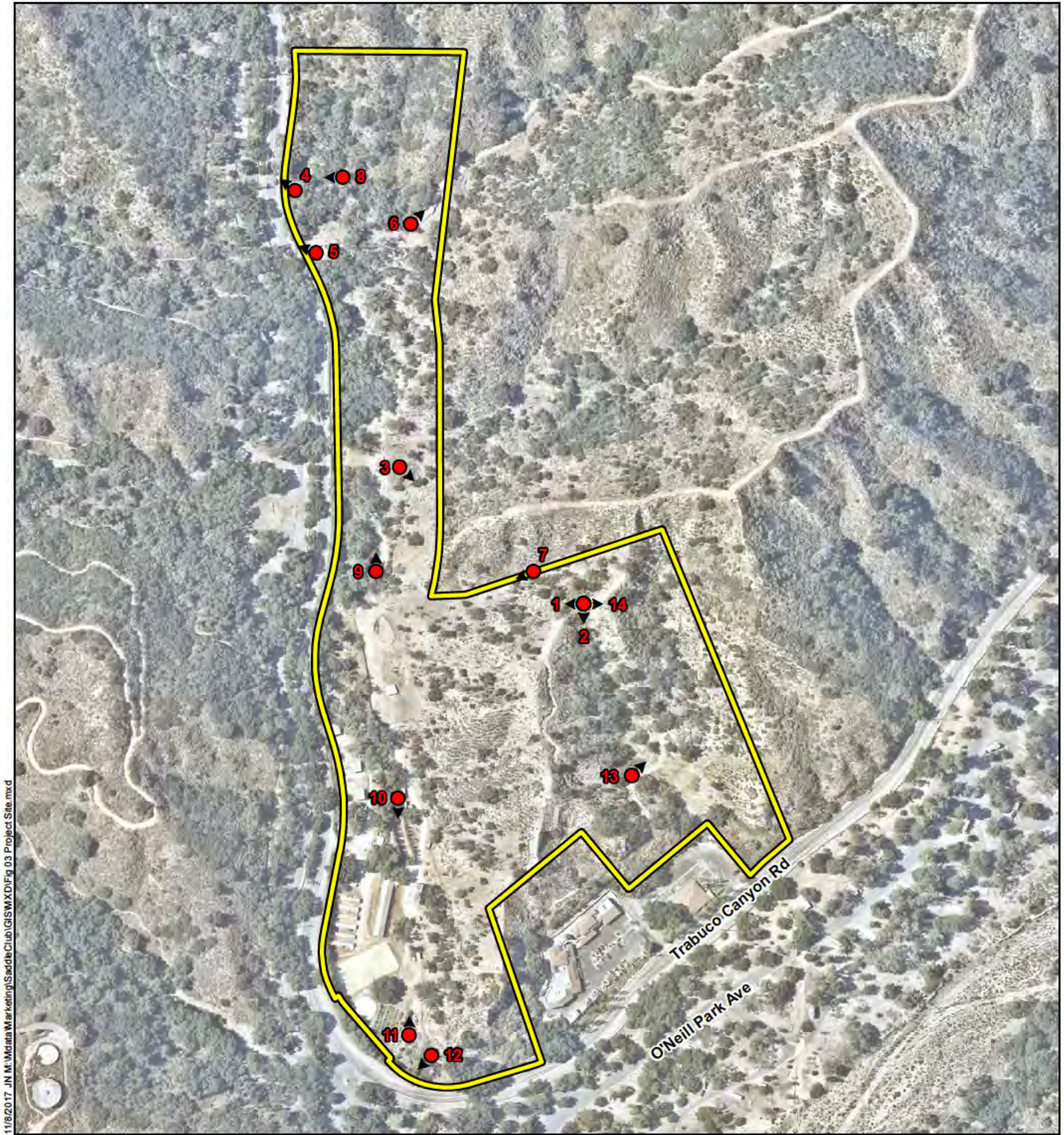
Michael Baker
INTERNATIONAL

 0 0.125 0.25 Miles

Source: ArcGIS Online

SADDLE CLUB
EXISTING CONDITIONS ANALYSIS
Site Vicinity

Figure 2

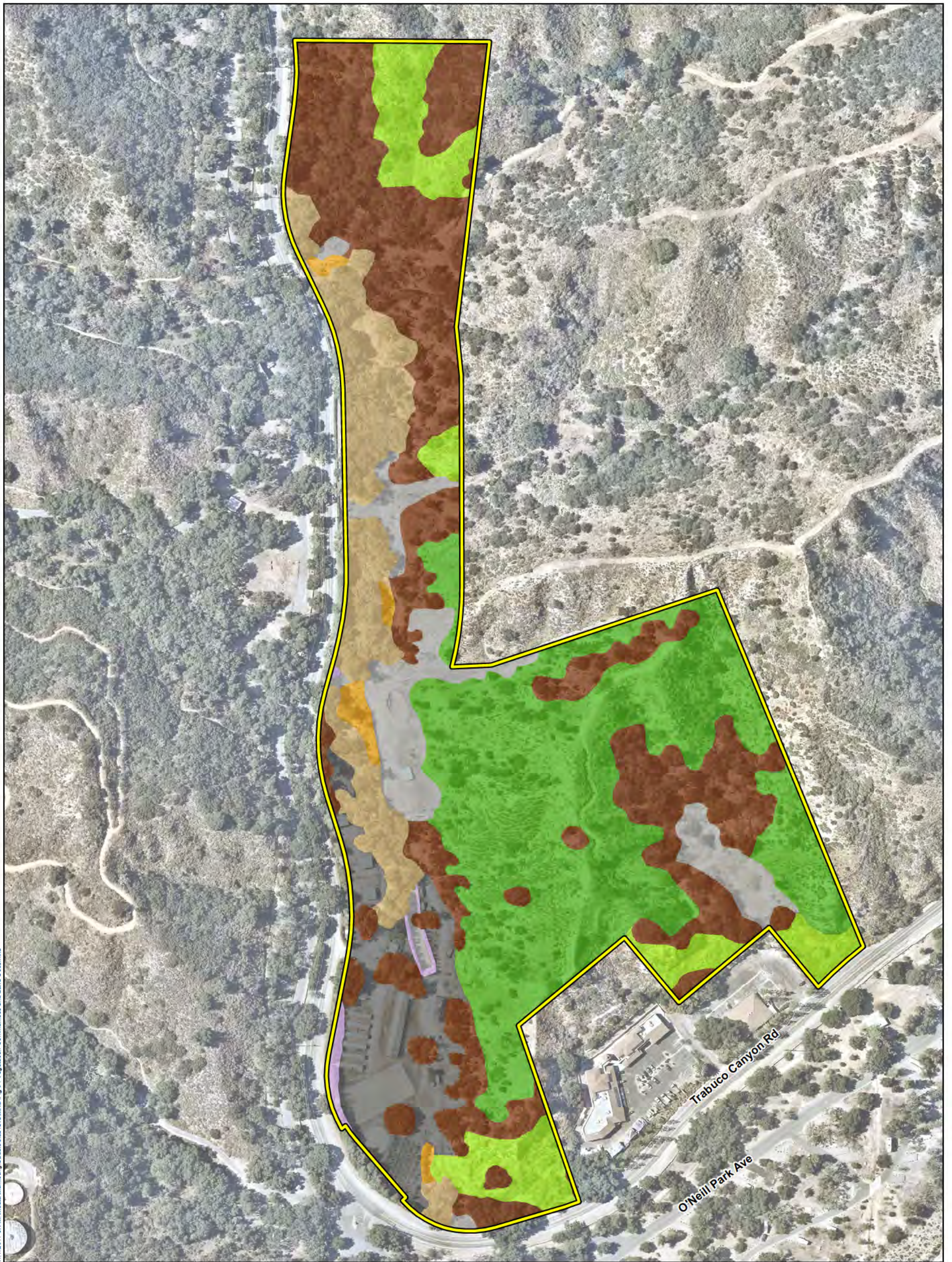


Legend

- ▶ Photo Locations
- Survey Area (APN 125-035-34)



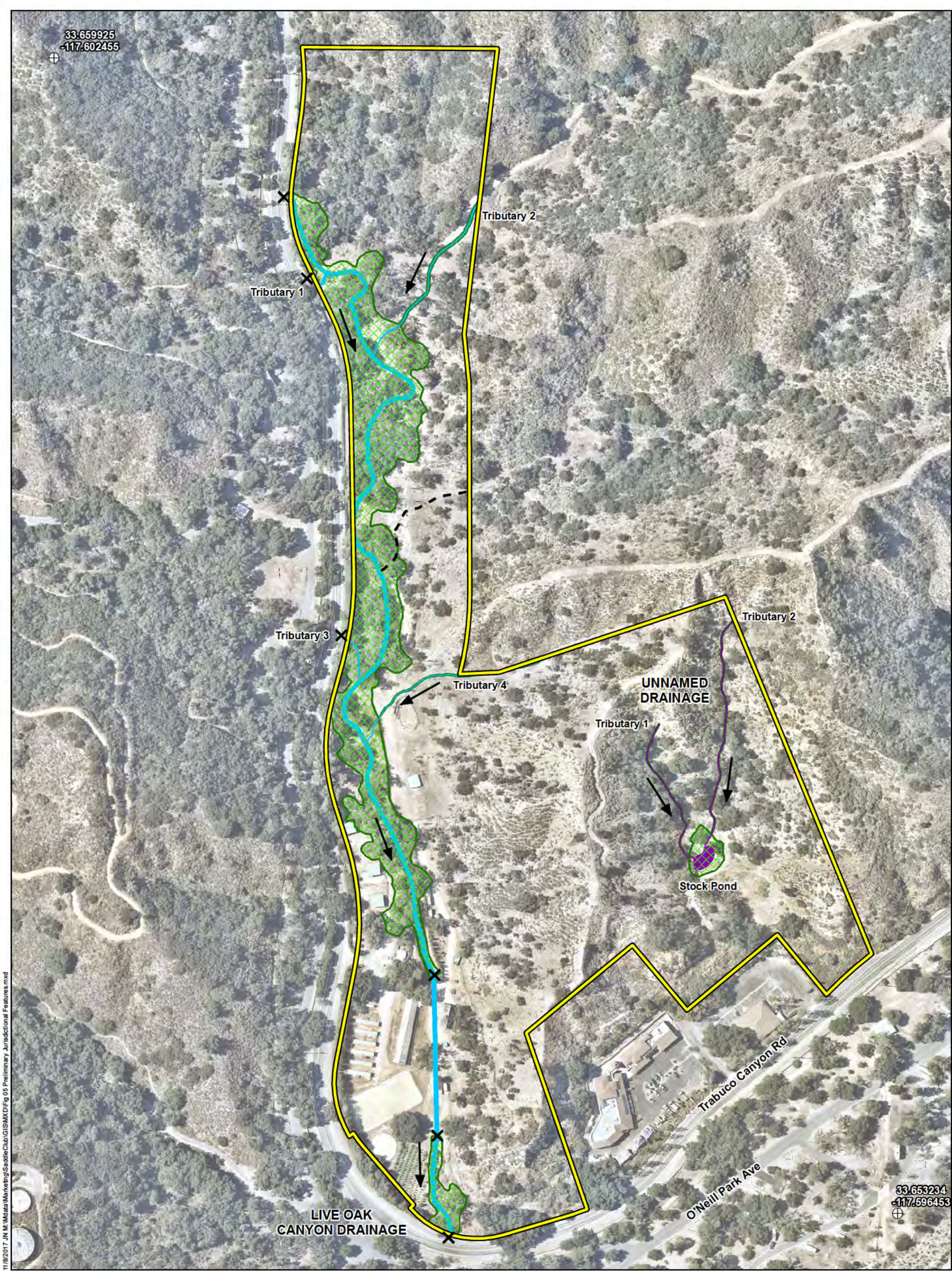
11/7/2017 J:\M\Marketing\SaddleClub\GIS\MKD\Fig 04 Vegetation Communities and Land Uses.mxd



Legend

Survey Area (APN 125-035-34)	Coast Live Oak Woodland	Mule Fat Scrub
	Coast Live Oak Riparian Woodland	Disturbed
	Coastal Sage Scrub	Developed
	Coastal Sage Scrub/Chaparral Mix	Ornamental

Source: NearMap - June 2017



Legend

Survey Area (APN 125-035-34)	Flow Direction	Corps/Regional Board Non-wetland Waters of the U.S. (Ephemeral)
Reference Points	Non-Jurisdictional	Regional Board Waters of the State
Culvert	CDFW Streambed/Banks and Riparian Vegetation	

Source: NearMap - June 2017

Attachment A: Plant and Wildlife Species Observed List

Scientific Name *	Common Name	Cal-IPC Rating** or Special-Status***
Plants		
<i>Acmispon glaber</i>	deerweed	
<i>Alnus rhombifolia</i>	white alder	
<i>Amaranthus albus</i> *	pigweed	
<i>Ambrosia psilostachya</i>	western ragweed	
<i>Amorpha fruticosa</i>	desert indigobush	
<i>Apiastrum angustifolium</i>	wild parsley	
<i>Artemisia californica</i>	California sagebrush	
<i>Artemisia douglasiana</i>	California mugwort	
<i>Artemisia dracunculus</i>	wild tarragon	
<i>Baccharis salicifolia</i>	mule fat	
<i>Bebbia juncea</i>	sweetbush	
<i>Brassica nigra</i> *	black mustard	
<i>Bromus diandrus</i> *	common ripgut grass	Moderate
<i>Bromus rubens</i> *	red brome	High
<i>Carduus pycnocephalus</i> *	Italian thistle	Moderate
<i>Centaurea melitensis</i> *	totalote	Moderate
<i>Chenopodium album</i> *	lamb's quarters	
<i>Chenopodium murale</i> *	nettle leaf goosefoot	
<i>Corethrogyne filaginifolia</i>	common sandaster	
<i>Croton setiger</i>	dove weed	
<i>Cupressus sempervirens</i> *	Italian cypress	
<i>Cuscuta californica</i>	California dodder	
<i>Cynara cardunculus</i> *	artichoke thistle	Moderate
<i>Cynodon dactylon</i> *	Bermuda grass	Moderate
<i>Cyperus eragrostis</i>	tall flatsedge	
<i>Datura wrightii</i>	jimsonweed	
<i>Distichlis spicata</i>	saltgrass	
<i>Dudleya pulverulenta</i>	Chalk liveforever	
<i>Elymus condensatus</i>	giant wild rye	
<i>Erigeron canadensis</i>	Canada horseweed	
<i>Eriogonum fasciculatum</i>	California buckwheat	
<i>Erodium cicutarium</i> *	redstem filaree	Limited
<i>Festuca perennis</i>	Italian rye grass	
<i>Galium angustifolium</i> ssp. <i>angustifolium</i>	narrowleaf bedstraw	
<i>Geranium carolinianum</i>	Carolina geranium	
<i>Hesperoyucca whipplei</i>	chaparral yucca	

Scientific Name *	Common Name	Cal-IPC Rating** or Special-Status***
<i>Heteromeles arbutifolia</i>	toyon	
<i>Heterotheca grandiflora</i>	telegraph weed	
<i>Hirschfeldia incana</i> *	short-pod mustard	
<i>Hordeum murinum</i> *	foxtail barley	
<i>Logfia gallica</i>	narrowleaf cottonrose	
<i>Lysimachia arvensis</i> *	scarlet pimpernel	
<i>Malosma laurina</i>	laurel sumac	
<i>Malva parviflora</i>	cheeseweed mallow	
<i>Marah macrocarpa</i>	wild cucumber	
<i>Marrubium vulgare</i> *	horehound	Limited
<i>Nicotiana glauca</i> *	tree tobacco	
<i>Nolina cismontana</i>	peninsular beargrass	CRPR 1B.2
<i>Opuntia ficus-indica</i> *	mission cactus	
<i>Opuntia littoralis</i>	coastal prickly pear	
<i>Phacelia cicutaria</i>	caterpillar phacelia	
<i>Phoradendron leucarpum</i>	American mistletoe	
<i>Platanus racemosa</i>	western sycamore	
<i>Polypogon monspeliensis</i> *	rabbitsfoot grass	Limited
<i>Porophyllum gracile</i>	slender poreleaf	
<i>Prunus ilicifolia</i>	holly leaf cherry	
<i>Pseudognaphalium canescens</i>	Wright's cudweed	
<i>Quercus agrifolia</i>	coast live oak	
<i>Quercus berberidifolia</i>	inland scrub oak	
<i>Rhamnus ilicifolia</i>	hollyleaf redberry	
<i>Rhus integrifolia</i>	lemonade berry	
<i>Ricinus communis</i> *	castor bean	Limited
<i>Salix laevigata</i>	red willow	
<i>Salix lasiandra</i>	Pacific willow	
<i>Salsola tragus</i> *	Russian thistle	Limited
<i>Salvia apiana</i>	white sage	
<i>Salvia mellifera</i>	black sage	
<i>Sambucus nigra</i> ssp. <i>caerulea</i>	blue elderberry	
<i>Schinus molle</i> *	Peruvian pepper	Limited
<i>Schismus barbatus</i> *	Mediterranean grass	Limited
<i>Sisymbrium irio</i> *	London rocket	Moderate
<i>Solidago velutina</i>	threenerve goldenrod	
<i>Stephanomeria virgata</i>	rod wirelettuce	
<i>Stipa miliacea</i> *	smilo grass	
<i>Strelitzia reginae</i> *	bird-of-paradise	
<i>Toxicodendron diversilobum</i>	poison oak	

Scientific Name *	Common Name	Cal-IPC Rating** or Special-Status***
<i>Vinca major</i> *	periwinkle	Moderate
<i>Washingtonia robusta</i> *	Mexican fan palm	Moderate
Invertebrates		
<i>Vanessa cardui</i>	painted lady	
<i>Pieris rapae</i>	common white	
Birds		
<i>Apelocoma californica</i>	California scrub jay	
<i>Buteo jamaicensis</i>	red-tailed hawk	
<i>Calypte anna</i>	Anna's Hummingbird	
<i>Cathartes aura</i>	turkey vulture	
<i>Colaptes auratus</i>	northern flicker	
<i>Corvus brachyrhynchos</i>	American Crow	
<i>Corvus corax</i>	common raven	
<i>Melanerpes formicivorus</i>	acorn woodpecker	
<i>Melospiza crissalis</i>	California towhee	
<i>Psaltriparus minimus</i>	bushtit	
<i>Sayornis nigricans</i>	black phoebe	
<i>Spinus psaltria</i>	lesser goldfinch	
<i>Sturnus vulgaris</i>	European starling	
<i>Thryomanes bewickii</i>	Bewick's wren	
<i>Zenaida macroura</i>	mourning dove	
Mammals		
<i>Otospermophilus beecheyi</i>	California ground squirrel	
<i>Sciurus griseus</i>	western gray squirrel	

* Non-native species

** **California Invasive Plant Council (Cal-IPC) Ratings**

High These species have severe ecological impacts on physical processes, plant and animal communities, and vegetation structure. Their reproductive biology and other attributes are conducive to moderate to high rates of dispersal and establishment. Most are widely distributed ecologically.

Moderate These species have substantial and apparent—but generally not severe—ecological impacts on physical processes, plant and animal communities, and vegetation structure. Their reproductive biology and other attributes are conducive to moderate to high rates of dispersal, though establishment is generally dependent upon ecological disturbance. Ecological amplitude and distribution may range from limited to widespread.

Limited These species are invasive but their ecological impacts are minor on a statewide level or there was not enough information to justify a higher score. Their reproductive biology and other attributes result in low to moderate rates of invasiveness. Ecological amplitude and distribution are generally limited, but these species may be locally persistent and problematic.

*** **California Rare Plant Rank (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 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 Ranks

- .1 Seriously threatened in California (over 80 percent of occurrences threatened/high degree and immediacy of threat)
- .2 Moderately threatened in California (20 to 80 percent occurrences threatened/moderate degree and immediacy of threat)
- .3 Not very threatened in California (less than 20 percent of occurrences threatened/low degree and immediacy of threat or no current threats known)



Photo 1 – Overview of the Saddle Club parcel and Live Oak Canyon, facing west.



Photo 2 – Overview of the Saddle Club parcel showing coastal sage scrub/chaparral mix and coast live oak woodland vegetation, facing south.



Photo 3 – Representative view of coastal sage scrub/chaparral mix vegetation dominating the southern half of the survey area, facing southeast.



Photo 4 – View of the primary source of the Live Oak Canyon Drainage reaches on-site and Live Oak Canyon Road (off-site), facing northwest.



Photo 5 – View of Tributary 1 and Live Oak Canyon Road, facing west.



Photo 6 – View of Tributary 2 and an existing dirt access road (left), facing northeast.



Photo 7 – View of Tributary 4, including concrete pipe section placed within a portion of the on-site feature, facing west.



Photo 8 – Representative view of coast live oak riparian woodland vegetation associated with the Live Oak Canyon Drainage, facing west.



Photo 9 – Live Oak Canyon Drainage, with an OHWM averaging ~10 feet wide and banks ~15 feet wide, surrounded by mule fat scrub and coast live oak riparian woodland vegetation, facing north.



Photo 10 – View of the Live Oak Canyon Drainage where it becomes channelized and culverted through the active Saddle Club property, facing south.



Photo 11 – View of the Live Oak Canyon Drainage where it resurfaces at the southern end of the survey area, facing north.



Photo 12 – View of the Live Oak Canyon Drainage where it conveys flows off-site under Live Oak Canyon Road, facing southwest.



Photo 13 – View of the stock pond and dam (foreground) associated with the Unnamed Drainage located within the southeastern portion of the parcel, facing northeast.



Photo 14 – Representative view of the peninsular beargrass (*Nolina cismontana*; CRPR 1B.2) population present throughout the southeastern portion of the Saddle Club parcel, facing east.