BIOLOGICAL RESOURCES ASSESSMENT REPORT

MEDEA & PALO COMADO CREEK STORMWATER TREATMENT PLANT, LINEAR PARK, AND WETLANDS IMPROVEMENT PROJECT

CITY OF AGOURA HILLS

LOS ANGELES COUNTY, CALIFORNIA

LSA

November 2019

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CITY OF AGOURA HILLS

LOS ANGELES COUNTY, CALIFORNIA

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LSA Project No. CWE1901

LSA

November 2019

EXECUTIVE SUMMARY

LSA was retained by CWE Engineering to prepare a Biological Resources Assessment and Jurisdictional Delineation for the Medea and Palo Comado Creek Stormwater Treatment Plant, Linear Park, and Wetlands Improvement Project (project) site located in the City of Agoura Hills (City), Los Angeles County (County), California. LSA assessed an approximately 15-acre study area to aid in conceptual design of the project. The study area is not located within critical habitat.

The study area contains intermittent drainage features that are potentially subject to the jurisdiction of the United States Army Corps of Engineers (USACE), California Department of Fish and Wildlife (CDFW), and the Regional Water Quality Control Board (RWQCB).

The study area consists of approximately 6.58 acres of development and 1.78 acres of concrete-lined storm water channel, 3.57 acres of Valley oak woodland, 1.87 acres of red brome grassland, 0.36 acre of arroyo willow thicket, and 0.02 acre of cattail marsh. The project area also contains 1.67 acres of potential non-wetland waters of the U.S. as well as 2.61 acres of potential CDFW streambed.

Prior to the start of construction, LSA recommends conducting a pre-construction burrowing owl survey by qualified biologist. LSA recommends that removal of vegetation be conducted between September 1 and January 31 (outside the nesting season) to avoid any impacts to nesting raptors or other birds protected by the Fish and Game Code and the Migratory Bird Treaty Act. If vegetation removal is to occur during the nesting season (February 1 through August 31), a pre-construction nesting survey is also recommended to be conducted by a qualified biologist prior to vegetation removal.

Agency permits that the project will likely require include a Federal Clean Water Act (CWA) Section 404 permit authorization from the USACE, a CWA Section 401 Water Quality Certification from the RWQCB, and a Fish and Game Code Section 1602 Streambed Alteration Agreement from the CDFW.

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INTRODUCTION

LSA has prepared this Biological Resources Assessment (Assessment) for compliance with the California Environmental Quality Act (CEQA). This report evaluates the proposed project located in the City of Agoura Hills, Los Angeles County, California. The project is located southwest of the Agoura Road and Cornell Road intersection, south of the Ventura Freeway (United States Route 101), and near the City's southern boundary. Specifically, the project is depicted on the United States Geological Survey (USGS) *Thousand Oaks* and *Calabasas, California* 7.5-minute topographic quadrangles in Section 18 of Township 7 North, Range 13 West (Appendix A, Figure 1). The County of Los Angeles Office of the Assessor indicates that the project will be located within Assessor Identification Numbers (AINs) 2061-031-902, 2061-031-020, and 2061-031-903.

PROJECT DESCRIPTION

The proposed project is intended to address water quality issues in the Medea and Palo Comado Creek Watersheds and would benefit downstream receiving waters including Malibu Creek and the Santa Monica Bay. The project concepts involve capturing dry-weather runoff just downstream of the confluence of Medea Creek and Palo Comado Creek. Captured runoff will be diverted to a treatment Best Management Practice (BMP) located within the Los Angeles County Flood Control District (LACFCD) maintenance yard located adjacent to the confluence of Medea and Palo Comado Creeks just south of Agoura Road.

The project consists of three primary components:

a) A storm water treatment facility near the confluence of Medea Creek and Palo Comado Creek at the Los Angeles County Road Department Facility on Agoura Road near Cornell Road.

b) A linear park along Agoura Road above the existing flood control channel between Cornell Road to approximately 600 feet east of Cornell Road.

c) Wetlands located directly downstream of the proposed treatment facility.

The storm water treatment facility will house a treatment train, which will include a trash and sediment settling device and a disinfectant facility. A diversion structure will be constructed in the existing channel to divert dry-weather runoff volumes to the facility. Once diverted and treated, portions of the water flow will be stored and used as irrigation for the linear park and wetlands, with the rest being returned to Medea Creek.

The linear park will incorporate pedestrian and equestrian trails, use native drought-tolerant landscaping, and provide recreational opportunities. The park's landscape will be irrigated with treated runoff generated from the treatment plant, thereby reducing pollutants of concern entering the Santa Monica Bay, and also contributing to the preservation of scarce water resources.

The wetlands will allow flows from Medea Creek to be treated prior to leaving the City. The surface wetland would be constructed to encourage natural infiltration, transpiration, and biological treatment of the low flows. Native drought-tolerant landscaping will be used to allow restoration of habitat for local wildlife and organisms. Once water has been treated, it will be discharged back into Medea Creek.

METHODS

Literature Review

A literature review was conducted to assist in determining the existence or potential occurrence of special-status plant and animal species on or in the vicinity of the project. Database records for the *Thousand Oaks, Calabasas, Point Dume,* and *Malibu Beach, California* USGS 7.5-minute quadrangles were searched on September 1, 2019, using the California Department of Fish and Wildlife's Natural Diversity Data Base application Rarefind 5 online edition (CDFW CNDDB, v 5.2.14, https://www.wildlife.ca.gov/Data/CNDDB/) and the California Native Plant Society's Electronic Inventory of Rare and Endangered Vascular Plants of California (CNPS online edition v8-03 0.39, http://www.cnps.org/inventory).

Current and historic aerial photographs (Google 2019 and NETRonline Historic Aerials 2019) were reviewed, and U.S. Fish and Wildlife Service (USFWS) listed species and designated critical habitat information was used to determine the locations of any listed species sightings and critical habitat boundaries on and in the vicinity of the project. Soil types were determined using the WebSoil Survey (USDA/NRCS, http://websoilsurvey.sc.egov.usda.gov).

Field Survey

A general reconnaissance-level field survey was conducted on September 12 and October 7, 2019, by LSA Senior Biologist and Unmanned Aircraft Systems (UAS) Specialist Anthony Greco between the hours of 0600 and 1230. Weather conditions consisted of clear, sunny skies, temperatures ranging from 60 to 80 degrees Fahrenheit, and winds ranging from 0 to 5 miles per hour. Notes were taken on general site conditions, vegetation, and suitability of habitat for various special-status elements. A list of all plant species observed within the project site (see Appendix B). Vegetation communities were determined in accordance with the categories described in the *Manual of California Vegetation* (MCV) (Sawyer et. al 2009). Plant nomenclature follows that of *The Jepson Manual: Higher Plants of California* (Hickman 1993). All wildlife observed and wildlife sign detected, including tracks, scat, carcasses, burrows, excavations, and vocalizations, were recorded (see Appendix B).

UAS with remote sensing capabilities collected high-resolution, georeferenced imagery of the project site on September 12 and October 7, 2019. The drone imagery was processed into an orthomosaic image in StatePlane Zone 5, NAD83, Survey Foot projection system as shown in Appendix A, Figure 2. Measurements were plotted on a 1" = 200' scale aerial photographs (LSA 2019). The boundaries of the different vegetation communities and land uses and locations of special-status species within the study area, as observed in the field, were mapped on an orthographically rectified aerial photograph (scale of 1 inch = 100 feet), as shown in Appendix A, Figure 3.

RESULTS

Existing Site Conditions

The approximately 15-acre study area contains a portion of Agoura Hills Road, a County Maintenance Yard, and a concrete-lined storm water channel system that drains into undeveloped

lands at the confluence of Medea and Palo Comado Creek. The project site is bordered by commercial development to the north and east, and undeveloped lands to the south and west.

Topography and Soils

The study area is situated near a valley bottom in Lindero Canyon, separating Ladyface Mountain Open Space and Abrams Open Space, to the west and east of the project, respectively. Two developed storm water channels, Medea and Palo Comado Creek, merge west of the County Maintenance Yard, and Medea Creek continues south where it outflows into an undeveloped portion of Medea Creek with deeply incised banks. The project site is approximately 830 feet above mean sea level. The soils that occur within the project site have been previously mapped (U.S. Department of Agriculture 1973) and are displayed in Appendix A, Figure 3:

- Urban land-Cropley, fill complex, 0 to 8 percent slopes;
- Fluvaquents-Riverwash complex, 0 to 5 percent slopes; and
- Cotharin clay loam, 30 to 75 percent slopes.

Vegetation

The study area is primarily developed with the exception of the southwest portion along Medea Creek below the riprap feature. Vegetation found within the study area includes Valley oak woodland (*Quercus lobata* Woodland Alliance) and Red brome grasslands (*Bromus rubens* – *Schismus* (*arabicus*, *barbatus*) Herbaceous Semi-Natural Alliance 2009. Small areas of hydrophytic vegetation also occurs downstream from the storm water riprap feature along or within the incised portions of Medea Creek, consisting primarily of Arroyo willow thicket (*Salix lasiolepis* Shrubland Alliance) and cattail marsh *Typha* (*angustifolia, domingensis, latifolia*) Herbaceous Alliance. Refer to Appendix A, Figure 4 for vegetation mapping results and photographs. Table A displays the approximate area of each vegetation community present within the project site.

Table A: Vegetation Communities/Land Uses within the Study Area

Vegetation Communities/Land Uses	Acreage within Study Area
Developed	6.58
Developed Storm Water Channel	1.78
Valley oak woodland	3.57
Red brome grassland	1.87
Arroyo willow thickets	0.36
Cattail marsh	0.02
Total Acres	**14.71**

Special-Status Species

This section discusses special-status species observed or potentially occurring within the limits of the study area. Legal protection for special-interest species varies widely, from the comprehensive protection extended to listed threatened/endangered species, to no legal interest at present. The CDFW, U.S. Fish and Wildlife Service (USFWS), local agencies, and special-interest groups such as the

CNPS, publish watch lists of declining species. Species on watch lists can be included as part of the special-interest species assessment. Species that are candidates for State and/or federal listing and species on watch lists are included in the special-interest species list. Inclusion of species described in the special-interest species analysis is based on the following criteria:

- Direct observation of the species or its sign in the study area or immediate vicinity during previous biological studies;
- Sighting by other qualified observers;
- Record reported by the CNDDB of the study area, published by the CDFW;
- Presence or location information for specific species provided by private groups (e.g., CNPS); and/or
- Study area lies within known distribution of a given species and contains appropriate habitat

The special-status species analysis within 5 miles of the study area revealed 35 special-interest species with the potential to occur in the Project vicinity. Appendix C lists these species with a data summary and determination of the likelihood of each species occurring within the project site.

Threatened/Endangered Species

The following 10 federally/State listed species and candidates for listing were identified as potentially present (Appendix C) in the project region:

1. Lyon's Pentachaeta (*Pentachaeta lyonii*): federally and State-listed as Endangered;
2. Agoura Hills Dudleya (*Dudleya cymosa* ssp. *agourensis*): federally listed as Threatened;
3. Golden eagle (*Aquila chrysaetos*): California Fully Protected species;
4. California red-legged frog (*Rana draytonii*): federally listed as Threatened;
5. California Orcutt grass (*Orcuttia californica*): federally and State-listed as Endangered;
6. Braunton's milk-vetch (*Astragalus brauntonii*): federally listed as Endangered;
7. Marcenscent dudleya (*Dudleya cymosa* ssp. *marcenscens*); federally listed as Threatened;
8. San Fernando Valley spineflower (*Chorizanthe parry* var. *fernandina*); federally proposed for listing and State-listed as Endangered);
9. Coastal California gnatcatcher (*Polioptila californica californica*); federally listed as Threatened; and
10. Least Bell's vireo (*Vireo bellii pusillus*); federally and State-listed as Endangered.

All 10 species are considered absent based on lack of suitable habitat and/or the study area is outside of current known ranges for these species.

Non-Listed Special-Status Species

Of the 25 non-listed special-status species identified and discussed in Appendix C, 12 are considered absent based on lack of suitable habitat and/or outside of current known range, 10 are considered to have a low probability of occurrence, and four species are considered to have a moderate probability for occurrence. The burrowing owl (*Athena cunicularia*), coastal whiptail (*Aspidoscelis tigris stejnegeri*), western red bat (*Lasiurus blossevillii*), and hoary bat (*Lasiurus cinereus*) are considered to have a moderate probability of occurrence.

Nesting bird species, including special-status species identified in Appendix C, with potential to occur are protected by California Fish and Game Code Sections 3503, 3503.5, and 3800, and by the Migratory Bird Treaty Act (MBTA) (16 USC 703–711). These laws regulate the take, possession, or destruction of the nest or eggs of any migratory bird or bird of prey. However, the USFWS has recently determined that the MBTA should apply only to "… affirmative actions that have as their purpose the taking or killing of migratory birds, their nests, or their eggs" and will not be applied to incidental take of migratory birds pursuant to otherwise lawful activities.

Critical Habitat

The project area is not located within any federally designated critical habitat.

Jurisdictional Waters

USACE regulates discharges of dredged or fill material into waters of the United States. These waters include wetlands and non-wetland bodies of water that meet specific criteria, including a direct or indirect connection to interstate commerce. The USACE regulatory jurisdiction pursuant to Section 404 of the CWA is founded on a connection, or nexus, between the water body in question and interstate commerce. This connection may be direct (through a tributary system linking a stream channel with traditional navigable waters used in interstate or foreign commerce), or it may be indirect (through a nexus identified in the USACE regulations). In order to be considered a jurisdictional wetland under Section 404, an area must possess three wetland characteristics, each with its unique set of mandatory wetland criteria: hydrophytic vegetation, hydric soils, and wetland hydrology.

The CDFW, under Sections 1600 through 1616 of the California Fish and Game Code, regulates alterations to lakes, rivers, and streams (defined by the presence of a channel bed and banks, and at least an intermittent flow of water) where fish or wildlife resources may be adversely affected.

The Regional Water Quality Control Board (RWQCB) is responsible for the administration of Section 401 of the CWA. Typically, the areas subject to jurisdiction of the RWQCB coincide with those of the USACE (i.e., waters of the U.S., including any wetlands). The RWQCB may also assert authority over "waters of the State" under waste discharge requirements pursuant to the Porter-Cologne Act.

Appendix D contains the detailed results of the jurisdictional delineation and assessment of jurisdictional waters prepared for this project. Based on the results of the wetlands delineation/ jurisdictional assessment, a total of approximately 1.67 acres of potential USACE non-wetland

waters of the U.S. and approximately 2.61 acres of potential CDFW streambed occur within the Survey Area. Appendix A, Figure 5 shows the hydrologic features within the proposed project area.

Local Policies and Ordinances

The project will require an oak tree permit from the City of Agoura Hills for any construction activities located within protected zone for *Quercus* species within the study area.

Adopted Habitat Conservation Plans

The project is not within an adopted Habitat Conservation Plan area.

IMPACTS AND RECOMMENDATIONS

Following is a discussion of potential disturbances and recommendations for avoidance, minimization, and mitigation measures per applicable local, State, and Federal policy.

Vegetation Communities/Land Uses

The study area does not contain any California Sensitive Natural Communities. If the project will result in impacts to oak trees including areas within the protected zone, then an oak tree permit will be required from the City of Agoura Hills.

Threatened and Endangered Species

No threatened or endangered plant or wildlife species were observed during surveys, nor are any expected to occur within the study area based on the existing and previous land uses.

Non-Listed Special-Status Species

Burrowing Owl

A pre-construction burrowing owl survey would be required using an accepted protocol (the wildlife agencies). Prior to construction, a qualified biologist will survey the construction area including a 500-foot buffer, or to the edge of the property if less than 500 feet, for burrows that could be used by burrowing owl. If a burrow is located, the biologist will determine whether an owl is present in the burrow. If the burrow is determined to be occupied, the burrow will be flagged and a 160-foot buffer during the non-breeding season or a 250-foot buffer during the breeding season or a buffer to the edge of the property boundary if less than 500 feet will be established around the burrow. The buffer will be staked and flagged. No development activities will be permitted within the buffer until the young are no longer dependent on the burrow.

Nesting Birds

In addition, to ensure compliance with California Fish and Game Code and to avoid potential impacts to nesting birds, it is recommended that the vegetation removal activities be conducted outside the general bird nesting season (February 1 through August 31). If vegetation cannot be removed outside the bird nesting season, a pre-construction nesting bird survey by a qualified biologist is required prior to vegetation removal.

Jurisdictional Waters

The study area contains 1.67 acres of potential USACE non-wetland waters of the U.S. and 2.61 acres of potential CDFW streambed.

Habitat Fragmentation and Wildlife Movement

Wildlife movement and habitat fragmentation are important issues in assessing effects to wildlife. Habitat fragmentation occurs when a proposed action results in a single, unified habitat area being divided into two or more areas such that the division isolates the two new areas from each other. Isolation of habitat occurs when wildlife cannot move freely from one portion of the habitat to another or from one habitat type to another. An example is the fragmentation of habitats within and around "checkerboard" residential development. Habitat fragmentation can also occur when a portion of one or more habitats is converted into another habitat, as when scrub habitats are converted into annual grassland habitat because of frequent burning.

Local wildlife movement may be temporarily disrupted during the vegetation removal and construction processes, but this effect would be localized and short term. Due to the small size of the project and its proximity to development, the proposed project is not anticipated to have significant impacts related to habitat fragmentation and regional wildlife movement.

Local Policies and Ordinances

The project will require an oak tree permit from the City of Agoura Hills for any construction activities located within protected zone for *Quercus* species within the study area.

CUMULATIVE IMPACTS

According to Section 15130 of the *CEQA Guidelines*, "cumulative impacts" refers to incremental effects of an individual project when viewed in connection with the effects of past projects, current projects, and probable future projects. Due to the relatively small proposed project footprint and its proximity to development, impacts are not considered to be cumulatively significant.

REFERENCES

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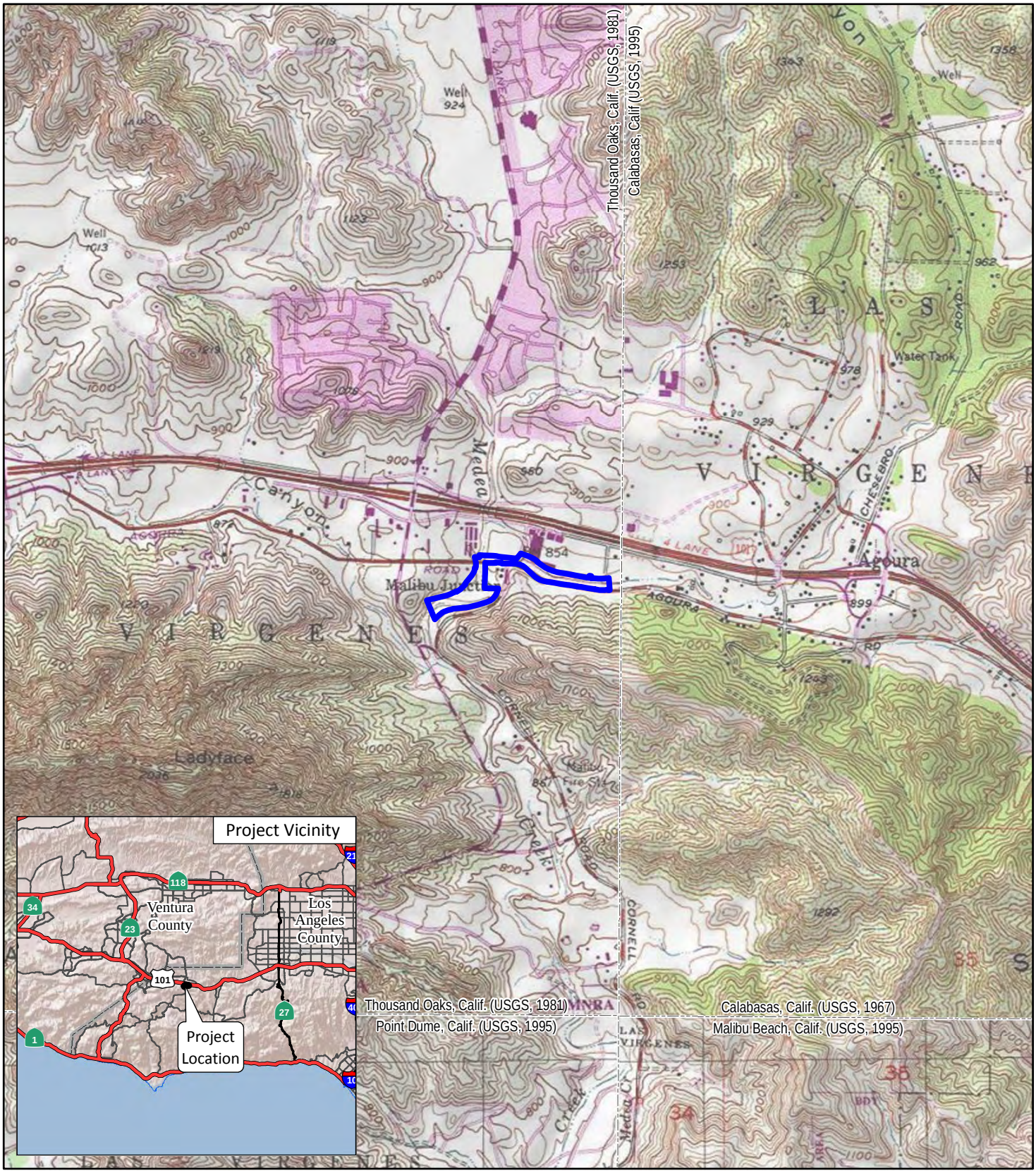
APPENDIX A

PROJECT FIGURES



LSA

LEGEND

Project Boundary

FIGURE 1

N

0 1000 2000

FEET

City of Agoura Hills Project

Poject Location and Vicinity

SOURCE: USGS 7.5' Quad - Calabasas (1967) and Thousand Oaks (1981), CA

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LSA

LEGEND

Project Boundary

0 60 120
FEET

SOURCE: LSA UAS Program (2019)

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FIGURE 2
Sheet 1 of 2

City of Agoura Hills Project

UAS Aerial and Project Boundary

LSA

LEGEND

Project Boundary

N

0 60 120
FEET

SOURCE: LSA UAS Program (2019)

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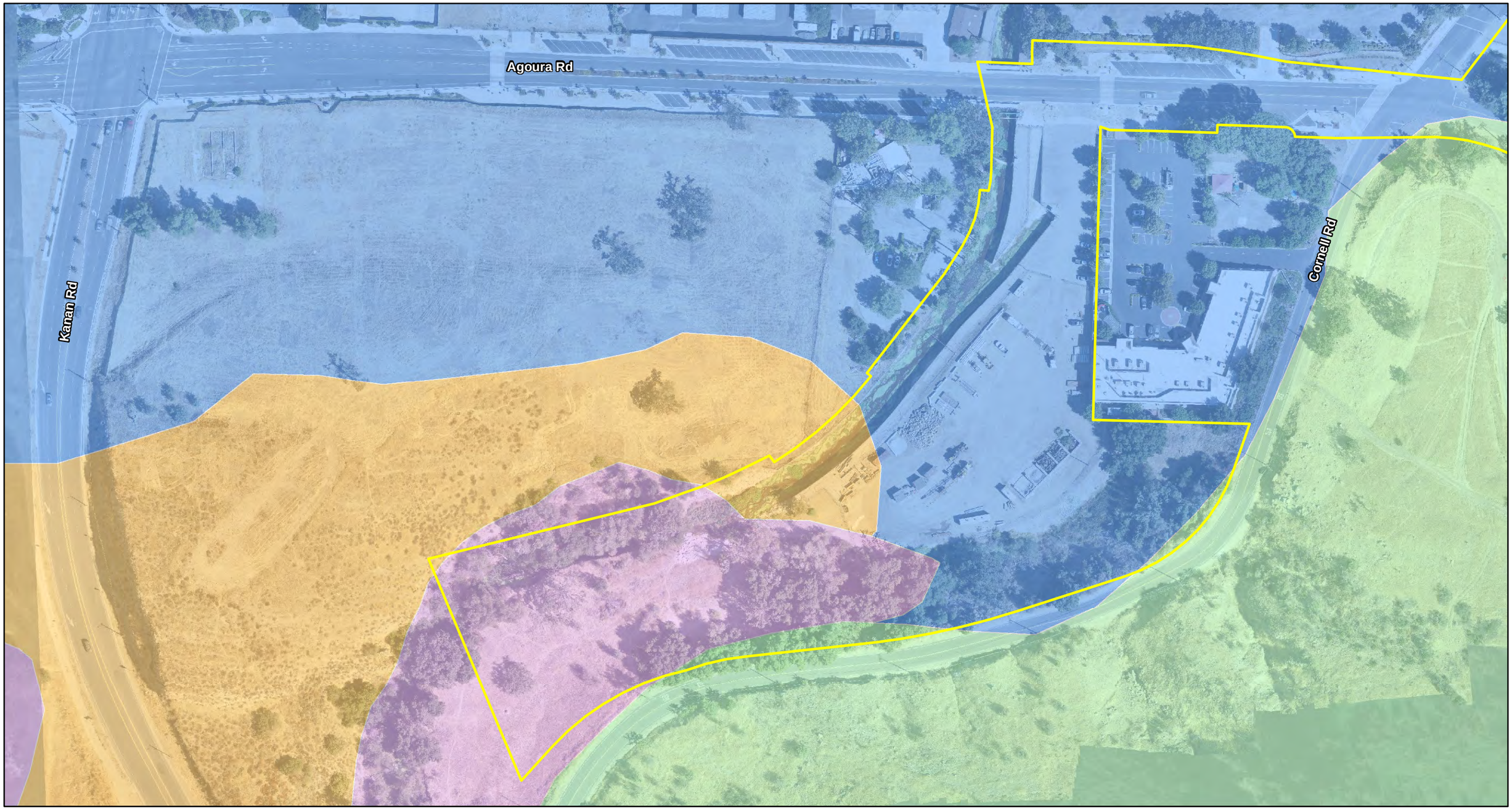
FIGURE 2
Sheet 2 of 2

City of Agoura Hills Project

UAS Aerial and Project Boundary



LSA

LEGEND

Project Boundary

Soils

- Cotharin clay loam, 30 to 75 percent slopes
- Fluvaquents-Riverwash complex, 0 to 5 percent slopes
- Linne-Los Osos-Haploxerepts association, 30 to 75 percent slopes
- Urban land-Cropley, fill complex 0 to 8 percent slopes, commercial

0 60 120
FEET

SOURCE: Google (2018), LSA (2019)

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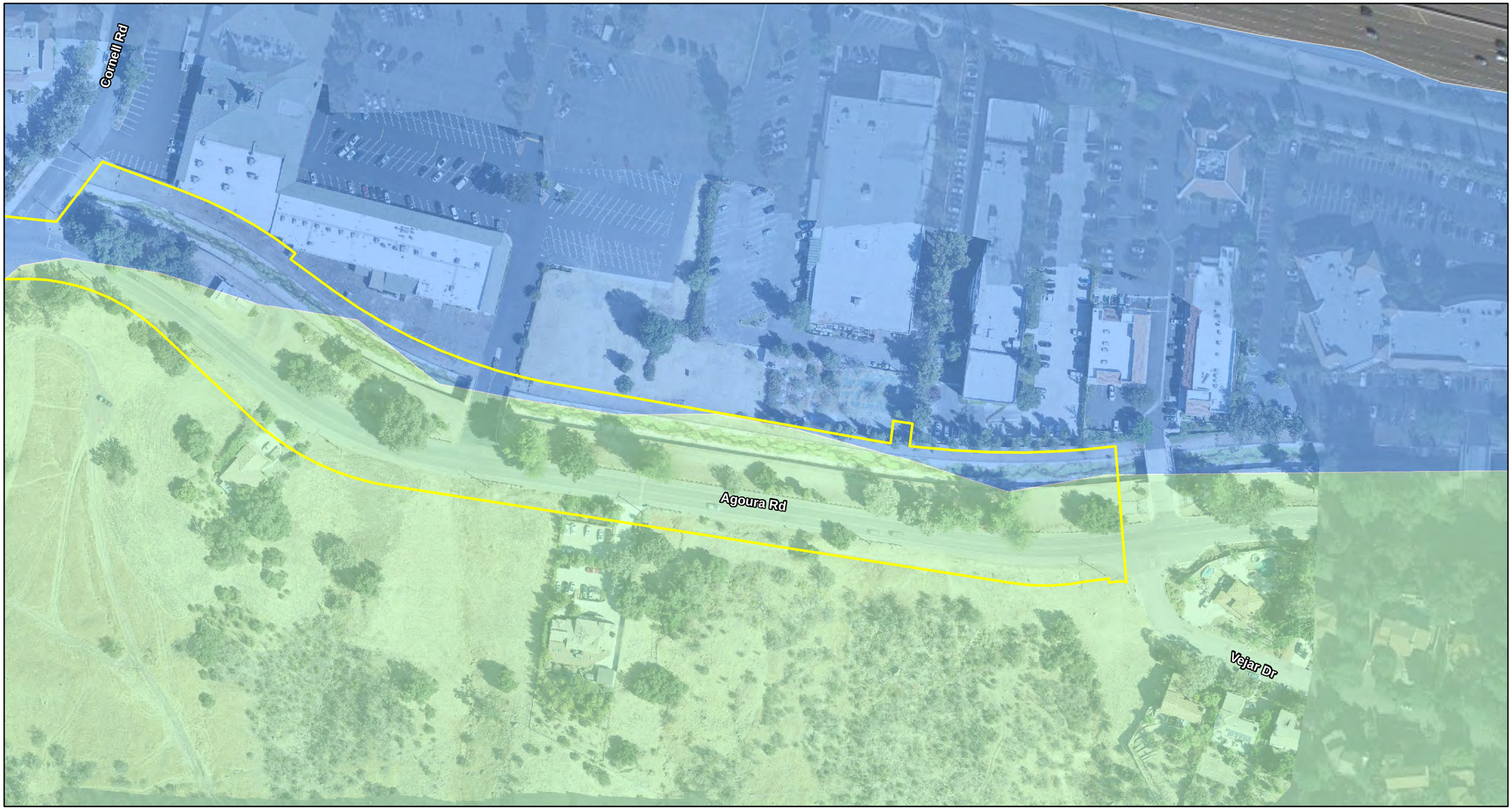
FIGURE 3
Sheet 1 of 2

Agoura Hills Project

Soils



LSA

LEGEND

Project Boundary

Soils

Linne-Los Osos-Haploxerepts association, 30 to 75 percent slopes

Urban land-Cropley, fill complex 0 to 8 percent slopes, commercial

N

0 60 120

FEET

SOURCE: Google (2018), LSA (2019)

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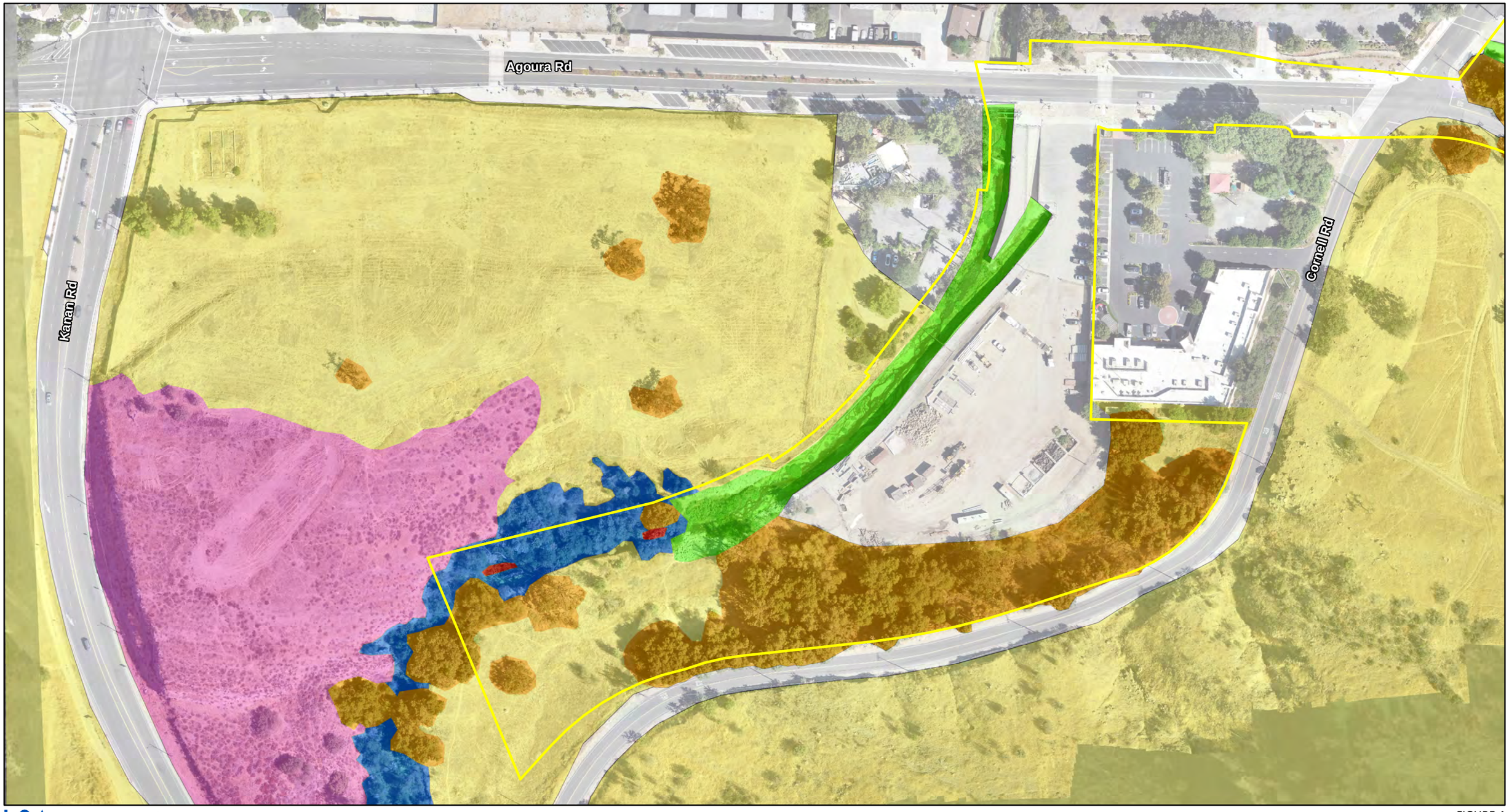
FIGURE 3

Sheet 2 of 2

Agoura Hills Project

Soils



LSA

LEGEND

Project Boundary

Vegetation

- Developed Channel
- Arroyo Willow Thicket
- Red Brome Grassland
- California Buckwheat Scrub
- Cattail Marsh
- Valley Oak Woodland
- Developed

0 60 120
FEET

SOURCE: Google (2018)

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FIGURE 4
Sheet 1 of 2

City of Agoura Hills Project

Vegetation

LSA

LEGEND

Project Boundary

Vegetation

- Developed Channel
- Arroyo Willow Thicket
- Red Brome Grassland
- California Buckwheat Scrub
- Cattail Marsh
- Valley Oak Woodland
- Developed

N

0 60 120
FEET

SOURCE: Google (2018)

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FIGURE 4
Sheet 2 of 2

City of Agoura Hills Project

Vegetation

LSA

LEGEND

Project Boundary

SamplePoints

CDFW

Medea Creek (1.57 ac)

Palo Comado Creek (1.04 ac)

USACE

Non-wetland Waters, Medea Creek (0.64 ac)

Non-wetland Waters, Palo Comado Creek (1.04 ac)

0 60 120

FEET

SOURCE: Google (2018)

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FIGURE 5

Sheet 1 of 2

Agoura Hills Project

Jurisdictional Waters

LSA

LEGEND

Project Boundary

SamplePoints

CDFW

Medea Creek (1.57 ac)

Palo Comado Creek (1.04 ac)

USACE

Non-wetland Waters, Medea Creek (0.64 ac)

Non-wetland Waters, Palo Comado Creek (1.04 ac)

0 60 120
FEET

SOURCE: Google (2018)

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FIGURE 5
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Agoura Hills Project

Jurisdictional Waters

LSA

SOURCE: LSA UAS Program (October 7, 2019)

FIGURE 6
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City of Agoura Hills Project
Aerial Photographs

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SOURCE: LSA UAS Program (October 7, 2019)

FIGURE 6
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Aerial Photographs

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SOURCE: LSA UAS Program (October 7, 2019)

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SOURCE: LSA UAS Program (October 7, 2019)

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SOURCE: LSA UAS Program (October 7, 2019)

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SOURCE: LSA UAS Program (October 7, 2019)

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SOURCE: LSA UAS Program (October 7, 2019)

FIGURE 6

City of Agoura Hills Project

Aerial Photographs

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SOURCE: LSA UAS Program (October 7, 2019)

FIGURE 6
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City of Agoura Hills Project
Aerial Photographs

APPENDIX B

PLANT AND ANIMAL SPECIES OBSERVED

Plant Species Observed

Scientific Name	Common Name
MAGNOLIOPHYTA: MAGNOLIOPSIDA	**DICOT FLOWERING PLANTS**
Adoxaceae	**Elderberry Family**
Sambucus nigra	Black elderberry
Anacardiaceae	**Sumac family**
Schinus molle (non-native species)	Peruvian peppertree
Asteraceae	**Sunflower family**
Ambrosia artemisiifolia	Annual ragweed
Baccharis salicifolia	Mule fat
Baccharis pilularis	Coyote brush
Centaurea melitensis (non-native species)	Tocalote
Brassicaceae	**Mustard family**
Hirschfeldia incana (non-native species)	Shortpod mustard
Nasturtium officinale	Watercress
Chenopodiaceae	**Saltbush Family**
Salsola tragus (non-native species)	Russian thistle
Crassulaceae	**Stonecrop family**
Dudleya pulverulenta	Chalk dudleya
Convolvulaceae	**Morning-glory family**
Convolvulus althaeoides (non-native species)	Field bindweed
Cucurbitaceae	**Gourd family**
Cucurbita palmata	Coyote gourd
Euphorbiaceae	**Spurge family**
Ricinus communis (non-native species)	Castor bean
Croton setiger	Turkey-mullein
Fagaceae	**Oak family**
Quercus lobata	Valley oak
Quercus agrifolia	Coast live oak
Malvaceae	**Mallow family**
Malva parviflora (non-native species)	Cheeseweed mallow
Oleaceae	**Olive family**
Fraxinus velutina	Velvet ash (Modesto ash)
Polygonaceae	**Buckwheat Family**
Eriogonum fasciculatum	California buckwheat
Salicaceae	**Willow family**
Salix lasiolepis	Arroyo willow
Simaroubaceae	**Quassia family**
Ailanthus altissima (non-native species)	Tree of heaven
Solanaceae	**Nightshade family**
Datura sp.	Datura

Plant Species Observed

Scientific Name	Common Name
Nicotiana glauca (non-native species)	Tree tobacco
MAGNOLIOPHYTA: LILIOPSIDA	**MONOCOT FLOWERING PLANTS**
Arecaceae	**Palm family**
Washingtonia robusta (non-native species)	Mexican fan palm
Cyperaceae	**Sedge family**
Schoenoplectus californicus	California bullrush
Poaceae	**Grass family**
Arundo donax (non-native species)	Giant reed
Avena fatua	Wild oat
Bromus diandrus (non-native species)	Ripgut brome
Bromus madritensis ssp. *rubens* (non-native species)	Red brome
Shcismus barbatus (non-native species)	Mediterranean grass
Typhaceae	**Cattail family**
Typha domingensis	Southern cattail

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

Wildlife Species Observed

Scientific Name	Common Name
REPTILLA	**Reptiles**
Sceloporus occidentalis	Western fence lizard
AVES	**BIRDS**
Accipitridae	**Eagles, hawks, kites, osprey**
Buteo jamaicensis	Red-tailed hawk
Anatidae	**Ducks, geese, and swans**
Anas platyrhynchos	Mallard
Corvidae	**Crows and Ravens**
Corvus corax	Common raven
Emberizidae	**Emberizines**
Melozone crissalis	California towhee
Zonotrichia leucophrys	White-crowned sparrow
Falconidae	**Caracaras and Falcons**
Falco sparverius	American kestrel
Fringillidae	**Finches**
Carpodacus mexicanus	House finch
Mimidae	**Mockingbirds and Thrashers**
Mimus polyglottos	Northern mockingbird
Sturnidae	**Starlings**
Sturnus vulgaris (non-native species)	European starling

Wildlife Species Observed

Scientific Name	Common Name
Sylviidae	**Old World warblers**
Chamaea fasciata	Wrentit
Tyrannidae	**Tyrant flycatcher**
Tyrannus verticalis	Western Kingbird
MAMMALIA	**MAMMALS**
Canidae	**Foxes, Wolves, and Allies**
Canis latrans	Coyote
Leporidae	**Rabbits and Hares**
Sylvilagus audubonii	Desert cottontail
Sciuridae	**Squirrels**
Spermophilus beecheyi	California ground squirrel

Taxonomy and nomenclature are based primarily on the following:

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

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

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

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

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

APPENDIX C

SPECIAL-STATUS SPECIES SUMMARY TABLE

Special-Status Species Summary

Species	Status	Habitat and Distribution	Activity Period	Occurrence Probability
Plants				
Astragalus brauntonii **Braunton's milk-vetch**	US: FE CA: – CRPR: 1B.1	Disturbed areas in chaparral, below 650 meters elevation.	Blooms mostly March through July (perennial herb)	**Absent.** No chaparral habitat present within the study area.
Baccharis malibuensis **Malibu baccharis**	US: – CA: – CRPR: 1B.1	Dicot shrub, occurs in grassy openings in chaparral, at 50 to 300 meters elevation.	Blooms August through September (perennial shrub)	**Absent.** No chaparral habitat present within the study area. Not observed during field surveys.
Calochortus clavatus var. gracilis **slender mariposa-lily**	US: – CA: – CRPR: 1B.2	Sandy areas in shaded foothill canyons, Elevation < 1,000 meters.	Blooms May through June (perennial herb)	**Low.** The study area contains marginally suitable habitat along Medea Creek.
Calochortus plummerae **Plummer's mariposa-lily**	US: – CA: – CRPR: 4.2	Granitic, rock soils within chaparral, cismontane woodland, coastal sage scrub, lower montane coniferous forest, valley and foothill grassland.	Blooms May through July (perennial herb, bulb)	**Absent.** The study area does not contain suitable granitic rock soils.
Chorizanthe parryi var. fernandina **San Fernando Valley spineflower**	US: Species of Concern CA: SE CRPR: 1B.1	Sandy soils, at 90 to 500 meters elevation.	Blooms April through June	**Absent.** Outside known range. Study area does not contain suitable coastal sage scrub vegetation or sandy soils.
Deinandra minthornii **Santa Susana tarplant**	US: – CA: SR CRPR: 1B.2	Occurs in chaparral and coastal sage scrub habitat, often on sandstone. Elevation: 200 to 800 meters.	Blooms July through November	**Absent.** The study area does not contain suitable vegetation communities. Species was not observed during field surveys.
Dudleya cymosa ssp. agourensis **Agoura Hills dudleya**	US: FT CA: – CRPR: 1B.2	Occurs on open, rocky volcanic slopes. Elevation < 460 meters.	Blooms May through June.	**Absent.** The study area does not contain suitable volcanic soils. Not observed during field surveys.
Dudleya cymosa ssp. marcescens **Marcescent dudleya**	US: FT CA: SR CRPR: 1B.2	Occurs in shaded, rocky volcanic outcrops and slopes. Elevation: 150 to 500 meters.	Blooms May through June.	**Absent.** The study area does not contain suitable volcanic soils. Not observed during field surveys.

Special-Status Species Summary

Species	Status	Habitat and Distribution	Activity Period	Occurrence Probability
Horkelia cuneata var. puberula **mesa horkelia**	US: – CA: – CRPR: 1B.1	Dry, sandy, coastal chaparral at 70 to 870 meters elevation. Known only from San Luis Obispo, Santa Barbara, Ventura, Los Angeles, Orange, and San Bernardino Counties, California. Believed extirpated from Riverside and San Diego Counties.	Blooms February through July (perennial herb)	**Absent.** No suitable habitat (springs and similar wet areas) is present within the study area.
Navarretia ojaiensis **Ojai navarretia**	US: – CA: – CRPR: 1B.1	Clay soils. Elevation: 300 to 1,000 meters.	Blooms May through June (annual herb)	**Absent.** The study area does not contain suitable clay soils.
Nolina cismontana **chaparral nolina**	US: – CA: – CRPR: 1B.2	Dry chaparral of coastal mountains. Elevation: 200 to 1,300 meters.	Blooms May through July (shrub)	**Absent.** The study area does not contain suitable chaparral habitat. Not observed during field surveys.
Orcuttia californica **California Orcutt grass**	US: FE CA: SE CRPR: 1B.1	Vernal pools from 15 to 660 meters elevation. In California, known from Los Angeles, Ventura, Riverside, and San Diego Counties. Also occurs in Mexico.	Blooms April through August	**Absent.** No suitable habitat (vernal pools) is present within the study area.
Pentachaeta lyonii **Lyon's pentachaeta**	US: FE CA: SE CRPR: 1B.1	Occurs in coastal sage scrub, grassland, chaparral openings. Elevation: <400 meters.	Blooms March through August (annual herb)	**Absent.** Study area does not contain suitable vegetation communities. Not observed during field surveys.
Senecio aphanactis **chaparral ragwort**	US: – CA: – CRPR: 2B.2	Alkaline flats, dry open rocky areas in Foothill Woodland, Northern Coastal Scrub, and Coastal Sage Scrub.	Blooms January through April (annual herb)	**Absent.** No suitable alkaline soils or vegetation communities within the study area.
Monardella hypoleuca ssp. *hypoleuca* **white-veined monardella**	US: – CA: – CRPR: 1B.3	Oak woodland, chaparral. Elevation <1,500 meters.	Blooms May through October (perennial herb)	**Low.** Marginally suitable oak woodland, but outside known range.
Fish				
Gila orcuttii **arroyo chub**	US: – CA: SSC	Slow-moving or backwater sections of warm to cool streams with substrates of sand or mud.	Active all year.	**Absent.** Outside known range. Insufficient hydrological conditions, adverse water quality.

Special-Status Species Summary

Species	Status	Habitat and Distribution	Activity Period	Occurrence Probability
Amphibians				
Rana draytonii **California red-legged frog**	US: FT CA: SSC	Lowlands and foothills in or near permanent sources of deep water with dense, shrubby, or emergent riparian vegetation.	May be active year-round in mild weather, but peak activity occurs in spring, early summer, and fall	**Absent.** Outside known range. Insufficient hydrological conditions, adverse water quality.
Reptiles				
Anniella pulchra **California legless lizard**	US: – CA: SSC	Occurs in sparsely vegetated areas of beach dunes, chaparral, pine-oak woodlands, desert scrub, sandy washes, and stream terraces with sycamores, cottonwoods, or oaks. Leaf litter under trees and bushes in sunny areas and dunes stabilized with bush lupine and mock heather often indicate suitable habitat. Often can be found under surface objects such as rocks, boards, driftwood, and logs.	May be active year-round in mild weather, but peak activity occurs in spring, early summer, and fall	**Low.** The study area contains marginally suitable habitat. Not observed during field surveys.
Aspidoscelis tigris stejnegeri **coastal whiptail**	US: – CA: SSC	Wide variety of habitats including coastal sage scrub, sparse grassland, and riparian woodland; coastal and inland valleys and foothills; Ventura County to Baja California.	May be active year-round in mild weather, but peak activity occurs in spring, early summer, and fall	**Moderate.** The study area contains potentially suitable habitat. Not observed during field surveys.
Emys marmorata **western pond turtle**	US: – CA: SSC	Pond turtles require basking sites such as partially submerged logs, rocks, mats of floating vegetation, or open mud banks. Turtles slip from basking sites to underwater retreats at the approach of humans or potential predators. Hibernation in colder areas is passed underwater in bottom mud. Associated with permanent or nearly permanent water in a wide variety of habitats.	Diurnal, active all year in warm periods, hibernate in cold periods.	**Absent.** Insufficient hydrological conditions, adverse water quality.
Phrynosoma blainvillii **coast horned lizard**	US: – CA: SSC	Primarily in sandy soil in open areas, especially washes and floodplains, in many plant communities. Requires open areas for sunning, bushes for cover, patches of loose soil for burial, and an abundant supply of ants or other insects. Occurs west of the deserts from northern Baja California north to Shasta County below 2,400 meters elevation.	April through October (May is peak)	**Absent.** The study area does not contain suitable terrain or open habitat.

Special-Status Species Summary

Species	Status	Habitat and Distribution	Activity Period	Occurrence Probability
Thamnophis hammondii **two-striped garter snake**	US: – CA: SSC	Highly aquatic, two-striped garter snakes forage primarily in and along streams taking fishes, especially trout and sculpins and their eggs, and amphibians and amphibian larvae. Small mammals and invertebrates such as leeches and earthworms are also taken. Associated with permanent or semi-permanent bodies of water bordered by dense vegetation in a variety of habitats.	Diurnal, active all year in warm periods.	**Low.** Marginally suitable habitat exists in the study area.
Birds				
Agelaius tricolor **tricolored blackbird**	US: – CA: SC	Open country. Forages in grassland and cropland habitats. Nests in large groups near fresh water, preferably in emergent wetland with tall, dense cattails or tules, but also in thickets of willow, blackberry, wild rose, or tall herbs. Seeks cover for roosting in emergent wetland vegetation, especially cattails and tules, and also in trees and shrubs. Occurs in western Oregon, California, and northwestern Baja California.	Year-round	**Absent.** The study area does not contain suitable foraging or nesting habitat.
Aimophila ruficeps canescens **southern California rufous-crowned sparrow**	US: – CA: WL	Steep, rocky coastal sage scrub and open chaparral habitats, particularly scrubby areas mixed with grasslands. From Santa Barbara County to northwestern Baja California.	Year-round	**Low.** The study area does not contain suitable scrub or chaparral habitat.
Aquila chrysaetos **golden eagle**	US: – CA: CFP, WL	Nests on cliffs of all heights and in large trees in open areas. Alternative nest sites are maintained, and old nests are reused. Builds large platform nest, often 3 meters across and 1 meter high, of sticks, twigs, and greenery. Rugged, open habitats with canyons and escarpments used most frequently for nesting.	Year-round	**Absent.** No suitable nesting or roosting habitat is present within the study area.

Special-Status Species Summary

Species	Status	Habitat and Distribution	Activity Period	Occurrence Probability
Athene cunicularia (burrow sites) **burrowing owl**	US: – CA: SSC	Open country in much of North and South America. Usually occupies ground squirrel burrows in open, dry grasslands, agricultural and range lands, railroad rights-of-way, and margins of highways, golf courses, and airports. Often uses man-made structures, such as earthen berms, cement culverts, cement, asphalt, rock, or wood debris piles. They avoid thick, tall vegetation, brush, and trees, but may occur in areas where brush or tree cover is less than 30 percent.	Year-round	**Moderate.** The study area contains suitable ground squirrel burrows, and open grassland habitat.
Polioptila californica californica **coastal California gnatcatcher**	US: FT CA: SSC	Inhabits coastal sage scrub in low-lying foothills and valleys up to about 500 meters (1,640 feet) elevation in cismontane southwestern California and Baja California.	Year-round	**Absent.** No suitable habitat (coastal sage scrub) is present within the study area.
Vireo bellii pusillus **least Bell's vireo**	US: FE CA: SE	Riparian forests and willow thickets. The most critical structural component of Least Bell's Vireo habitat in California is a dense shrub layer 0.6 to 3.0 meters above ground. Nests from central California to northern Baja California. Winters in southern Baja California.	April through September	**Absent.** No suitable habitat (riparian forest) is present within the study area.
Mammals				
Antrozous pallidus **pallid bat**	US: – CA: SSC	Deserts, grasslands, shrublands, woodlands, and forests. Most common in open, dry habitats with rocky areas for roosting.	Year-round; nocturnal	**Low.** No roosting habitat is present, but may use habitats in the study area during foraging activities.
Euderma maculatum **spotted bat**	US: – CA: SSC	Prefers sites with adequate roosting habitat, such as cliffs. Feeds over water and along washes. May move from forests to lowlands in autumn.	Year-round; nocturnal	**Low.** No roosting habitat is present, but may use the habitats in the study area during foraging activities.
Eumops perotis californicus **western mastiff bat**	US: – CA: SSC	Occurs in many open, semi-arid to arid habitats, including conifer and deciduous woodlands, coastal scrub, grasslands, chaparral, etc.; roosts in crevices in vertical cliff faces, high buildings, and tunnels, and travels widely when foraging.	Nocturnal, active year-round	**Low.** No roosting habitat is present, but may use the habitats in the study area during foraging activities.

Special-Status Species Summary

Species	Status	Habitat and Distribution	Activity Period	Occurrence Probability
Lasiurus blossevillii **western red bat**	US: – CA: SSC	Roosts primarily in trees, less often in shrubs. Roost sites often are in edge habitats adjacent to streams, fields, or urban areas. Preferred roost sites are protected from above, open below, and located above dark ground-cover. Such sites minimize water loss. Roosts may be from 0.6 to 13 meters above ground level.	Nocturnal, active year-round	**Moderate.** Potentially suitable habitat for roosting and foraging exists in the study area.
Lasiurus cinereus **hoary bat**	US: – CA: SSC	Generally roosts in dense foliage of medium to large trees. Preferred sites are hidden from above, with few branches below, and have ground cover of low reflectivity. Prefers open habitats or habitat mosaics, with access to trees for cover and open areas or habitat edges for feeding.	Nocturnal, active year-round	**Moderate.** Potentially suitable habitat for roosting and foraging exists in the study area.
Myotis ciliolabrum **western small-footed myotis**	US: – CA: –	The small-footed myotis is a bat of arid, upland habitats. It prefers open stands in forests and woodlands as well as brushy habitats. Streams, ponds, springs, and stock tanks are used for drinking and feeding. This bat seeks cover in caves, buildings, mines, crevices, and occasionally under bridges and under bark. Separate night roosts may be used, and have been found in buildings and caves. Groups of 50, or more, may inhabit a hibernation site.	Nocturnal. Hibernates from November to March.	**Low.** No roosting habitat is present, but may use the habitats in the study area during foraging activities.
Myotis yumanensis **Yuma myotis**	US: – CA: SA	Optimal habitats are open forests and woodlands with sources of water over which to feed. Common and widespread in California. Ranging generally from sea level to 2,440 meters. Roosts in buildings, mines, caves or crevices; occasionally in swallow nests and under bridges.	February through August (hibernates September through January)	**Low.** No roosting habitat is present, but may use the habitats in the study area during foraging activities.

LEGEND	
US: Federal Classifications	
–	No applicable classification
FE	Taxa listed as Endangered.
FT	Taxa listed as Threatened.

CA: State Classifications	
–	No applicable classification
SE	Taxa State-listed as Endangered.
SR	Taxa State-listed as Rare.
SC	State Candidate
SSC	California Species of Special Concern. Refers to animals with vulnerable or seriously declining populations.
CFP	California Fully Protected. Refers to animals protected from take under Fish and Game Code Sections 3511, 4700, 5050, and 5515.
WL	California Bird Species of Special Concern Watch List.
SA	Special Animal. Refers to any other animal monitored by the Natural Diversity Data Base, regardless of its legal or protection status.
1B	California Rare Plant Rank 1B: Rare, threatened, or endangered in California and elsewhere.
2B	California Rare Plant Rank 2B: Rare, threatened, or endangered in California, but more common elsewhere.
4	California Rare Plant Rank 4: A watch list of plants of limited distribution.
	CRPR Extensions
	0.1 Seriously endangered in California (greater than 80% of occurrences threatened/high degree and immediacy of threat).
	0.2 Fairly endangered in California (20 to 80% occurrences threatened).
	0.3 Not very endangered in California (less than 20% of occurrences threatened).

California Rare Plant Ranks are assigned by a committee of government agency and non-governmental botanical experts and are not official State designations of rarity status.

APPENDIX D

JURISDICTIONAL DELINEATION REPORT

JURISDICTIONAL DELINEATION REPORT

MEDEA & PALO COMADO CREEK STORMWATER TREATMENT PLANT, LINEAR PARK, AND WETLANDS IMPROVEMENT PROJECT

CITY OF AGOURA HILLS

LOS ANGELES COUNTY, CALIFORNIA

LSA

November 2019

JURISDICTIONAL DELINEATION REPORT

MEDEA & PALO COMADO CREEK STORMWATER TREATMENT PLANT, LINEAR PARK, AND WETLANDS IMPROVEMENT PROJECT

CITY OF AGOURA HILLS

LOS ANGELES COUNTY, CALIFORNIA

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LSA Project No. CWE1901

LSA

November 2019

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INTRODUCTION

CWE Engineering retained LSA to conduct a jurisdictional waters study and delineation in support of the Medea & Palo Comado Creek Stormwater Treatment Plant, Linear Park, and Wetlands Improvement Project (project). The project is located southwest of the Agoura Road and Cornell Road intersection, south of the Ventura Freeway (U.S. Route 101), and near the City's southern boundary. Specifically, the project is depicted on the United States Geological Survey (USGS) *Thousand Oaks* and *Calabasas, California* 7.5-minute topographic quadrangles in Section 18 of Township 7 North, Range 13 West (Appendix A, Figure 1). The County of Los Angeles Office of the Assessor indicates that the project will be located within Assessor Identification Numbers (AINs) 2061-031-902, 2061-031-020, and 2061-031-903.

The proposed project is intended to address water quality issues in the Medea and Palo Comado Creek Watersheds and would benefit downstream receiving waters including Malibu Creek and the Santa Monica Bay. This report presents the results of a jurisdictional delineation conducted by LSA to identify the limits of potential wetland and non-wetland waters of the United States subject to the jurisdiction of the United States Army Corps of Engineers (USACE) and Regional Water Quality Control Board (RWQCB) pursuant to Sections 404 and 401 of the Federal Clean Water Act (CWA), respectively; and streambeds, water bodies, and associated riparian habitat subject to California Department of Fish and Wildlife (CDFW) regulation pursuant to Section 1600 et seq. the California Fish and Game Code.

The findings and conclusions presented in this report, including the locations and extent of aquatic resources subject to regulatory jurisdiction, represent the professional opinion of LSA and should be considered preliminary until verified by representatives from the City, USACE, RWQCB, and CDFW.

SITE DESCRIPTION

The approximately 15-acre study area contains a portion of Agoura Hills Road, a County Maintenance Yard, and a concrete-lined storm water channel system that drains into undeveloped lands at the confluence of Medea and Palo Comado Creek. The project site is bordered by commercial development to the north and east, and undeveloped lands and roads to the south and west.

The project concepts involve capturing dry-weather runoff downstream of the confluence of Medea Creek and Palo Comado Creek. Captured runoff will be diverted to a treatment Best Management Practice (BMP) located within the Los Angeles County Flood Control District (LACFCD) maintenance yard adjacent to the confluence of Medea and Palo Comado Creeks just south of Agoura Road.

REGULATORY BACKGROUND

United States Army Corps of Engineers

The USACE regulates discharges of dredged or fill material into waters of the United States (WOTUS). These waters include wetland and non-wetland bodies of water that meet specific criteria. USACE regulatory jurisdiction pursuant to Section 404 of the Federal Clean Water Act (CWA) is founded on a connection, or nexus, between the water body in question and interstate

commerce. This connection may be direct (through a tributary system linking a stream channel with traditional navigable waters [TNWs] used in interstate or foreign commerce) or may be indirect (through a nexus identified in USACE regulations). For several decades, the operable definition of waters of the U.S. was provided at 33 Code of Federal Regulations (CFR) 328.3, but implementation of this definition has been shaped by the courts and subsequent guidance over the years, most substantially by the 2001 Supreme Court decision in *Solid Waste Agency of Northern Cook County v. United States Army Corps of Engineers*, No. 99-1178 (SWANCC) and the 2006 Supreme Court decision in the consolidated cases *Rapanos v. United States* and *Carabell v. United States* (126 S. Ct. 2208), collectively referred to as *Rapanos*. The Supreme Court concluded that wetlands are "waters of the United States" if they significantly affect the chemical, physical, and biological integrity of other covered waters more readily understood as navigable. Based, in part, on the *Rapanos* decision, a new rule defining WOTUS was promulgated in the Federal Register on June 29, 2015. Following a series of legal challenges and the current presidential administration's attempt to delay the implementation of this rule, on August 16, 2018, the U.S. District Court for the District of South Carolina enjoined the delay of the WOTUS Rule implementation for failure to comply with the Administrative Procedure Act. This decision means that the 2015 WOTUS definition is in effect in 26 states where federal district court judges have not stayed it, including California. A summary of the currently operable definition of WOTUS is provided below:

> Several categories of waters are defined as WOTUS directly by the Rule, without the need for a significant nexus evaluation:
>
> (i) All waters which are currently used, were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;
>
> (ii) All interstate waters, including interstate wetlands;
>
> (iii) The territorial seas;
>
> (iv) All impoundments of waters otherwise identified as waters of the United States under this section;
>
> v) All tributaries of waters identified in paragraphs (1)(i) through (iii) of this definition; tributary is further defined as a water that contributes flow, either directly or through another water to a water identified in paragraphs (i) through (iii) of this definition that is characterized by the presence of the physical indicators of a bed and banks and an ordinary high water mark;
>
> (vi) All waters adjacent to a water identified in paragraphs (i) through (v) of this definition, including wetlands, ponds, lakes, oxbows, impoundments, and similar waters; the term adjacent means bordering, contiguous, or neighboring a water identified above, including waters separated by constructed dikes or barriers, natural river berms, beach dunes, and the like. Neighboring includes waters within 100 feet of the ordinary high water mark of these waters and within the 100-year floodplain but not more than 1,500 feet from the ordinary high water mark. Neighboring also includes waters within 1,500 feet of waters in paragraphs i through iii, including the Great Lakes.

In addition to the waters defined as WOTUS by rule, above, two categories of waters can be considered WOTUS pursuant to a significant nexus evaluation and determination:

(vii) Certain depressional wetlands where they are determined, on a case-specific basis, to have a significant nexus to a water identified in paragraphs (1)(i) through (iii) of this definition. The waters identified in this category are considered similarly situated and shall be combined, for purposes of a significant nexus analysis, in the watershed that drains to the nearest water identified in paragraphs (1)(i) through (iii) of this definition. Waters identified in this paragraph shall not be combined with waters identified in paragraph (vi) of this definition when performing a significant nexus analysis. If waters identified in this paragraph are also an adjacent water under paragraph (vi), they are an adjacent water and no case-specific significant nexus analysis is required. The depressional wetlands that are specifically identified in this paragraph occur in various regions throughout the country. In California they include (D) Western vernal pools. Western vernal pools are seasonal wetlands located in parts of California and associated with topographic depression, soils with poor drainage, mild, wet winters and hot, dry summers.

(viii) All waters located within the 100-year floodplain of a water identified in paragraphs (i) through (iii) of this definition and all waters located within 4,000 feet of the high tide line or ordinary high water mark of a water identified in paragraphs (i) through (v) of this definition where they are determined on a case-specific basis to have a significant nexus to a water identified in paragraphs (i) through (iii) of this definition. For waters determined to have a significant nexus, the entire water is a water of the United States if a portion is located within the 100-year floodplain of a water identified in paragraphs (i) through (iii) of this definition or within 4,000 feet of the high tide line or ordinary high water mark. Waters identified in this paragraph shall not be combined with waters identified in paragraph (vi) of this definition when performing a significant nexus analysis. If waters identified in this paragraph are also an adjacent water under paragraph (1)(vi) of this definition, they are an adjacent water and no case-specific significant nexus analysis is required.

Finally, the 2015 WOTUS Rule specifies several categories of waters that are excluded from Clean Water Act jurisdiction, even if they otherwise meet the terms of paragraphs (iv) through (viii) above. The excluded waters are waste treatment systems, prior converted cropland and ditches with ephemeral or intermittent flow that are not a relocated tributary or excavated in tributary, as well as ditches that do not flow into waters in categories (i) through (iii) above. However, a ditch with intermittent flow that drains wetlands and flows to waters in categories (i) through (iii) may not be excluded. Also excluded are artificial reflecting pools or swimming pools, ornamental waters, and incidental created depressions, provided these were created in dry land. Other excluded waters are erosional features that do not meet the definition of tributary, puddles, groundwater, storm water control features created in dry land, and wastewater recycling structures, basins and distributary structures constructed in dry land.

The USACE typically considers any body of water displaying an ordinary high-water mark (OHWM) for designation as waters of the U.S., subject to the 2015 WOTUS Rule. USACE jurisdiction over non-tidal waters of the U.S. extends laterally to the OHWM or beyond the OHWM to the limit of any

contiguous wetlands, if present. The OHWM is defined as "that line on the shore established by the fluctuations of water and indicated by physical characteristics such as a clear natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding area" (33 CFR 328.3). Jurisdiction typically extends upstream to the point where the OHWM is no longer perceptible.

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

Wetlands

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

The USACE and the United States Environmental Protection Agency (EPA) define wetlands as follows:

> Those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted to life in saturated soil conditions.

In order to be considered a jurisdictional wetland under Section 404, an area must possess three wetland characteristics: hydrophytic vegetation, hydric soils, and wetland hydrology. Each characteristic has a specific set of mandatory wetland criteria that must be satisfied for that particular wetland characteristic to be met. Several indicators may be analyzed to determine whether the criteria are satisfied.

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

Determination of wetland limits may be obfuscated by a variety of natural environmental factors or human activities, collectively called difficult wetland situations, including cyclic periods of drought and flooding, or highly ephemeral stream systems. During periods of drought, for example, bank return flows are reduced and water tables are lowered. This results in a corresponding lowering of ordinary high water and invasion of upland plant species into wetland areas. Conversely, extreme flooding may create physical evidence of high water well above what might be considered ordinary and may allow the temporary invasion of hydrophytic species into non-wetland areas. In highly

ephemeral systems typical of Southern California, these problems are encountered frequently. In these situations, professional judgment based on years of practical experience and extensive knowledge of local ecological conditions comes into play in delineating wetlands. The *Regional Supplement* provides additional guidance for difficult wetland situations.

Hydrophytic Vegetation

Hydrophytic vegetation is plant life that grows and is typically adapted for life in permanently or periodically saturated soils. The hydrophytic vegetation criterion is met if more than 50 percent of the dominant plant species from all strata (tree, shrub, herb, and woody vine layers) are considered hydrophytic. Hydrophytic species are those included on the Arid West 2016 Regional Wetland Plant List (Lichvar et al. 2016) published by the USACE. Each species on the list is rated according to a wetland indicator category, as shown in Table A. To be considered hydrophytic, the species must have wetland indicator status (i.e., be rated Obligate Wetland [OBL], Facultative Wetland [FACW], or Facultative [FAC]).

Table A: Hydrophytic Vegetation

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

The delineation of hydrophytic vegetation is typically based on the most dominant species from each vegetative stratum (strata are considered separately); when more than 50 percent of these dominant species are hydrophytic (i.e., FAC, FACW, or OBL), the vegetation is considered hydrophytic. In particular, the USACE recommends the use of the "50/20" rule (also known as the dominance test) from the *Regional Supplement* for determining dominant species. Under this method, dominant species are the most abundant species that immediately exceed 50 percent of the total dominance measure for the stratum, plus any additional species comprising 20 percent or more of the total dominance measure for the stratum. In cases where indicators of hydric soil and wetland hydrology are present but the vegetation initially fails the dominance test, the prevalence index must be used. The prevalence index is a weighted average of all plant species within a sampling point. The prevalence index is particularly useful when communities only have one or two dominants, where species are present at roughly equal coverage, or when strata differ greatly in total plant cover. In addition, USACE guidance provides that morphological adaptations may be considered when determining hydrophytic vegetation when indicators of hydric soil and wetland hydrology are present (USACE 2008). If the plant community passes either the dominance test or prevalence index after reconsidering the indicator status of any plant species that exhibit morphological adaptations for life in wetlands, then the vegetation is considered hydrophytic.

Hydric Soils

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

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

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

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

Wetland Hydrology

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

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

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

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

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

Regional Water Quality Control Board

The RWQCB is responsible for the administration of Section 401 of the CWA and the Porter-Cologne Act (Water Code Section 13260). Section 401 of the CWA specifies that certification from the State is required for any applicant requesting a federal license or permit to conduct any activity including, but not limited to, the construction or operation of facilities that may result in any discharge into navigable waters. The Porter-Cologne Act requires "any person discharging waste, or proposing to discharge waste, within any region that could affect the waters of the State" to file a report of discharge. Typically, the areas subject to RWQCB jurisdiction coincide with those of the USACE (i.e., waters of the United States, including any wetlands).

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

California Department of Fish and Wildlife

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

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

METHODOLOGY

LSA Senior Biologist Anthony Greco performed the jurisdictional delineation fieldwork on October 7, 2019. LSA prepared a field map of the area to be surveyed using a 2019 aerial photograph at a scale of 1 inch = 100 feet. LSA surveyed the study area on foot and evaluated all areas of potential jurisdiction according to USACE, CDFW, and City criteria. Data were recorded using a global positioning system (GPS) unit with submeter accuracy and by marking directly on the aerial photograph. Because hydrophytic vegetation was observed within the drainage feature, LSA

evaluated two sample points below the riprap outflow and collected data. Additional sample points were attempted within cattail marsh vegetation in Medea Creek; however, the banks of Medea Creek are deeply incised and unsafe to enter in the current conditions. LSA completed two Arid West Region – Wetland Determination Data Forms (see Appendix B). Vegetation communities were assessed and classified using the *Manual of California Vegetation Classification* (Sawyer et al. 2009).

An Unmanned Aircraft System (UAS) with remote sensing capabilities collected high-resolution, georeferenced imagery of the project site on September 12 and October 7, 2019. The drone imagery was processed into an orthomosaic image in StatePlane Zone 5, NAD83, Survey Foot projection system as shown in Appendix A, Figure 2. Measurements were plotted on a 1 inch = 200-foot scale aerial photographs (LSA 2019).

RESULTS

Hydrology

The study area contains two intermittent streams, Medea Creek and Palo Comado Creek. Both are blue line drainages depicted in current and historical aerial imagery and topographic maps (NETROnline). Palo Comado Creek is a tributary to Medea Creek that originates near U.S. Route 101 as a concrete-lined rectangular open channel, approximately 25 feet wide by 13 feet high. Medea Creek flows adjacent to the project site and is a concrete-lined, rectangular open channel approximately 40 feet wide by 13 feet high. Medea Creek is concrete lined from U.S. Route 101 until it reaches Lindero Canyon, where it outflows west of the County Maintenance Yard and continues approximately three miles south where it flows into Malibu Creek, and eventually the Pacific Ocean. The streambanks downstream from the riprap pad have been deeply incised from concentrated flows and have exposed a steep wall on the southern bank of Medea Creek. Table B shows the potential jurisdictional water of the U.S./CDFW streambeds occurring within the study area. Appendix A, Figure 3 displays the potentially jurisdictional locations of Medea Creek and Palo Comado Creek within the study area. Appendix A, Figure 4 includes representative site photographs.

Table B: Potential Jurisdictional Drainage Features within the Study Area

Drainage	Length (linear feet)	Potential Waters of the United States (acres)		Potential CDFW Jurisdictional Streambed (acres)
		Non-Wetland	Wetland	
Medea Creek	1,140	0.64	0.0	1.57
Palo Comado Creek	2,300	1.04	0.00	1.04
Total	**3,440**	**1.67**	**0.00**	**2.61**

Vegetation

The study area is primarily developed with the exception of the southwest portion along Medea Creek below the riprap feature. Vegetation in the naturalized portion of Medea Creek consists primarily of Valley oak woodland (*Quercus lobata* Woodland Alliance) and red brome grasslands (*Bromus rubens – Schismus* (*arabicus*, *barbatus*) Herbaceous Semi-Natural Alliance. Emergent hydrophytic vegetation occurs within Medea Creek below the storm water riprap feature, consisting primarily of disturbed Arroyo willow thicket (*Salix lasiolepis* Shrubland Alliance) and cattail marsh *Typha* (*angustifolia, domingensis, latifolia*) Herbaceous Alliance.

Soils

The soils that occur within the study area have been previously mapped (U.S. Department of Agriculture 1973):

- Urban land-Cropley, fill complex, 0 to 8 percent slopes;
- Fluvaquents-Riverwash complex, 0 to 5 percent slopes; and
- Cotharin clay loam, 30 to 75 percent slopes.

Fluvaquents-Riverwash complex is listed as a hydric soil in the Natural Resource Conservation Service Hydric Soils list for the Santa Monica Mountains Region. However, two sample points dug along Medea Creek yielded no evidence of hydric soils.

DISCUSSION

Medea Creek and Palo Comado Creek are tributary to Malibu Creek, which is a direct tributary to the Pacific Ocean. The USACE considers the Pacific Ocean to be a TNW of the U.S. The hydrology within Medea Creek and Palo Comado Creek were determined based on the presence of flowing water, bed and bank, change in vegetation species and density, change in sediment texture, the presence of drift and debris deposits, and benches. Both sample points contained wetland hydrology and a predominance of hydrophytic vegetation. However, the sample points dug in Medea Creek yielded no evidence of hydric soils indicators. It appears that concentrated storm flows from the concrete-lined channel have severely eroded soils in the natural portion of the channel, as evidenced by the uprooted trees and deeply incised walls on the south side of Medea Creek.

CONCLUSIONS

The study area contains 1.67 acres of potential non-wetland waters of the United States subject to the regulatory authority of the USACE and RWQCB pursuant to Sections 404 and 401, respectively, of the CWA. Additionally, the study area contains 2.61 acres of potential streambed, subject to the regulatory authority of the CDFW.

Since there is no public guidance on determining RWQCB jurisdictional areas, jurisdiction was determined based on the federal definition of wetlands (three-parameter) and other waters of the U.S. as recommended by the September 2004 Workplan. Since there are areas within the Survey Area subject to USACE and CDFW jurisdiction, RWQCB jurisdiction in this case is coincident with USACE jurisdiction for purposes of Section 401 certification. The total area of potential RWQCB jurisdiction under Section 401 of the CWA within the 1.67 acres, which is synonymous with the total area of potential waters of the United States (i.e., USACE jurisdiction).

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APPENDIX A

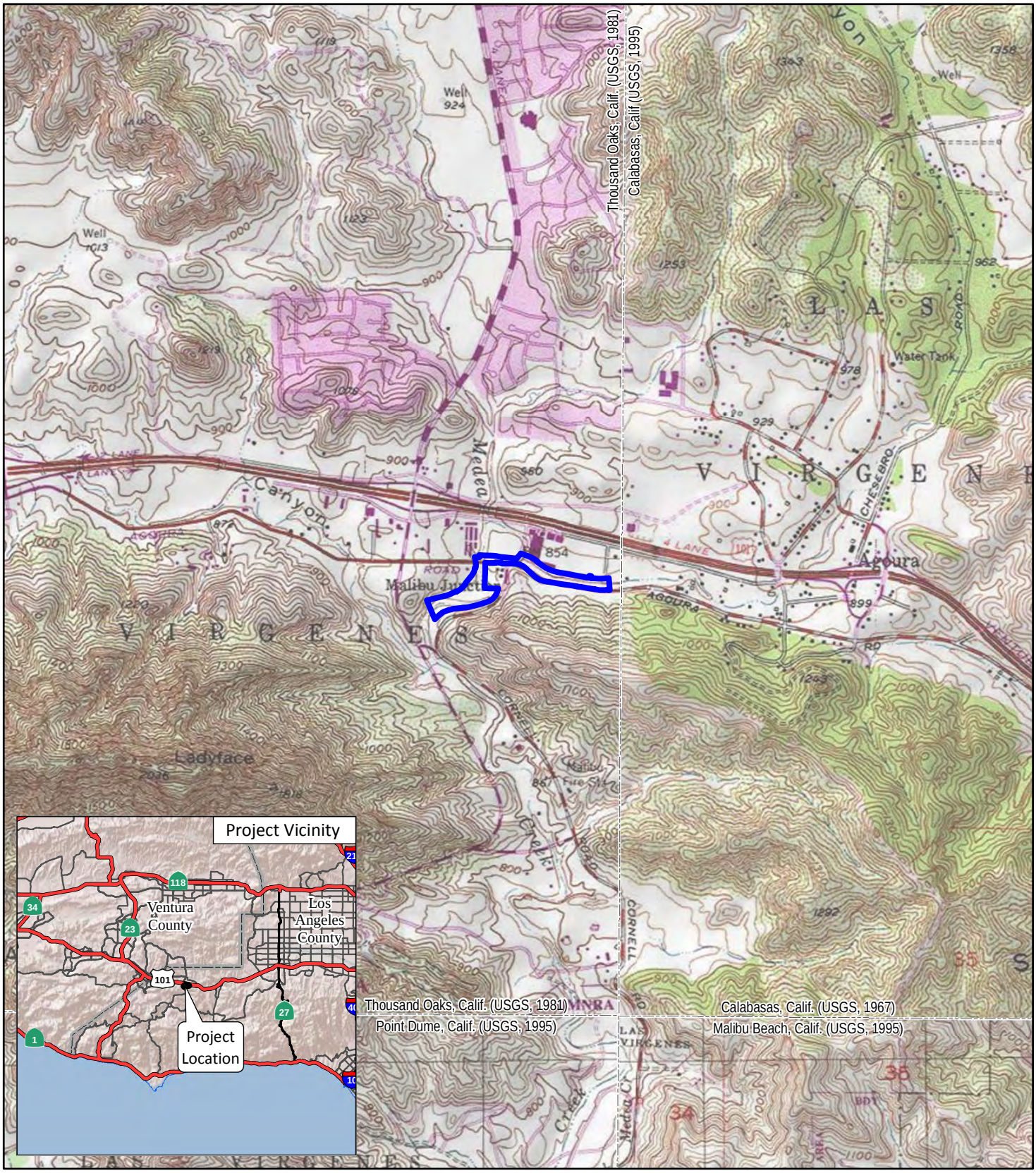
PROJECT FIGURES

Figure 1: Project Location

Figure 2: UAS Aerial and Project Boundary

Figure 3: Potentially Jurisdictional Features

Figure 4: Site Photographs



LSA

FIGURE 1

Medea and Palo Comado Creek Stormwater Treatment Plant, Linear Park, and Wetlands Improvement Project

Project Location and Vicinity

SOURCE: USGS 7.5' Quad - Calabasas (1967) and Thousand Oaks (1981), CA

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LSA

LEGEND

Project Boundary

0 60 120
FEET

SOURCE: LSA UAS Program (2019)

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FIGURE 2
Sheet 1 of 2

City of Agoura Hills Project

UAS Aerial and Project Boundary

LSA

LEGEND

Project Boundary

N

0 60 120
FEET

SOURCE: LSA UAS Program (2019)

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FIGURE 2
Sheet 2 of 2

City of Agoura Hills Project

UAS Aerial and Project Boundary

LSA

LEGEND

Project Boundary

SamplePoints

CDFW

Medea Creek (1.57 ac)

Palo Comado Creek (1.04 ac)

USACE

Non-wetland Waters, Medea Creek (0.64 ac)

Non-wetland Waters, Palo Comado Creek (1.04 ac)

0 60 120
FEET

SOURCE: Google (2018)

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FIGURE 3
Sheet 1 of 2

Agoura Hills Project

Jurisdictional Waters

LSA

LEGEND

Project Boundary

SamplePoints

CDFW

Medea Creek (1.57 ac)

Palo Comado Creek (1.04 ac)

USACE

Non-wetland Waters, Medea Creek (0.64 ac)

Non-wetland Waters, Palo Comado Creek (1.04 ac)

0 60 120
FEET

SOURCE: Google (2018)

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FIGURE 3
Sheet 2 of 2

Agoura Hills Project

Jurisdictional Waters

Photograph 1. Terminus of concrete lined channel in Medea Creek, facing northeast.

Photograph 2. Rip rap pad within Medea Creek, facing north.

Photograph 3. View of rip rap terminus into Medea Creek, facing southwest.

Photograph 4. Close up of Sample Point 1 location below rip rap outflow, facing south.

Photograph 5. Naturalized section of Medea Creek with deeply incised banks, facing northwest.

Photograph 6. Close up of Sample Point 2 location within Medea Creek, facing northeast.

APPENDIX B

WETLAND DETERMINATION DATA FORMS

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: CWE1901 - Medea Creek Stormwater Project | City/County: Agoura Hills/Los Angeles | Sampling Date: October 7, 2019

Applicant/Owner: City of Agoura Hills | State: CA | Sampling Point: 1

Investigator(s): Anthony Greco | Section, Township, Range: S18, T7N, R13W

Landform (hillslope, terrace, etc.): Valley bottom | Local relief (concave, convex, none): concave | Slope (%): 30-75%

Subregion (LRR): C - Mediterranean California | Lat: 34.141912 | Long: -118.7593573 | Datum: NAD83

Soil Map Unit Name: 170 - Cotharin clay loam, 202 - Fluvaquents-Riverwash complex | NWI classification: PFOA

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

Are Vegetation [ ] Soil [ ] or Hydrology [ ] significantly disturbed? Are "Normal Circumstances" present? Yes (●) No ( )

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

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

Hydrophytic Vegetation Present?	Yes (●)	No ( )	
Hydric Soil Present?	Yes ( )	No (●)	**Is the Sampled Area within a Wetland?** Yes ( ) No (●)
Wetland Hydrology Present?	Yes (●)	No ( )	

Remarks:

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Quercus lobata*	30	Yes	FACU
2. *Salix lasiolepis*	30	Yes	FACW
3.			
4.			
Total Cover:	60 %		
Sapling/Shrub Stratum			
1. *Salix lasiolepis*	10	Yes	FACW
2. *Typha domingensis*	10	Yes	OBL
3.			
4.			
5.			
Total Cover:	20 %		
Herb Stratum			
1. *Rumex crispus*	40	Yes	FACW
2. *Nasturtium officinale*	40	Yes	OBL
3. *Ambrosia artemisiifolia*	15	Yes	FACU
4. *Cyperus eragrostis*	5	No	FACW
5.			
6.			
7.			
8.			
Total Cover:	100%		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

% Bare Ground in Herb Stratum 0 % | % Cover of Biotic Crust %

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 7 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 71.4 % (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	50	x 1 =	50
FACW species	85	x 2 =	170
FAC species		x 3 =	0
FACU species	45	x 4 =	180
UPL species		x 5 =	0
Column Totals:	180 (A)		400 (B)

Prevalence Index = B/A = 2.22

Hydrophytic Vegetation Indicators:

- [x] Dominance Test is >50%
- [x] Prevalence Index is ≤3.0[1]
- [ ] Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- [ ] Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes (●) No ( )

Remarks:

SOIL

Sampling Point: 1

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture[3]	Remarks
0-16	2.5Y 3/2	100					sandy loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

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

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

Indicators for Problematic Hydric Soils:[4]

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

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? Yes ○ No ●

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

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

Secondary Indicators (2 or more required)

- ☒ Water Marks (B1) (**Riverine**)
- ☒ Sediment Deposits (B2) (**Riverine**)
- ☒ Drift Deposits (B3) (**Riverine**)
- ☒ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☒ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ○ No ○ Depth (inches):

Water Table Present? Yes ● No ○ Depth (inches):

Saturation Present? (includes capillary fringe) Yes ○ No ○ Depth (inches):

Wetland Hydrology Present? Yes ● No ○

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

Remarks: Hydrogen sulfide odor detected in run-off from developed portion of channel. Not detected in naturalized portion of channel or soil sample.

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: CWE1901 - Medea Creek Stormwater Project | City/County: Agoura Hills/Los Angeles | Sampling Date: October 7, 2019

Applicant/Owner: City of Agoura Hills | State: CA | Sampling Point: 2

Investigator(s): Anthony Greco | Section, Township, Range: S18, T7N, R13W

Landform (hillslope, terrace, etc.): Valley bottom | Local relief (concave, convex, none): concave | Slope (%): 30-75%

Subregion (LRR): C - Mediterranean California | Lat: 34.1419128 | Long: -118.7594854 | Datum: NAD83

Soil Map Unit Name: 170 - Cotharin clay loam, 202 - Fluvaquents-Riverwash complex | NWI classification: PFOA

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

Are Vegetation [ ] Soil [ ] or Hydrology [ ] significantly disturbed? Are "Normal Circumstances" present? Yes (●) No ( )

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

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

Hydrophytic Vegetation Present?	Yes (●)	No ( )	
Hydric Soil Present?	Yes ( )	No (●)	**Is the Sampled Area within a Wetland?** Yes ( ) No (●)
Wetland Hydrology Present?	Yes (●)	No ( )	

Remarks:

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Salix lasiolepis*	50	Yes	FACU
2. *Quercus agrifolia*	20	Yes	UPL
3. *Washingtonia robusta*	10	No	UPL
4.			
Total Cover:	80 %		
Sapling/Shrub Stratum			
1. *Salix lasiolepis*	50	Yes	FACW
2. *Typha domingensis*	40	Yes	OBL
3. *Ricinus communis*	10	No	FACU
4.			
5.			
Total Cover:	100%		
Herb Stratum			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
Total Cover:	%		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

% Bare Ground in Herb Stratum 0 % | % Cover of Biotic Crust %

Dominance Test worksheet:

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

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50.0 % (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	40	x 1 =	40
FACW species	50	x 2 =	100
FAC species		x 3 =	0
FACU species	60	x 4 =	240
UPL species	30	x 5 =	150
Column Totals:	180 (A)		530 (B)

Prevalence Index = B/A = 2.94

Hydrophytic Vegetation Indicators:

- [ ] Dominance Test is >50%
- [x] Prevalence Index is ≤3.0[1]
- [ ] Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- [ ] Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes (●) No ( )

Remarks:

SOIL

Sampling Point: 2

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture[3]	Remarks
0-18	2.5Y 3/2	100					sandy loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

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

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

Indicators for Problematic Hydric Soils:[4]

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

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? Yes ○ No ●

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

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

Secondary Indicators (2 or more required)

- ☒ Water Marks (B1) (**Riverine**)
- ☐ Sediment Deposits (B2) (**Riverine**)
- ☒ Drift Deposits (B3) (**Riverine**)
- ☒ Drainage Patterns (B10)
- ☒ Dry-Season Water Table (C2)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ● No ○ Depth (inches): 6-8

Water Table Present? Yes ● No ○ Depth (inches): 8

Saturation Present? (includes capillary fringe) Yes ○ No ○ Depth (inches):

Wetland Hydrology Present? Yes ● No ○

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

Remarks: Surface water present in deeply incised channel on edge of sample plot.