Appendix F: Plant Species Observed within the Biological Study Area

Scientific Name	Common Name
Adoxaceae	
Sambucus nigra ssp. caerulea	Blue Elderberry
Amaranthaceae	
**Amaranthus albus*	Tumbleweed
Anacardiaceae	
Malosma laurina	Laurel Sumac
Rhus ovata	Sugar bush
**Schinus molle*	Pepper Tree
Apocynaceae	
Funastrum cynanchoides var. *hartwegii*	Fringed twinevine
Arecaceae	
Washingtonia robusta	Mexican Fan Palm
Asteraceae	
Ambrosia acanthicarpa	Annual burrweed
Artemisia californica	Coastal sage brush
Artemisia dracunculus	Tarragon
Baccharis salicina	Willow baccharis
Bebbia juncea var. *aspera*	sweet-bush
**Centaurea melitensis*	Tocalote
†*Centromadia pungens* ssp. *laevis*	Smooth tarplant
Encelia farinosa	Brittlebush
Ericameria pinifolia	Pine-bush
Erigeron canadensis	Canada horseweed
Gutierrezia californica	California matchweed
Hazardia squarrosa	Saw toothed goldenbush
Helianthus annuus	Hairy leaved sunflower
Isocoma menziesii	Coastal Goldenbush
**Lactuca serriola*	Prickly lettuce
Lepidospartum squamatum	California Broomsage
Malacothrix saxatilis	Cliff aster
Oncosiphon piluliferum	Stinknet
Pluchea sericea	Arrow-weed
Rafinesquia californica	California chicory
**Sonchus asper* ssp. *asper*	Spiny sowthistle
**Sonchus oleraceus*	Sow thistle
Stephanomeria exigua	Small wirelettuce
Stephanomeria virgata	Rod Wirelettuce
Tetradymia comosa	Cotton thorn
Bignoniaceae	
Chilopsis linearis ssp. *arcuata*	Desert willow
Boraginaceae	
Amsinckia intermedia	Fiddleneck
Emmenanthe penduliflora	Whispering bells

Eucrypta chrysanthemifolia	Spotted eucrypta
Heliotropium curassavicum var. *oculatum*	Chinese parsley
Phacelia cicutaria	Caterpillar phacelia
Brassicaceae	
**Brassica nigra*	Black mustard
**Hirschfeldia incana*	Mustard
**Hornungia procumbens*	Prostrate hutchinsia
**Lepidium didymum*	Lesser Swine Cress
**Lepidium latifolium*	Perennial pepperweed
**Sisymbrium altissimum*	Tumble mustard
Cactaceae	
Cylindropuntia californica var. *parkeri*	Valley cholla
Opuntia phaeacantha	Brown spined prickly pear
Chenopodiaceae	
Atriplex canescens	Hoary saltbush
**Bassia hyssopifolia*	Five horn bassia
**Dysphania botrys*	Jerusalem oak
**Kochia scoparia*	Common red sage
**Salsola tragus*	Russian thistle
Suaeda nigra	Bush seepweed
Convolvulaceae	
Cressa truxillensis	Alkali weed
Cucurbitaceae	
Marah macrocarpa	Chilicothe
Euphorbiaceae	
Croton setiger	Turkey-mullein
**Euphorbia melanadenia*	Red-gland spurge
**Ricinus communis*	Castor bean
Stillingia linearifolia	Narrow leaved stillingia
Fabaceae	
Acmispon glaber var. *brevialatus*	Short winged deerweed
Astragalus pomonensis	Pomona locoweed
Lupinus sp.	Lupine
**Melilotus indicus*	Sourclover
**Parkinsonia aculeata*	Jerusalem thorn
Prosopis glandulosa var. *torreyana*	Honey mesquite
Frankeniaceae	
Frankenia salina	Yerba reuma, alkali heath
Geraniaceae	
**Erodium cicutarium*	Coastal heron's bill
Juncaceae	
Juncus sp.	Rush
Lamiaceae	
Salvia apiana	White sage
Salvia columbarae	Chia

Salvia mellifera	Black sage
Malvaceae	
Malacothamnus fasciculatus	Chaparral bush mallow
**Malva parviflora*	Cheeseweed, Little Mallow
Malvella leprosa	Alkali mallow
Myrtaceae	
**Eucalyptus* sp.	Gum
Nyctaginaceae	
Mirabilis laevis	Desert wishbone bush
Onagraceae	
Eulobus californicus	California primrose
Plantaginaceae	
Plantago erecta	Dot-seed plantain
Poaceae	
**Avena barbata*	Slim oat
**Avena fatua*	Wildoats
**Bromus diandrus*	Ripgut brome
**Bromus madritensis* ssp. *rubens*	Foxtail brome
Distichlis spicata	Salt Grass
**Festuca perennis*	Italian rye grass
**Hordeum murinum ssp. leporinum*	Foxtail barley
**Phalaris paradoxa*	Sunolgrass
**Polypogon monspeliensis*	Rabbitfoot Grass
**Schismus barbatus*	Old han schismus
Polygonaceae	
Eriogonum fasciculatum var. *polifolium*	California buckwheat
Ranunculaceae	
Delphinium parryi	San Bernardino larkspur
Salicaceae	
Salix gooddingii	Gooding's willow
Solanaceae	
Datura wrightii	Jimsonweed
**Nicotiana glauca*	Tree tobacco
Nicotiana obtusifolia	Desert Tobacco
Tamaricaceae	
**Tamarix aphylla*	Athel
**Tamarix ramosissima*	Saltcedar
Themidaceae	
Dichelostemma capitatum	Blue dicks
Urticaceae	
Urtica dioica	Stinging Nettle

* Nonnative species
† Special-status plant species

Appendix G Wildlife Species Observed within the Biological Study Area

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Appendix G: Wildlife Species Observed within the Biological Study Area

Scientific Name	Common Name	Special Status
VERTEBRATES		
Reptiles		
Phrynosomatidae - Spiny Lizard Family		
Sceloporus occidentalis	Western Fence Lizard	
Uta stansburiana elegans	Western Side-blotched Lizard	
Viperidae - Viper and Pitviper Family		
Crotalus oreganus helleri	Southern Pacific Rattlesnake	
Birds		
Odontophoridae - New World Quail Family		
Callipepla californica	California Quail	
Ardeidae - Heron Family		
Ardea alba	Great Egret	
Cathartidae - New World Vulture Family		
Cathartes aura	Turkey Vulture	
Accipitridae - Hawk Family		
Elanus leucurus	White-tailed Kite	CFP
Circus hudsonius	Northern Harrier	CSC
Accipiter cooperii	Cooper's Hawk	
Buteo swainsoni	Swainson's Hawk	ST
Buteo jamaicensis	Red-tailed Hawk	
Buteo regalis	Ferruginous Hawk	
Charadriidae - Plover Family		
Charadrius vociferus	Killdeer	
Laridae - Gull and Tern Family		
Larus californicus	California Gull	
Columbidae - Pigeon and Dove Family		
**Columba livia*	Rock Pigeon	
**Streptopelia decaocto*	Eurasian Collared-Dove	
Zenaida macroura	Mourning Dove	
Cuculidae - Cuckoo and Roadrunner Family		
Geococcyx californianus	Greater Roadrunner	
Strigidae - Typical Owl Family		
Athene cunicularia	Burrowing Owl	CSC
Trochilidae - Hummingbird Family		
Calypte anna	Anna's Hummingbird	

Scientific Name	Common Name	Special Status
Selasphorus sasin	Allen's Hummingbird	
Picidae - Woodpecker Family		
Picoides nuttallii	Nuttall's Woodpecker	
Colaptes auratus	Northern Flicker	
Falconidae - Falcon Family		
Falco sparverius	American Kestrel	
Tyrannidae - Tyrant Flycatcher Family		
Sayornis nigricans	Black Phoebe	
Sayornis saya	Say's Phoebe	
Tyrannus verticalis	Western Kingbird	
Laniidae - Shrike Family		
Lanius ludovicianus	Loggerhead Shrike	CSC
Corvidae - Jay and Crow Family		
Corvus brachyrhynchos	American Crow	
Corvus corax	Common Raven	
Hirundinidae - Swallow Family		
Tachycineta bicolor	Tree Swallow	
Tachycineta thalassina	Violet-green Swallow	
Aegithalidae - Bushtit Family		
Psaltriparus minimus	Bushtit	
Troglodytidae - Wren Family		
Salpinctes obsoletus	Rock Wren	
Troglodytes aedon	House Wren	
Cistothorus palustris	Marsh Wren	
Thryomanes bewickii	Bewick's Wren	
Polioptilidae - Gnatcatcher Family		
Polioptila caerulea	Blue-gray Gnatcatcher	
Polioptila californica	California Gnatcatcher	FT, CSC
Turdidae - Thrush Family		
Catharus guttatus	Hermit Thrush	
Mimidae - Thrasher Family		
Toxostoma redivivum	California Thrasher	
Oreoscoptes montanus	Sage Thrasher	
Sturnidae - Starling Family		
**Sturnus vulgaris*	European Starling	

Scientific Name	Common Name	Special Status
Parulidae - Wood-Warbler Family		
Setophaga petechia	Yellow Warbler	CSC
Emberizidae - Sparrow Family		
Pipilo maculatus	Spotted Towhee	
Melozone crissalis	California Towhee	
Chondestes grammacus	Lark Sparrow	
Passerculus sandwichensis	Savannah Sparrow	
Melospiza melodia	Song Sparrow	
Melospiza lincolnii	Lincoln's Sparrow	
Icteridae - Blackbird, Cowbird and Oriole Family		
Agelaius phoeniceus	Red-winged Blackbird	
Agelaius tricolor	Tricolored Blackbird	CSC
Sturnella neglecta	Western Meadowlark	
Euphagus cyanocephalus	Brewer's Blackbird	
Quiscalus mexicanus	Great-tailed Grackle	
Icterus cucullatus	Hooded Oriole	
Fringillidae - Finch Family		
Haemorhous mexicanus	House Finch	
Carduelis psaltria	Lesser Goldfinch	
Passeridae - Old World Sparrow Family		
**Passer domesticus*	House Sparrow	
Mammals		
Leporidae - Hare and Rabbit Family		
Sylvilagus audubonii	Desert Cottontail	
Sciuridae - Squirrel Family		
Ostospermophilus beecheyi	California Ground Squirrel	
Geomyidae - Pocket Gopher Family		
Thomomys bottae	Botta's Pocket Gopher	
Heteromyidae - Heteromyid Family		
Dipodomys simulans	Dulzura Kangaroo Rat	
Muridae - Mouse, Rat, and Vole Family		
Peromyscus fraterculus	Baja Mouse	
Peromyscus maniculatus	Deer Mouse	
Neotoma lepida intermedia	San Diego Desert Woodrat	CSC
**Rattus norvegicus*	Norway Rat	
**Mus musculus*	House Mouse	

Scientific Name	Common Name	Special Status
Canidae - Canid Family		
Canis latrans	Coyote	

Legend

*= Non-native or invasive species

Special Status:

Federal:
FE = Endangered
FT = Threatened

State:
SE = Endangered
ST =Threatened
CSC = California Species of Special Concern
CFP = California Fully Protected Species

Appendix H Jurisdictional Delineation

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Gilman Springs Median and Shoulder Improvements Project

Jurisdictional Delineation Report

Delineation of Federal and State Jurisdictional Water Resources
Unincorporated Riverside County, California

08-RIV-Gilman Springs Road

Federal Project Number: HSIPL-5956(263)

March 2021

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Gilman Springs Median and Shoulder Improvements Project

Jurisdictional Delineation Report

Delineation of Federal and State Jurisdictional Water Resources
Unincorporated Riverside County, California

08-RIV-Gilman Springs Road

Federal Project Number: HSIPL-5956(263)

Prepared By: _____ Date: March 27, 2021

Paul Schwartz, Senior Biologist
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Local Assistance- Environmental Support
California Department of Transportation, District 8

February 2021

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Contents

Acronyms and Abbreviations

Caltrans	California Department of Transportation
CDFW	California Department of Fish and Wildlife
CFR	Code of Federal Regulations
County	Riverside County Transportation Department
CWA	Clean Water Act
EPA	Environmental Protection Agency
FAC	Facultative
FACU	Facultative Upland
FACW	Facultative Wetland
FEMA	Federal Emergency Management Agency
FTIP	Federal Transportation Improvement Program
GIS	geographic information system
GPS	global positioning system
HU	hydrologic unit
JD	Jurisdictional Determination
NESMI	Natural Environment Study - Minimal Impacts
OBL	Obligate
OHWM	Ordinary High Water Mark
Porter-Cologne Act	Porter-Cologne Water Quality Control Act
project	Cable Creek Routine Maintenance Project
RGL	Regulatory Guidance Letter
RPWs	relatively permanent waters
RWQCB	Regional Water Quality Control Board
SCAG	Southern California Association of Government's
SSURGO	Soil Survey Geographic
SWANCC	Solid Waste Agency of Northern Cook County
SWRCB	State Water Resources Control Board

TNW	Traditional navigable water
UPL	Upland
USACE	U.S. Army Corps of Engineers
USGS	U.S. Geological Survey
WoS	Waters of the State
WoUS	Waters of the United States

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Chapter 1
Introduction

In December 2017 and February 2018, ICF conducted a delineation of jurisdictional waters and wetlands for the Riverside County Transportation Department (County), in cooperation with the California Department of Transportation (Caltrans). This was done as part of the federal and state regulatory permitting processes for the Gilman Springs Median and Shoulder Improvements Project (Project) plus an additional 100-foot buffer (Study Area).

The purpose of this report, and associated delineation, is to identify the extent of potential federal and state jurisdiction within and adjacent to the project site for verification by the resource agencies to support the federal Clean Water Act (CWA) Sections 401 and 404 (33 U.S.C. §1251 et seq. [1972]), Section 13260 of the Porter-Cologne Water Quality Control Act (Porter-Cologne Act), and Section 1600 et seq. of the California Fish and Game Code. Section 404 of the CWA regulates the discharge of dredged or fill material to waters of the United States (WoUS) as well as federal wetlands and is administered by the U.S. Army Corps of Engineers (USACE). Pursuant to Section 401 of the CWA, issuance/authorization of a 404 permit requires certification from the state in which the discharge originates. In this case, the Santa Ana Regional Water Quality Control Board (RWQCB) issues the certification on behalf of the State Water Resources Control Board (SWRCB). The RWQCB/SWRCB may also regulate discharge of waste (i.e., clean fill material) to non-federal waters and wetlands (e.g., isolated features) under the Porter-Cologne Act. Section 1600 et seq. of the California Fish and Game Code is administered by the California Department of Fish and Wildlife (CDFW). If a proposed project would result in the discharge of fill to WoUS and/or waters of the State (WoS), or result in modification of streambed or bank, permits for the proposed activity must be sought from each applicable resource agency. Details regarding each of these resource agencies as well as their regulatory authority, jurisdiction, permits, and regulatory processes are provided in Chapter 2, Regulatory Background.

All features observed within the study area were delineated with the understanding that a request for a Preliminary JD would be submitted to USACE for the project. As such, all features exhibiting indicators of an OHWM were assumed to be jurisdictional WoUS, which are subject to regulation by the USACE under Section 404 of the CWA and the RWQCB under Section 401 of the CWA. Landscape features not exhibiting an Ordinary High Water Mark (OHWM) or other sign of "ordinary" flow (i.e. swales) were not considered to be subject to regulation by the USACE and the RWQCB.

Based on the investigation and analysis documented in this report, CWA jurisdictional resources within the study area are determined to be approximately 1.066 acres (6,376 linear feet) of non-wetland WoUS and 0.059 acre (90 linear feet) of wetland WoUS. Approximately 3.599 acres (5,855 linear feet) of un-vegetated streambed subject to CDFW jurisdiction and 0.840 acre (945 linear feet) of CDFW jurisdictional riparian vegetation were observed within the study area. The proposed project is anticipated to result in discharge of fill to WoUS and modification of streambed and bank. A detailed project description, including a quantitative description of anticipated project impacts, will be included in the project Natural Environment Study – Minimal Impacts (NESMI).

The information and results presented herein document the investigation, best professional judgment, and conclusions of ICF. It is correct and complete to the best of our knowledge. However,

all jurisdictional determinations should be considered preliminary until reviewed and approved by the regulatory agencies who have final discretionary authority over jurisdictional limits.

1.1 Project Location and Description

The project is located along the existing Gilman Springs Road within the City of Moreno Valley and Unincorporated Riverside County, California (Figures 1 and 2, Appendix A). The project is within the jurisdiction of Caltrans District 8, which encompasses Riverside and San Bernardino Counties. The northern portion of the project occurs within T 3S, R 2W, Sections 21, 22, 26, and 27 of El Casco United States Geological Survey (USGS) 7.5-Minutes topographic quadrangle. The southern portion of the project occurs within T 3S, R 2W and R 1W, Sections 31 and 36 of Lakeview USGS 7.5-Minute topographic quadrangle (USGS 1967).

The proposed project is located on Gilman Springs Road from approximately 1.3 miles north of Jack Rabbit Trail to approximately one mile south of Bridge Street. The proposed project would reconstruct the existing roadway to a configuration that includes 5-foot outside shoulders with rumble strips and a 12-foot lane in each direction, a 4-foot double yellow striped median with impact resistant channelizers and rumble strips in the median, and a 5-foot graded shoulder within the project limits. The project would also include one approximately 6,900-foot long passing lane in the northbound direction from approximately 1,350 feet north of Bridge Street to approximately 1,200 feet north of Eden Springs. Additionally, the project would replace the existing reinforced concrete box culvert near the Gilman Springs Road intersection with Bridge Street with a single-span concrete slab bridge that would be used to create a wildlife crossing. An eight-foot high wildlife fence, which would also extend an additional two feet below grade, would be installed at the same location and jumpouts would be integrated into the fencing to allow wildlife to escape from the right of way. Three retaining walls, approximately 10 to 16 feet high and approximately 100 to 320 feet long, are proposed to prevent grading into an adjacent channel.

The work would include vegetation and tree removal, grading along adjacent properties, reconstructing driveway and street tie-ins, and other associated work as needed. The existing culvert crossings and drainage structures would be extended and/or reconstructed. Traffic devices such as striping, reflective markers and signage would be relocated to the new roadway configuration. Lighting systems would be added for intersections at Kennedy Hills Materials, Eden Hot Springs Road/Central Avenue, and Jack Rabbit Trail/Curtis Street/Knoch Road.

Utility relocations and adjustments would be made to power poles, gas valves, and any other utilities determined to be present. Any affected utilities shall be relocated in accordance with State law and regulations and County policies. Permanent acquisition of right of way, along with temporary construction easements, are expected to be necessary at various locations along the project.

The proposed project is included in Southern California Association of Government's (SCAG) 2017 financially constrained Federal Transportation Improvement Program (FTIP) as project ID FTIP No. SCAG015. This project ID is for grouped projects for safety improvements. Within that listing the proposed project has the unique project ID H8-08-021.

Chapter 2
Regulatory Background

This chapter summarizes the regulations imposed on each type of jurisdictional feature potentially present within the study area.

2.1 U.S. Army Corps of Engineers Regulated Activities

Pursuant to Section 404 of the CWA, USACE regulates the discharge (temporary or permanent) of dredged or fill material into WoUS, including wetlands. A discharge of fill material includes, but is not limited to, grading, placing riprap for erosion control, pouring concrete, and stockpiling excavated material into WoUS. Activities that generally do not involve a regulated discharge (if performed specifically in a manner to avoid discharges) include driving pilings, performing certain drainage channel maintenance activities, constructing temporary mining and farm/forest roads, and excavating without stockpiling.

2.1.1 Waters of the United States

On January 23, 2020, EPA and USACE signed and released the prepublication notice of the Navigable Waters Protection Rule, redefining WoUS (33 CFR 328). The Navigable Waters Protection Rule and revised definition of WoUS went into effect on June 23, 2020. The Navigable Waters Protection Rule outlines four clear categories of waters that are considered waters of the United States:

(1) Territorial seas and traditional navigable waters (TNWs);

(2) Tributaries to TNWs that are perennial or intermittent;

(3) Lakes, ponds, and impoundments of jurisdictional water; and

(4) Adjacent wetlands.

The Navigable Waters Protection Rule also identified those waters that are not considered WoUS, which include:

(1) Waters or water features that are not identified in paragraph (a)(1), (2), (3), or (4) of this section;

(2) Groundwater, including groundwater drained through subsurface drainage systems;

(3) Ephemeral features, including ephemeral streams, swales, gullies, rills, and pools;

(4) Diffuse stormwater run-off and directional sheet flow over upland;

(5) Ditches that are not waters identified in paragraph (a)(1) or (2) of this section, and those portions of ditches constructed in waters identified in paragraph (a)(4) of this section that do not satisfy the conditions of paragraph (c)(1) of this section;

(6) Prior converted cropland;

(7) Artificially irrigated areas, including fields flooded for agricultural production, that would revert to upland should application of irrigation water to that area cease;

(8) Artificial lakes and ponds, including water storage reservoirs and farm, irrigation, stock watering, and log cleaning ponds, constructed or excavated in upland or in non-jurisdictional waters, so long as those artificial lakes and ponds are not impoundments of jurisdictional waters that meet the conditions of paragraph (c)(6) of this section;

(9) Water-filled depressions constructed or excavated in upland or in non-jurisdictional waters incidental to mining or construction activity, and pits excavated in upland or in non-jurisdictional waters for the purpose of obtaining fill, sand, or gravel;

(10) Stormwater control features constructed or excavated in upland or in non-jurisdictional waters to convey, treat, infiltrate, or store stormwater run-off; and

(11) Waste treatment systems.

2.1.1.1 Wetlands

Normally, three criteria must be satisfied to classify an area as a federal jurisdictional wetland: (1) a predominance of plant life that is adapted to life in wet conditions (hydrophytic vegetation); (2) soils that saturate, flood, or pond long enough during the growing season to develop anaerobic conditions in the upper part (hydric soils); and (3) permanent or periodic inundation or soils saturation, at least seasonally (wetland hydrology) (Environmental Laboratory 1987).

2.1.1.2 Approved Jurisdictional Determinations

An Approved JD is an official USACE jurisdictional determination, is valid for 5 years, can be used and relied upon in a CWA citizen's lawsuit if its legitimacy is challenged (except under extraordinary circumstances), and can be immediately appealed (33 CFR 331). Approved JDs are documented in accordance with Regulatory Guidance Letter (RGL) No. 16-01 and require the use of the Approved JD Form. Approved JDs are evaluated by USACE. An Approved JD is required to confirm the absence of jurisdictional waters or wetlands.

2.1.1.3 Preliminary Jurisdictional Determinations

USACE issued RGL No. 16-01 in October 2016, allowing USACE to issue Preliminary JDs for a project. A Preliminary JD is a non-binding written indication that there may be WoUS, including wetlands, on a project site and identifies the approximate location of these features. Preliminary JDs are used when a landowner, permit applicant, or other affected party elects to voluntarily waive or set aside questions regarding CWA jurisdiction over a particular site, usually in the interest of allowing the landowner to move ahead expeditiously to obtain Section 404 authorization where the party determines that it is in his or her best interest to do so. A Preliminary JD is not an official determination regarding the jurisdictional status of potentially jurisdictional features and has no bearing on Approved JDs. A Preliminary JD cannot be used to confirm the absence of jurisdictional waters or wetlands, is advisory in nature, and cannot be appealed. It is considered "preliminary" because a recipient can later request an Approved JD if one is necessary or appropriate.

A Preliminary JD is documented using the Preliminary JD Form. For purposes of impact calculations, compensatory mitigation requirements, and other resource protection measures, a permit decision made on the basis of a Preliminary JD treats all waters and wetlands that would be affected in any way, except by the permitted activity, as if they are jurisdictional.

2.2 State Regulated Activities

2.2.1 Section 401 of the Clean Water Act

A federal permit or license cannot be issued that may result in a discharge to WoUS unless certification under Section 401 of the CWA is granted or waived by the EPA, state, or tribe where the discharge would originate (EPA 2010). Within the proposed project area, the ability to grant, grant with conditions, deny, or waive certification falls to three separate parties: RWQCB or SWRCB, and EPA.

Pursuant to Section 401 of the CWA:

> ...any applicant for a federal permit for activities that involve a discharge to WoUS shall provide the federal permitting agency a certification from the state in which the discharge is proposed that states that the discharge will comply with the applicable provisions under the federal CWA.

Therefore, before USACE will issue a Section 404 permit, applicants must apply for and receive a Section 401 water quality certification or waiver, as applicable. Under Section 401 of the CWA, all activities that are regulated at the federal level by USACE are also regulated at the state level. Therefore, state jurisdiction usually includes all waters or tributaries to waters that are determined to be WoUS and, similar to WoUS, are typically delineated at the OHWM.

However, if waters are determined not to be WoUS, they may still be subject to state jurisdiction based on the Porter-Cologne Act.

2.2.2 Porter-Cologne Water Quality Control Act

The state also regulates activities that would involve "discharging waste, or proposing to discharge waste, within any region that could affect waters of the state" (California Water Code 13260(a)), pursuant to provisions of the Porter-Cologne Water Quality Control Act. WoS are defined as "any surface water or groundwater, including saline waters, within the boundaries of the state" (California Water Code 13050(e)). Such waters may include waters not subject to regulation under Section 404 (i.e., isolated features). These waters may include isolated vernal pools, isolated wetlands, or other aquatic habitats not normally subject to federal regulation under Section 404 of the CWA.

2.2.3 State Water Resources Control Board/Regional Water Quality Control Boards

In California, SWRCB and nine RWQCBs regulate activities within state and federal waters under Section 401 of the CWA and the Porter-Cologne Water Quality Control Act. SWRCB is responsible for setting statewide policy, coordinating and supporting RWQCB efforts, and reviewing petitions that contest RWQCB actions. Each RWQCB is semi-autonomous and has the authority to set water quality standards, issue Section 401 certifications and waste discharge requirements, and take enforcement action for projects occurring within its boundary. However, when a project crosses multiple RWQCB jurisdictional boundaries, SWRCB becomes the regulating agency and issues project permits.

2.3 California Department of Fish and Wildlife Regulated Activities

Pursuant to Sections 1600–1616 of the California Fish and Game Code, CDFW regulates any activity that will substantially divert or obstruct the natural flow—or substantially change or use any material from the bed, channel, or bank—of any river, stream, or lake. CDFW also regulates any activity that will deposit or dispose of debris, wastewater, or other material containing crumbled, flaked, or ground pavement that may pass into any river, stream, or lake. The applicant must notify CDFW prior to such activities and obtain a Lake or Streambed Alteration Agreement.

2.3.1 California Department of Fish and Wildlife Jurisdiction Pursuant to Section 1602 of the California Fish and Game Code

CDFW has jurisdiction over rivers, lakes and streams (California Fish and Game Code §1600 et seq.; California Code of Regulations, Title 14, §720). Section 1602 of the California Fish and Game Code applies to natural rivers, streams, and lakes:

> *An entity may not substantially divert or obstruct the natural flow of, or substantially change or use any material from the bed, channel, or bank of, any river, stream, or lake, or deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it may pass into any river, stream, or lake.*

CDFW defines a stream as "a body of water that flows perennially or episodically and that is defined by the area in which water currently flows, or has flowed, over a given course during the historic hydrologic course regime, and where the width of its course can reasonably be identified by physical or biological indicators" (Brady and Vyverberg 2014). CDFW regulates wetland areas only to the extent that those wetlands are part of a stream, river, or lake as defined by the CDFW.

The California Fish and Game Code mandates that:

> ...it is unlawful for any person to substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake designated by the department, or use any material from the streambeds, without first notifying the Department of such activity.

Historical court cases have further extended CDFW jurisdiction to include watercourses that seemingly disappear but re-emerge elsewhere. Under the CDFW definition, a watercourse need not exhibit evidence of an OHWM to be claimed as jurisdictional.

Water features such as vernal pools and other seasonal swales—where the defined bed and bank are absent, and the feature is not contiguous or closely adjacent to other jurisdictional features—are generally not asserted to fall within state jurisdiction under Section 1602. CDFW generally does not assert jurisdiction over human-made water bodies unless they are located where such natural features were previously located or (importantly) where they are contiguous with existing or prior natural jurisdictional areas.

Chapter 3
Methodology

3.1 Project Research

The project Jurisdictional Delineation study area was developed through combining the proposed permanent impact areas (i.e., limit of disturbance) and buffering by 100 feet. The 100-foot buffer was selected as an appropriate buffer considering the project scope, adjacent land use, and potential jurisdictional resources that may be impacted by the proposed project. Prior to conducting field delineations, aerial photographs of the study area in various scales were obtained and compared with U.S. Geological Survey (USGS) 7.5-minute El Casco, California (USGS 1967) and Lakeview, California (USGS 1967) topographic quadrangles to identify drainage features within the study area as indicated by vegetation types, topographic changes, and/or visible drainage patterns. The *National Hydrography Dataset* data for the study area (USGS 2017) and the *National Wetlands Inventory* (USFWS 2017) were referenced to identify any mapped features such as streams and wetlands. Finally, the study area was carefully reviewed in *Google Earth* (Google Earth 2017) in various scales, and potentially jurisdictional features were reviewed.

In addition, the U.S. Department of Agriculture, Natural Resources Conservation Service *Soil Survey Geographic (SSURGO) Database* (USDA/NRCS 2006) was reviewed to identify the soil series that occur in the study area.

3.2 Field Investigation

The field investigation was conducted by Paul Schwartz, Dennis Miller, and Marissa Maggio on December 27, 2017 and February 8, 2018. During the field efforts, the study area was surveyed on foot and jurisdictional limits were recorded using a global positioning system (GPS) unit with an external receiver that provided sub-meter accuracy where access was possible. If no access was possible, then jurisdictional features were viewed from the nearest accessible vantage point where possible and delineated on aerial photographs and digitized in a geographic information system (GIS). Common plant species observed were identified by visual characteristics and morphology in the field. Taxonomic nomenclature for plants follows the *Jepson Manual: Vascular Plants of California*, 2nd edition (Baldwin et al. 2012) and *Arid West 2016 Regional Wetland Plant List* (Lichvar et al. 2016).

3.2.1 U.S. Army Corps of Engineers Jurisdiction

Potential WoUS and wetlands were delineated using methods established in the *Wetland Delineation Manual* (Environmental Laboratory 1987), the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* (USACE 2008a), *A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States* (USACE 2008b), 2007/2008 *Rapanos* Guidance (USACE and EPA 2007, 2008), *Draft Guidance on Identifying Waters Protected by the Clean Water Act* (USACE/EPA 2011), and the Navigable Waters Protection Rule (USACE/EPA 2020). Non-wetland waters were delineated based on the presence of OHWM

indicators. At each evaluation area, several parameters were considered to determine whether the sample point was within a wetland. Three criteria normally must be fulfilled in order to classify an area as a jurisdictional USACE wetland: (1) a predominance of hydrophytic vegetation; (2) the presence of hydric soils; and (3) the presence of wetland hydrology. Details of the application of these criteria are provided below.

- **Hydrophytic Vegetation:** Hydrophytic vegetation is present when the plant community is dominated by species that can tolerate prolonged inundation or soil saturation during the growing season (USACE 2008a). The following definitions are used by USACE to define the likelihood of a specific plant species tolerating prolonged inundation or soil saturation during the growing season (Lichvar et al. 2012).
    - Obligate (OBL): Almost always occurs in wetlands
    - Facultative Wetland (FACW): Usually occurs in wetlands, nut may occur in non-wetlands
    - Facultative (FAC): Occurs in wetlands and non-wetlands
    - Facultative Upland (FACU): Usually occurs in non-wetlands, nut may occur in wetlands
    - Upland (UPL): Almost never occurs in wetlands

    The presence of hydrophytic vegetation is determined by either the dominance test or the prevalence test. The dominance test addresses dominant species in the community being sampled and is satisfied at a location if more than 50 percent of all the dominant species present within the community have a wetland indicator status of OBL, FACW, or FAC (Environmental Laboratory 1987). The prevalence test addresses all species in the community being sampled and is a weighted average wetland indicator status of all species where each indicator status is given a numeric code (OBL = 1, FACW = 2, FAC = 3, FACU = 4, UPL = 5), and weighting is by absolute percent cover. A prevalence index of 3.0 or less indicates that hydrophytic vegetation is present. The wetland indicator status used for the field efforts follows the *Arid West 2016 Regional Wetland Plant List* (Lichvar et al. 2016).
- **Hydric Soils:** The definition of a hydric soil is a soil that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part (USDA/NRCS 1994). This determination is made based on various field indicators detailed in the *Arid West Supplement* (USACE 2008a).
- **Wetland Hydrology:** Wetland hydrology is determined using indicators of inundation or saturation (flooding, ponding, or tidally influenced) detailed in the *Wetland Delineation Manual* (Environmental Laboratory 1987) and the *Arid West Supplement* (USACE 2008a).

Where appropriate and where access was possible, a soil pit was dug to examine soil color and texture. Paired soil pits were dug where the wetland boundary was not abrupt. Wetland data forms are attached as Appendix C, which includes areas where soil pit examinations were conducted and where soils were assumed hydric (i.e., in areas where access was not possible).

3.2.2 State Jurisdiction

Evaluation of state jurisdiction followed guidance from Section 401 of the CWA and typically follows the same jurisdictional areas as USACE. In addition, the study area was evaluated for resources potentially regulated under the Porter-Cologne Act (i.e., isolated features).

3.2.3 California Department of Fish and Wildlife Jurisdiction

CDFW jurisdiction typically includes water features with a defined bed and bank. Evaluation of potentially jurisdictional areas followed the guidance of relevant standard practices by CDFW personnel. CDFW jurisdiction was delineated by mapping the outer width and length boundaries of potentially jurisdictional areas, consisting of the greater of either the top of bank measurement or the extent of associated riparian vegetation.

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Chapter 4
Environmental Setting

This chapter describes the vegetation, topography, land use, hydrology, and soils associated with the study area.

4.1 Vegetation

Vegetation communities in the study area were mapped using the California Manual of Vegetation (Sawyer, Keeler-Wolfe, and Evans 2009) and modified where needed. Vegetation community types mapped within the study area are described below.

4.1.1 Developed

Developed land cover exists throughout the study area in several forms including paved or dirt roadways with associated road shoulders, paved or dirt parking lots, agricultural lands and associated buildings, cattle lots, vacant fields, commercial buildings, and ornamental woodlands. Commonly occurring trees and shrubs associated with these areas included Mexican fan palm (*Washingtonia robusta,* FACW), Peruvian pepper tree (*Schinus molle,* FACU), Jerusalem thorn (*Parkinsonia aculeata,* FAC), saltcedar (*Tamarix ramosissima*, FAC), athel (*Tamarix aphylla,* FAC), eucalyptus (*Eucalyptus* sp., UPL), pine (*Pinus* sp., UPL), and honey mesquite (*Prosopis glandulosa.* FACU). Several ruderal herbaceous plant species associated with these areas included stinknet (*Oncosiphon piluliferum,* FACU), Russian thistle (*Salsola tragus*, FACU), short podded mustard (*Hirschfeldia incana*, UPL), fiddleneck (*Amsinckia intermedia,* UPL), slim oat (*Avena barbata*, UPL), hairy leaved sunflower (*Helianthus annuus*, FACU), and prickly lettuce (*Lactuca serriola*, FACU).

4.1.2 Disturbed

The disturbed vegetation is found throughout the study area, especially adjacent to developed areas and roadways. These areas are dominated by bare ground and disturbance tolerant plant species. Plant species in these areas included stinknet, Russian thistle, short podded mustard, fiddleneck, barley (*Hordeum* sp., FAC), ripgut brome (*Bromus diandrus*, UPL), foxtail brome (*Bromus madritensis* ssp. *Rubens*, UPL), alkali weed (*Cressa truxillensis*, FACW), hairy leaved sunflower, five horn bassia (*Bassia hyssopifolia*, FACU), fourwing saltbush (*Atriplex canescens*, UPL), prickly lettuce, slim oat, and annual burrweed (*Ambrosia acanthicarpa*, UPL).

4.1.3 Willow Baccharis Scrub

Willow baccharis scrub is found in the northern portion of the study area. The willow baccharis scrub vegetation community is co-dominated by willow baccharis (*Baccharis salicina*, FAC) and fourwing saltbush. Other shrubs found in this community included brittlebush (*Encelia farinosa*, UPL), tree tobacco (*Nicotiana glauca*, FAC), Jerusalem thorn, blue elderberry (*Sambucus nigra* ssp. *caerulea*, FACU), pinebush (*Ericameria pinifolia*, UPL), and five horn bassia. Dominant herbaceous species included stinknet, Russian thistle, alkali weed, short podded mustard, hairy leaved sunflower, fiddleneck, prickly lettuce, annual burrweed, and salt heliotrope (*Heliotropium*

curassavicum var. *oculatum*, FACU). Dominant grasses included barley, slim oat, and salt grass (*Distichlis spicata*, FAC).

4.1.4 Fourwing Saltbush Scrub

Fourwing saltbush scrub is found throughout the southern portion of the study area. The fourwing saltbush scrub vegetation community is dominated by fourwing saltbush. Other woody shrubs included California sagebrush (*Artemisia californica*, UPL), brittlebush, Jerusalem thorn, and tree tobacco. Dominant herbaceous species included stinknet, short podded mustard, Russian thistle, hairy leaved sunflower, fiddleneck, and prickly lettuce. Dominant grasses included barley and slim oat.

4.1.5 Disturbed Fourwing Saltbush Scrub

Disturbed fourwing saltbush scrub is found throughout the southern portion of the study area. The disturbed fourwing saltbush scrub community is dominated by the same species as the fourwing saltbush scrub, but with more invasive species and less woody native species.

4.1.6 Desert Willow Woodland

Desert willow woodland is located west of Olive Avenue in the study area. The desert willow woodland vegetation community is dominated by desert willow (*Chilopsis linearis*, FAC). Other woody shrubs included fourwing saltbush, castor bean (*Ricinus communis*, FACU), and Jerusalem thorn. Dominant herbaceous species included stinknet, short podded mustard, and Russian thistle.

4.1.7 Black Willow Thicket

Black willow thicket is found in the northern portion of the study area. The black willow thicket vegetation community is dominated by black willow (*Salix gooddingii*, FACW) and other willow species (*Salix sp.*, FACW). Other woody shrubs included saltcedar and mule fat (*Baccharis salicifolia*, FAC). Dominant herbaceous species found included short podded mustard, Russian thistle, and fiddleneck.

4.1.8 Mule Fat Thicket

Mule fat thicket is found in the central portion of the study area. The mule fat thicket vegetation community is dominated by mule fat and the occasional black willow. Dominant herbaceous species found here included stinknet, Russian thistle, and fiddleneck. The dominant grass was barley.

4.1.9 Brittle Bush Scrub

Brittle bush scrub is found throughout the southern portion of the study area. The brittle bush scrub vegetation community is dominated by brittlebush. Other woody shrubs included California buckwheat (*Eriogonum fasciculatum*, UPL), California sagebrush, laurel sumac (*Malosma laurina*, UPL), white sage (*Salvia apiana*, UPL), fourwing saltbush, California cholla (*Cylindropuntia californica*, UPL), coastal prickly pear (*Opuntia littoralis*, UPL), and inland scrub oak (*Quercus berberidifolia*, UPL). Dominant herbaceous species included stinknet, Russian thistle, short podded

mustard, fiddleneck, and prickly lettuce. Dominant grasses included barley, ripgut brome, foxtail brome, and slim oat.

4.1.10 Disturbed Brittle Bush Scrub

Disturbed brittle bush scrub is found in the southern portion of the study area. The disturbed brittle bush scrub vegetation community is dominated by the same species as the disturbed brittle bush scrub, but with more invasive species and less woody native species.

4.1.11 Scale Broom Scrub

Scale broom scrub is found in the southern portion of the study area. The scale broom scrub vegetation community is co-dominated by California broomsage (*Lepidospartum squamatum*, FACU) and brittlebush. Other woody shrubs included California buckwheat, California sagebrush, laurel sumac, white sage, and fourwing saltbush. Dominant herbaceous species found here included stinknet, Russian thistle, short podded mustard, fiddleneck, and prickly lettuce. The dominant grass was slim oat.

4.1.12 Non-native Grassland

Non-native grassland is found in the central portion of the study area. The non-native grassland vegetation community is co-dominated by barley, ripgut brome, and foxtail brome. Slim oat is also supported, but less frequently. This community also supports other herbaceous species including Russian thistle, fiddleneck, prickly lettuce, short podded mustard, and stinknet.

4.1.13 Tamarisk Thicket

Tamarisk thicket is found in the central portion of the study area. The tamarisk thicket vegetation community is characterized by dense stands dominated with saltcedar and athel.

4.1.14 Mesquite Thicket

Mesquite thickets are infrequent within the BSA. The mesquite thicket vegetation community is characterized by dense stands dominated by honey mesquite.

4.2 Topography

The study area is located within the El Casco and Lakeview, California USGS 7.5-Minute topographic quadrangles between 1,430 and 1,560 feet above mean sea level. The topography within the study area consists of foothills associated with the “Badlands” to the north and east of the study area and relatively flat lands to the south and west of the project associated with the ephemeral Mystic Lake and various agricultural practices. Various drainage features originate from the badlands and drain toward Gilman Springs Road, south across Gilman Springs Road through culverts, then toward Mystic Lake or the San Jacinto River. Many of the features in the study area lack an OHWM and/or bed and bank within the study area, or only have OHWM and bed and bank within a portion of the study area. Figure 3 depicts the USGS topographic data for the study area, the Federal Emergency

Management Agency (FEMA) mapped 100-year floodplain, the USFWS National Wetlands Inventory, and the National Hydrography Data Set.

4.3 Land Use

Nearly all of the project lies within or adjacent to the Western Riverside County Multiple Species Habitat Conservation Plan's Conservation Area, with varying land uses throughout. South of Bridge Street much of the project borders agricultural land to the southwest, with many of the soils tilled and cleared of large vegetation for agricultural use with limited areas of residential housing and areas of fencing for livestock. Land to the northwest (north of Bridge Street) is CDFW preserve land associated with the San Jacinto Wildlife Area. This area is managed by CDFW for public use and is critical in particular to waterfowl, wading birds, and wildlife that otherwise favors marshes, particularly with the associated duck ponds and the large Mystic Lake, whose upper limits when fully inundated come within approximately 0.2 mile of the project but is outside of any areas that would be directly impacted by it. Land to the northeast is open space lands and a defunct golf course, and land to the southeast is comprised mostly of Riverside Conservation Authority lands.

4.4 Hydrology

4.4.1 Precipitation

Average annual precipitation in Beaumont, located approximately 5.4 miles northeast of the central portion of the project is provided below in Table 4-1. The table summarizes the monthly precipitation for the project area from 1981 – 2015, 2016, and 2017. The jurisdictional delineation was conducted following sufficient seasonal rainfall that enabled low flow and OHWM identification. A second site visit was conducted on February 8, 2018 approximately one month after a large storm event.

Table 4-1. Rainfall Data Summary for Project Area (inches)

Ontario International Airport, CA													
Year	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Total**
1981 – 2015 Mean	3.25	3.51	3.18	1.09	0.60	0.18	0.33	0.29	0.57	0.65	1.40	2.04	18.35
2016	3.64	0.61	1.61	2.00	0.80	0.00	0.00	0.00	0.05	0.33	1.60	4.51	15.15
2017	8.56	2.99	0.31	0.00	0.35	0.00	0.01	0.01	0.00	0.00	0.00	0.00	12.23

*Data source: National Weather Service, Beaumont 1 E Station. Available: http://w2.weather.gov/climate/xmacis.php?wfo=sgx. Accessed: December 2017.

4.4.2 Hydrologic Unit

The study area is located within the San Jacinto watershed 8-digit hydrologic unit code (HUC), which covers 780 square miles and drains into the Santa Ana River and eventually into the Pacific Ocean (Figure 4 in Appendix A). The study area also occurs within the Middle San Jacinto River 10-digit HUC

(Figure 4 in Appendix A). The watershed contains several lakes and reservoirs including Lake Elsinore, Canyon Lake, Lake Perris, and Mystic Lake. Major tributaries in the watershed are San Jacinto River, Bautista Creek, Strawberry Creek, Fuller Mill Creek, Canyon Creek, Stone Creek, Salt Creek, Poppet Creek and Potrero Creek. The headwaters of the HUC 8 San Jacinto watershed originate in the San Jacinto Mountains, and pass through Riverside and Orange counties before emptying into the Pacific Ocean.

4.5 Soils

Soils in the study area consist of clays, loams, and sands ranging from silty clay to loamy sand. Soil series mapped within the study area include Badland, Chino, Friant, Gravel Pits, Greenfield, Hanford, Metz, Riverwash, San Emigdio, San Timoteo, Vista, and Willows (USDA/NRCS 2006).

4.5.1 Badland

No soil series description is provided by NRCS (2006) for this soil series. It occurs in various locations throughout the study area. This series is not considered a hydric soil (USDA/NRCS 2015).

4.5.2 Chino Series

The Chino soils are in basins and flood plains at elevations of near sea level to 3,100 feet. This soil series is characterized by poorly to somewhat poorly drained soils. Within the study area, these soils are classified as Chino silt loam, drained and Chino silt loam, drained, saline-alkali. This soil map unit occurs in the southern portion of the study area at a stretch of the road that is close to Mystic Lake and are not considered hydric by NRCS (USDA/NRCS 2015).

4.5.3 Friant Series

The Friant soils occur on hilly and mountainous landscapes at elevations of 500 to 3,500 feet. The Friant series consist of soils that are well drained with medium to rapid runoff and moderately rapid permeability. Within the study area, these soils are classified as Friant rocky fine sandy loam, 25 to 50 percent slopes, eroded. This series occurs in the southern portion of the study area, south of the intersection of Gilman Springs Road and Bridge Street. This soil map unit is considered a hydric soil (USDA/NRCS 2015).

4.5.4 Gravel Pits

No soil series description is provided by NRCS (2006) for this soil series. It occurs in the central portion of the study area north of the intersection of Gilman Springs Road and Jack Rabbit Trail. This series is not considered a hydric soil (USDA/NRCS 2015).

4.5.5 Greenfield Series

The Greenfield series consists of deep, well drained soils that formed in moderately coarse and coarse textured alluvium derived from granitic and mixed rock sources. Greenfield soils are on alluvial fans and terraces at elevations of 100 to 3,500 feet with slopes ranging from 0 to 30 percent. They are well drained with slow to medium runoff and moderately rapid permeability. Within the

study area, these soils are classified as Greenfield sandy loam, 8 to 15 percent slopes, eroded. This series is located in the southern portion of the study area. The Greenfield sandy loam, 8 to 15 percent slopes, eroded map unit is not classified as hydric by NRCS (USDA/NRCS 2015).

4.5.6 Hanford Series

The Hanford soils are on stream bottoms, floodplains, and alluvial fans at elevations of 150 to 3,500 feet. Slopes range from 0 to 15 percent. The soils formed in deep, moderately coarse textured alluvium dominantly from granite and other quartz bearing rocks of similar texture. This series is well drained with negligible to low runoff and moderately rapid permeability. Within the study area, these soils are classified as Hanford coarse sandy loam, 2 to 8 percent slopes and Hanford coarse sandy loam, 8 to 15 percent slopes, eroded. This soil series is located at the southern portion of the study area south of the intersection of Gilman Springs Road and Bridge Road. The soil series is associated with alluvial fans and is not considered a hydric soil (USDA/NRCS 2015).

4.5.7 Metz Series

The Metz series consists of very deep, somewhat excessively drained soils that formed in alluvial material from mixed, but dominantly sedimentary rocks. Metz soils are on floodplains and alluvial fans and have slopes of 0 to 15 percent. This series is somewhat excessively drained with negligible to low runoff and moderately rapid permeability. Within the study area, these soils are classified as Metz loamy sand, 2 to 8 percent slopes and Metz gravelly sandy loam, 2 to 15 percent slopes. This soil series occurs in the middle and southern portion of the study area. These map units are not considered to be a hydric soil (USDA/NRCS 2015).

4.5.8 Riverwash

No soil series description is provided by NRCS (2006) for this soil series. It occurs in the central portion of the study area north of the intersection of Gilman Springs Road and Jack Rabbit Trail. This series is not considered a hydric soil (USDA/NRCS 2015). Riverwash is considered hydric when in association with floodplains and depressions.

4.5.9 San Emigdio Series

The San Emigdio series consists of very deep, well drained soils that formed in dominantly sedimentary alluvium. San Emigdio soils are on fans and floodplains and have slopes of 0 to 15 percent. This series is well drained with negligible to low runoff and moderately rapid permeability. Within the study area, these soils are classified as San Emigdio fine sandy loam, 2 to 8 percent slopes, eroded, San Emigdio fine sandy loam, 8 to 15 percent slopes, eroded, San Emigdio loam, 2 to 8 percent slopes, and San Emigdio loam, 8 to 15 percent slopes, eroded. This soil series occurs throughout the study area. These map units are not considered to be a hydric soil (USDA/NRCS 2015).

4.5.10 San Timoteo Series

The San Timoteo series consists of moderately deep, well to somewhat excessively drained soils formed in material weathered from shale, sandstone, and calcified weathered granite. San Timoteo soils are on uplands and have slopes of 2 to 75 percent. This series is somewhat excessively drained

with very low to medium runoff and moderately rapid permeability. Within the study area, these soils are classified as San Timoteo loam, 8 to 25 percent slopes, eroded. These soils occur mostly in the northern portion of the study area with a few small patches in the southern end. These map units are not considered to be a hydric soil (USDA/NRCS 2015).

4.5.11 Vista Series

The Vista series consists of moderately deep, well drained soils that formed in material weathered from decomposed granitic rocks. Vista soils are on hills and mountainous uplands and have slopes of 2 to 85 percent. Within the study area, these soils are classified as Vista rocky coarse sandy loam, 2 to 35 percent slopes, eroded. Within the study area this soil type is a small percentage of the total soil mosaic and are only found at the very south end of the boundary. These map units are not considered to be a hydric soil (USDA/NRCS 2015).

4.5.12 Willows Series

The Willows series consists of very deep, poorly drained sodic soils formed in alluvium from mixed rock sources. Willows soils are in basins with slopes ranging from 0 to 2 percent. This series is poorly drained with slow runoff and very slow permeability. Within the study area, these soils are classified as Willows silty clay. This soil series occurs in the middle portion of the study area on the south side of Gilman Springs Road at a location where the reaches of Mystic Lake are closest to the road. These map units are not considered to be a hydric soil (USDA/NRCS 2015).

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Chapter 5
Jurisdictional Delineation Results

This chapter documents existing conditions and describes the delineated features within the study area. An impact analysis is not included as a part of this report; impacts on potential jurisdictional aquatic features are included in the project's NESMI.

The information and results included herein document the investigation, best professional judgment, and conclusions of ICF. It is correct and complete to the best of our knowledge. However, all jurisdictional determinations should be considered preliminary until reviewed and approved by the regulatory agencies.

Figures 6 and 7 in Appendix A depict the results of the federal and state jurisdictional delineations, respectively. Site photographs are provided in Appendix B, wetland determination data forms and ordinary high water mark data forms are provided in Appendix C, and a list of all plants observed in the study area is included in Appendix D.

5.1 Delineated Features

The majority of the drainage features observed within the study area originate from the foothills located north and east of Gilman Springs Road. These drainage features traverse south and west before entering the relatively flat agricultural areas or the dry Mystic Lake area where many features cease to exhibit indicators of OHWM and/or bed and bank. A large number of swales were observed in the study area, some of which were not apparent on aerial imagery and existed only on the north and east side of Gilman Springs Road but not south and west of Gilman Springs Road. However, the majority of these swales appeared to be well defined features just upslope, or north and east of the study area, and then lose indicators of OHWM and bed and bank as they enter or pass through the study area. The abundance of these types of low conveyance features with relatively small watersheds, and the presence of many culverts, suggests the need for storm water conveyance. Features associated with culverts were noted and mapped regardless of the presence of OHWM and/or bed and bank. Table 5-1 describes the types of features mapped in the study area.

Table 5-1. Study Area Feature Types

Feature Type	Description
Swale Without Culvert	These features lack a discernable OHWM and/or bed and bank, are located only on one side of Gilman Springs Road and DO NOT HAVE an associated culvert crossing. These features were determined to not be jurisdictional due to the lack of OHWM and/or bed and bank. These features are depicted on USACE/RWQCB Jurisdictional Delineation Results Maps as a hashed pink line but are not discussed further in this report.
Swale With Culvert	These features have historic indicators of flow but lack a discernable OHWM and/or bed and bank within the study area, are located on both sides of Gilman Springs Road and DO HAVE an associated culvert crossing. These features were determined to not be jurisdictional due to the lack of OHWM and/or bed and bank but were mapped as the presence of the culvert indicated some level of "non-ordinary" flow. These features are depicted on USACE/RWQCB Jurisdictional Delineation Results Maps as a hashed pink line and are described further below.
Potential Jurisdictional Feature	These features have a discernable OHWM and/or bed and bank throughout or within a portion of the study area or meet wetland criteria (Feature 4). With the exception of Feature 4, these features DO HAVE an associated culvert crossing. These features are depicted on USACE/RWQCB Jurisdictional Delineation Results Maps and are described further below.

A total of four "Swale With Culvert" features were delineated within the study area and a total of 19 "Potential Jurisdictional Features" were delineated in the study area. Potential jurisdictional acreages and linear feet totals, as well as a brief summary of each feature is provided in Table 5-2. All potential USACE/RWQCB and CDFW jurisdictional areas are depicted on Figures 6 and 7 (Appendix A), respectively.

Table 5-2. Summary of Potential USACE, RWQCB, and CDFW Jurisdiction

			USACE/RWQCB		CDFW	
Feature Number	**Feature Type**	**Feature Notes**	**Non-Wetland WoUS (acres/ linear feet)**	**Wetland WoUS (acres/ linear feet)**	**Unvegetated Streambed (acres/ linear feet)**	**Riparian (acres/ linear feet)**
Feature 1	Potential Jurisdictional Feature	Ephemeral earthen drainage (Ordinary High Water Mark [OHWM]=4', Top of Bank [TOB]=12'). Not depicted on the El Casco USGS topographic map (USGS 1967). Supports stands of mule fat (*Baccharis salicifolia*, FAC), palo verde (*Parkinsonia acuelata*, FAC), alkali heath (*Frankenia salina*, FACW), summer mustard (*Hirschfeldia incana*, UPL), and stinknet (*Oncosiphon piluliferum*, FACU). Crosses Gilman Springs Road (GSR) via a single 36" culvert. Depicted on sheet 2 of Figures 6 and 7, Appendix A. Photos 1-4, Appendix B.	0.045/491	---/---	0.111/382	0.036/109
Feature 2	Potential Jurisdictional Feature	Ephemeral concrete drainage north of GSR (OHWM=1', TOB=3'). Earthen swale south of GSR. Not depicted on the El Casco USGS topographic map (USGS 1967). Supports a large black willow (*Salix goodingii*, FACW) stand south of GSR, other vegetation includes summer mustard (*Hirschfeldia incana*, UPL), and stinknet (*Oncosiphon piluliferum*, FACU). Crosses GSR via three 36" culverts. Depicted on sheet 2 of Figures 6 and 7, Appendix A. Photos 5-8, Appendix B.	0.008/349	---/---	0.024/349	0.365/216
Feature 3	Potential Jurisdictional Feature	Ephemeral rip-rap drainage on north side of GSR (OHWM=15', TOB=50'). Earthen drainage on south side of GSR (OHWM=3' to 12', TOB=20' to 85'). Not depicted on the El Casco USGS topographic map (USGS 1967). Supports desert willow (*Chilopsis linearis*, FACW), palo verde (*Parkinsonia acuelata*, FAC), tamarisk (*Tamarisk aphylla*, FAC), alkali heath (*Frankenia salina*, FACW), California buckwheat (*Eriogonum fasciculatum*, UPL), scalebroom (*Lepidospartum squamatum*, FACU), Russian thistle (*Salsola tragus*, FACU), rip-gut brome (*Bromus diandrus*, UPL). Crosses GSR via an 8'x15' box culvert. Depicted on sheet 3 and 4 of Figures 6 and 7, Appendix A. Photos 9-13, Appendix B.	0.491/1,973	---/---	2.480/1,608	0.266/391
Feature 4	Potential Jurisdictional Wetland Feature	Perennial earthen wetland feature (0.059-acre) originating from farm/agricultural nuisance flow south of GSR. Not depicted on the El Casco USGS topographic map (USGS 1967). Supports cat-tail (*Typha domingensis*, OBL), alkali heath (*Frankenia salina*, FACW), alkali mallow (*Malvella leprosa*, FACU), annual sunflower (*Helianthus annuus*, FACU), rabbit's foot grass (*Polypogon monospeliensis*, FACW), dense-flowered sprangletop (*Diplachne fusca*, FACW). Depicted on sheet 5 of Figures 6 and 7, Appendix A. Photos 15 and 16, Appendix B.	---/---	0.059/90	---/---	0.059/90
Feature 5	Swale with Culvert – Non Jurisdictional	Ephemeral earthen swale not exhibiting OHWM and/or bed and bank both north and south of GSR within the study area. Not associated with adjacent Feature 4. Shown as intermittent blue line feature north of GSR and not depicted south of GSR on El Casco USGS topographic map (USGS 1967). Supports summer mustard (*Hirschfeldia incana*, UPL), and Russian thistle (*Salsola tragus*, FACU). Crosses GSR via six 36" culverts. Depicted on sheet 5 of Figures 6 and 7, Appendix A. Photo 17, Appendix B.	---/---	---/---	---/---	---/---
Feature 6	Potential Jurisdictional Feature	Ephemeral earthen drainage north of GSR (OHWM=8' to 12', TOB 12' to 18'). Earthen drainage south of GSR (OHWM=4' to 12', TOB=8' to 18') before turning to swale. Shown as intermittent blue line feature north of GSR and not depicted south of GSR on El Casco USGS topographic map (USGS 1967). Supports desert willow (*Chilopsis linearis*, FACW), palo verde (*Parkinsonia acuelata*, FAC), four-winged saltbush (*Atriplex canescens*, UPL), summer mustard (*Hirschfeldia incana*, UPL), and Russian thistle (*Salsola tragus*, FACU). Crosses GSR via six 48" culverts. Depicted on sheet 6 of Figures 6 and 7, Appendix A. Photos 18-20, Appendix B.	0.238/1,194	---/---	0.355/1,155	0.017/37
Feature 7	Potential Jurisdictional Feature	Ephemeral earthen swale not exhibiting OHWM and/or bed and bank north of GSR. Earthen drainage south of GSR (OHWM=3' to 6', TOB=4' to 12') before turning to swale. Not depicted on the El Casco USGS topographic map (USGS 1967). Supports brittlebrush (*Encelia californica*, UPL), four-winged saltbush (*Atriplex canescens*, UPL), summer mustard (*Hirschfeldia incana*, UPL), and Russian thistle (*Salsola tragus*, FACU). Crosses GSR via four 36" culverts. Depicted on sheet 7 of Figures 6 and 7, Appendix A. Photos 21 and 22, Appendix B.	0.010/38	---/---	0.014/38	---/---
Feature 7A	Potential Jurisdictional Feature	Earthen feature that drains GSR and conveys flows to culvert associated with Feature 7 on south side of GSR (OHWM 3' to 6', TOB 4' to 12'). Not depicted on the El Casco USGS topographic map (USGS 1967). Supports four-winged saltbush (*Atriplex canescens*, UPL), summer mustard (*Hirschfeldia incana*, UPL), and Russian thistle (*Salsola tragus*, FACU). Does not cross GSR. Depicted on sheet 7 of Figures 6 and 7, Appendix A. Photo 23, Appendix B.	0.026/262	---/---	0.045/262	---/---

			USACE/RWQCB		CDFW	
Feature Number	Feature Type	Feature Notes	Non-Wetland WoUS (acres/ linear feet)	Wetland WoUS (acres/ linear feet)	Unvegetated Streambed (acres/ linear feet)	Riparian (acres/ linear feet)
Feature 8	Swale with Culvert – Non Jurisdictional	Ephemeral swale feature not exhibiting OHWM and/or bed and bank both north and south of GSR within the study area. Not depicted on the El Casco USGS topographic map (USGS 1967). Supports four-winged saltbush (*Atriplex canescens*, UPL), summer mustard (*Hirschfeldia incana*, UPL), palo verde (*Parkinsonia acuelata*, FAC), and Russian thistle (*Salsola tragus*, FACU). Crosses GSR via five 36" culverts. Depicted on sheet 7 of Figures 6 and 7, Appendix A. Photos 25-27, Appendix B.	---/---	---/---	---/---	---/---
Feature 9	Potential Jurisdictional Feature	Ephemeral earthen drainage north of GSR (OHWM=3' to 10', TOB 6' to 20'). Earthen drainage south of GSR (OHWM=10', TOB=20') before turning to swale. Depicted as intermittent blue line feature north of GSR and not depicted south of GSR on El Casco USGS topographic map (USGS 1967). Supports palo verde (*Parkinsonia acuelata*, FAC), four-winged saltbush (*Atriplex canescens*, UPL), summer mustard (*Hirschfeldia incana*, UPL), and Russian thistle (*Salsola tragus*, FACU). Crosses GSR via two 36" culverts. Depicted on sheet 7 of Figures 6 and 7, Appendix A. Photos 28 and 29, Appendix B.	0.043/314	---/---	0.082/314	---/---
Feature 10	Potential Jurisdictional Feature	Ephemeral swale feature north of GSR (OHWM=2', TOB=6') that turns to swale. Swale feature not exhibiting OHWM and/or bed and bank south of GSR. Not depicted on the El Casco USGS topographic map (USGS 1967). Supports four-winged saltbush (*Atriplex canescens*, UPL), summer mustard (*Hirschfeldia incana*, UPL), Russian thistle (*Salsola tragus*, FACU), and non-native brome grasses (*Bromus* sp., UPL). Crosses GSR via two 36" culverts. Depicted on sheet 8 of Figures 6 and 7, Appendix A. Photo 30, Appendix B.	0.001/18	---/---	0.002/18	---/---
Feature 11	Potential Jurisdictional Feature	Ephemeral earthen feature north of GSR (OHWM=3', TOB=16') that turns to swale. Swale feature not exhibiting OHWM and/or bed and bank south of GSR. Not depicted on the Lakeview USGS topographic map (USGS 1967). Supports doveweed (*Croton setigerus*, UPL), wild oats (*Avena* sp., UPL), summer mustard (*Hirschfeldia incana*, UPL), Russian thistle (*Salsola tragus*, FACU), and non-native brome grasses (*Bromus* sp., UPL). Crosses GSR via a single 24" culvert. Depicted on sheet 8 of Figures 6 and 7, Appendix A. Photo 31, Appendix B.	0.001/20	---/---	0.007/20	---/---
Feature 12	Swale with Culvert – Non Jurisdictional	Ephemeral swale feature not exhibiting OHWM and/or bed and bank both north and south of GSR in the study area. Not depicted on the Lakeview USGS topographic map (USGS 1967). Supports four-winged saltbush (*Atriplex canescens*, UPL), summer mustard (*Hirschfeldia incana*, UPL), Russian thistle (*Salsola tragus*, FACU), wild oats (*Avena* sp., UPL), and non-native brome grasses (*Bromus* sp., UPL). Crosses GSR via a single 36" culvert. Depicted on sheet 8 of Figures 6 and 7, Appendix A. Photo 32, Appendix B.	---/---	---/---	---/---	---/---
Feature 13	Swale with Culvert – Non Jurisdictional	Ephemeral swale feature not exhibiting OHWM and/or bed and bank both north and south of GSR in the study area. Not depicted on the Lakeview USGS topographic map (USGS 1967). Supports summer mustard (*Hirschfeldia incana*, UPL), Russian thistle (*Salsola tragus*, FACU), wild oats (*Avena* sp., UPL), and non-native brome grasses (*Bromus* sp., UPL). Crosses GSR via a single 24" culvert. Depicted on sheet 8 of Figures 6 and 7, Appendix A. Photo 33, Appendix B.	---/---	---/---	---/---	---/---
Feature 14	Potential Jurisdictional Feature	Ephemeral earthen drainage north of GSR (OHWM=3', TOB 8'). Earthen drainage south of GSR (OHWM=3, TOB=6) before turning to swale. Not depicted on the Lakeview USGS topographic map (USGS 1967). Supports four-winged saltbush (*Atriplex canescens*, UPL), summer mustard (*Hirschfeldia incana*, UPL), Russian thistle (*Salsola tragus*, FACU), wild oats (*Avena* sp., UPL) and non-native brome grasses (*Bromus* sp., UPL). Crosses GSR via a single 24" culvert. Depicted on sheet 8 and 9 of Figures 6 and 7, Appendix A. Photo 34, Appendix B.	0.016/231	---/---	0.040/231	---/---
Feature 15	Potential Jurisdictional Feature	Ephemeral swale feature not exhibiting OHWM and/or bed and bank north of GSR. Earthen drainage south of GSR (OHWM=3, TOB=6) before turning to swale. Not depicted on the Lakeview USGS topographic map (USGS 1967). Supports summer mustard (*Hirschfeldia incana*, UPL), Russian thistle (*Salsola tragus*, FACU), wild oats (*Avena* sp., UPL) and non-native brome grasses (*Bromus* sp., UPL). Crosses GSR via a single 24" culvert. Depicted on sheet 9 of Figures 6 and 7, Appendix A. Photo 35, Appendix B.	0.002/27	---/---	0.004/27	---/---
Feature 16	Potential Jurisdictional Feature	Ephemeral earthen feature north of GSR (OHWM=4', TOB=6') which turns to swale before meeting GSR. Swale feature not exhibiting OHWM and/or bed and bank south of GSR. Not depicted on the Lakeview USGS topographic map (USGS 1967). Supports four-winged saltbush (*Atriplex canescens*, UPL), doveweed (*Croton setigerus*, UPL), wild oats (*Avena* sp., UPL), summer mustard (*Hirschfeldia incana*, UPL), Russian thistle (*Salsola tragus*, FACU), and non-native brome grasses (*Bromus* sp., UPL). Crosses GSR via a single 24" culvert. Depicted on sheet 9 of Figures 6 and 7, Appendix A. Photo 36, Appendix B.	0.009/101	---/---	0.014/101	---/---

			USACE/RWQCB		CDFW	
Feature Number	**Feature Type**	**Feature Notes**	**Non-Wetland WoUS (acres/ linear feet)**	**Wetland WoUS (acres/ linear feet)**	**Unvegetated Streambed (acres/ linear feet)**	**Riparian (acres/ linear feet)**
Feature 17	Potential Jurisdictional Feature	Ephemeral earthen drainage north of GSR (OHWM=5' to 12', TOB 12' to 46'). Earthen drainage south of GSR (OHWM=6' to 12', TOB=15' to 46'). Depicted as intermittent blue line feature on the Lakeview USGS topographic map (USGS 1967). Supports four-winged saltbush (*Atriplex canescens*, UPL), brittlebrush (*Encelia 5-5arinose*, UPL), arrow-weed (*Pluchea sericea*, FACW), summer mustard (*Hirschfeldia incana*, UPL), Russian thistle (*Salsola tragus*, FACU), wild oats (*Avena* sp., UPL) and non-native brome grasses (*Bromus* sp., UPL). Crosses GSR via a single 6' X 12' box culvert. Depicted on sheet 9 of Figures 6 and 7, Appendix A. Photo 37 and 38, Appendix B.	0.053/334	---/---	0.231/334	---/---
Feature 18	Potential Jurisdictional Feature	Ephemeral swale that turns to earthen drainage north of GSR (OHWM=20', TOB=20'). Earthen drainage south of GSR (OHWM=2' to 10', TOB=2' to 20') that turns to swale. Not depicted on the Lakeview USGS topographic map (USGS 1967). Supports four-winged saltbush (*Atriplex canescens*, UPL), arrow-weed (*Pluchea sericea*, FACW), summer mustard (*Hirschfeldia incana*, UPL), Russian thistle (*Salsola tragus*, FACU), wild oats (*Avena* sp., UPL) and non-native brome grasses (*Bromus* sp., UPL). Crosses GSR via a double 48" box culvert. Depicted on sheet 9 and 10 of Figures 6 and 7, Appendix A. Photos 39-42, Appendix B.	0.026/161	---/---	0.033/152	0.097/102
Feature 19	Potential Jurisdictional Feature	Ephemeral swale that turns to earthen drainage north of GSR (OHWM=3', TOB 8'). Earthen drainage south of GSR (OHWM=3' to 10', TOB=6' to 12') that turns to swale. Depicted as intermittent blue line feature on the Lakeview USGS topographic map (USGS 1967) north of study area. Supports summer mustard (*Hirschfeldia incana*, UPL), Russian thistle (*Salsola tragus*, FACU), wild oats (*Avena* sp., UPL) and non-native brome grasses (*Bromus* sp., UPL). Crosses GSR via three 36" culverts. Depicted on sheet 10 of Figures 6 and 7, Appendix A. Photos 44-46, Appendix B.	0.054/516	---/---	0.088/516	---/---
Feature 20	Potential Jurisdictional Feature	Ephemeral swale that turns to earthen drainage north of GSR (OHWM=1' to 2', TOB=3' to 12'). Earthen man-made drainage south of GSR (OHWM=9', TOB=10'). Depicted as intermittent blue line feature on the Lakeview USGS topographic map (USGS 1967) north of study area but not within the study area. Supports four-winged saltbush (*Atriplex canescens*, UPL), summer mustard (*Hirschfeldia incana*, UPL), Russian thistle (*Salsola tragus*, FACU), wild oats (*Avena* sp., UPL) and non-native brome grasses (*Bromus* sp., UPL). Crosses GSR via three 36" culverts. Depicted on sheet 11 of Figures 6 and 7, Appendix A. Photos 47-48, Appendix B.	0.035/292	---/---	0.063/292	---/---
Feature 21	Potential Jurisdictional Feature	Ephemeral swale feature not exhibiting OHWM and/or bed and bank both north and south of GSR. Not depicted on the Lakeview USGS topographic map (USGS 1967). Supports summer mustard (*Hirschfeldia incana*, UPL), Russian thistle (*Salsola tragus*, FACU), wild oats (*Avena* sp., UPL), and non-native brome grasses (*Bromus* sp., UPL). Crosses GSR via three 36" culverts. Depicted on sheet 11 of Figures 6 and 7, Appendix A. Photos 49 and 50, Appendix B.	0.003/15	---/---	0.003/15	---/---
Feature 22	Potential Jurisdictional Feature	Ephemeral earthen drainage (OHWM=3', TOB=3') before turning to swale north of GSR. No feature south of GSR and not associated with a culvert. Not depicted on the Lakeview USGS topographic map (USGS 1967). Supports summer mustard (*Hirschfeldia incana*, UPL), Russian thistle (*Salsola tragus*, FACW), wild oats (*Avena* sp., UPL), and non-native brome grasses (*Bromus* sp., UPL). Depicted on sheet 11 of Figures 6 and 7, Appendix A. Photo 51, Appendix B.	0.003/41	---/---	0.003/41	---/---
		Total:	**1.066/6,376**	**0.059/90**	**3.599/5,855**	**0.840/945**

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5.2 Jurisdictional Determination Summary

Based on the investigation and analysis documented in this report, potential CWA jurisdictional resources within the study area consist of 1.066 acres (6,376 linear feet) of non-wetland WoUS and 0.059 acre (90 linear feet) of wetland WoUS. Approximately 3.599 acres (5,855 linear feet) of un-vegetated streambed, subject to CDFW jurisdiction, and 0.840 acre (945 linear feet) of CDFW jurisdictional riparian vegetation were observed within the study area. A detailed project description, including a quantitative description of anticipated project impacts, will be included in the project's NESMI, under separate cover.

All features observed within the study area were delineated with the understanding that a request for a Preliminary JD would be submitted for the project. As such, all features exhibiting indicators of an OHWM were assumed to be jurisdictional WoUS, and subject to regulation by the USACE under Section 404 of the CWA and the RWQCB under Section 401 of the CWA and the Porter Cologne Water Quality Control Act. The information and results presented herein document the investigation, best professional judgment, and conclusions of ICF. It is correct and complete to the best of our knowledge. However, all jurisdictional determinations should be considered preliminary until reviewed and approved by the regulatory agencies.

5.3 List of Delineators/Report Preparers/Reviewers

Greg Hoisington, Southern California Biology Manager—Report Reviewer, 14 years of experience

Paul Schwartz, Senior Biologist—Delineator/Report Preparer, 12 years of experience

Marissa Maggio, Biologist—Delineator/Report Preparer, 3.5 years of experience

Dennis Miller, Senior Biologist—Delineator, 3.5 years of experience

Kristen Klinefelter, Biologist—Report Preparer, 3.5 years of experience

Johnnie Garcia—GIS Specialist, 11 years of experience

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Chapter 6
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Appendix A
Jurisdictional Delineation Maps

Appendix A Map List

1 Regional Vicinity Map

2 Study Area Location Map

3 Hydrology/Water Resources Map

4 Watersheds Map

5 Soils Map

6 USACE/RWQCB Results Map

7 CDFW Results Map

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Figure 1
Regional Vicinity Map
Gilman Springs Median and Shoulder Improvements Project

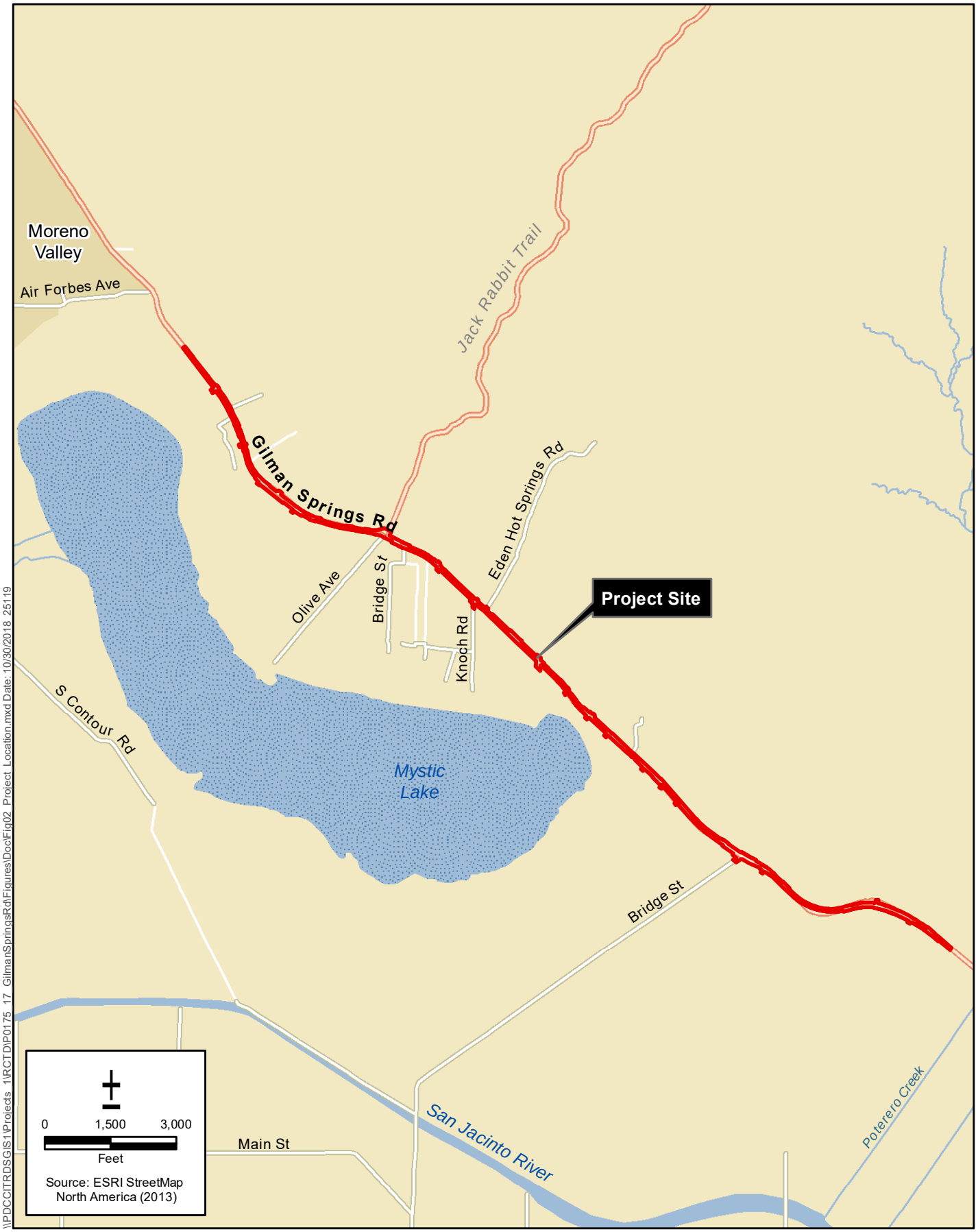


Figure 2
Project Location
Gilman Springs Median and Shoulder Improvements Project

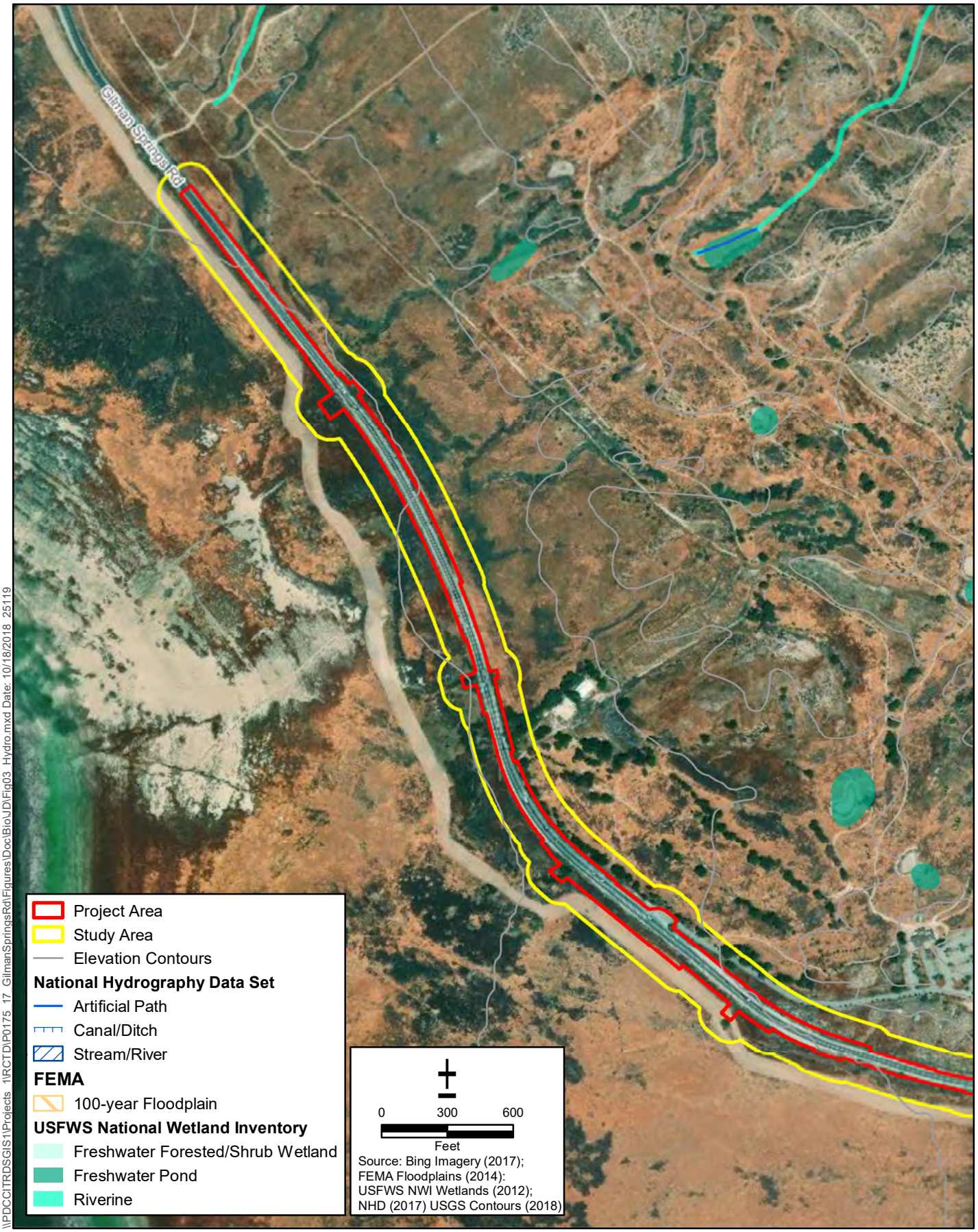


Figure 3
Page 1 of 5
Hydrology/Water Resources Map
Gilman Springs Median and Shoulder Improvements Project

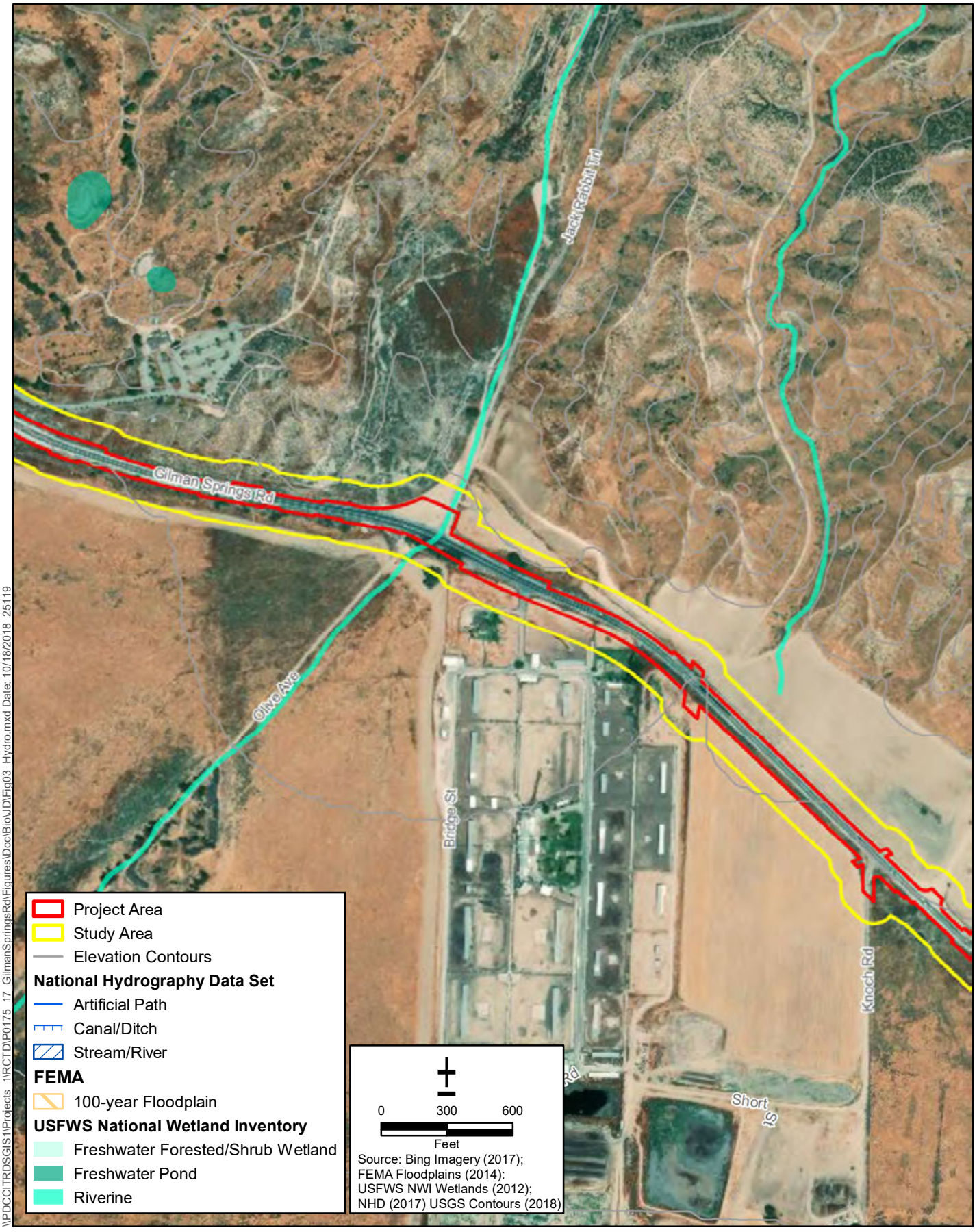
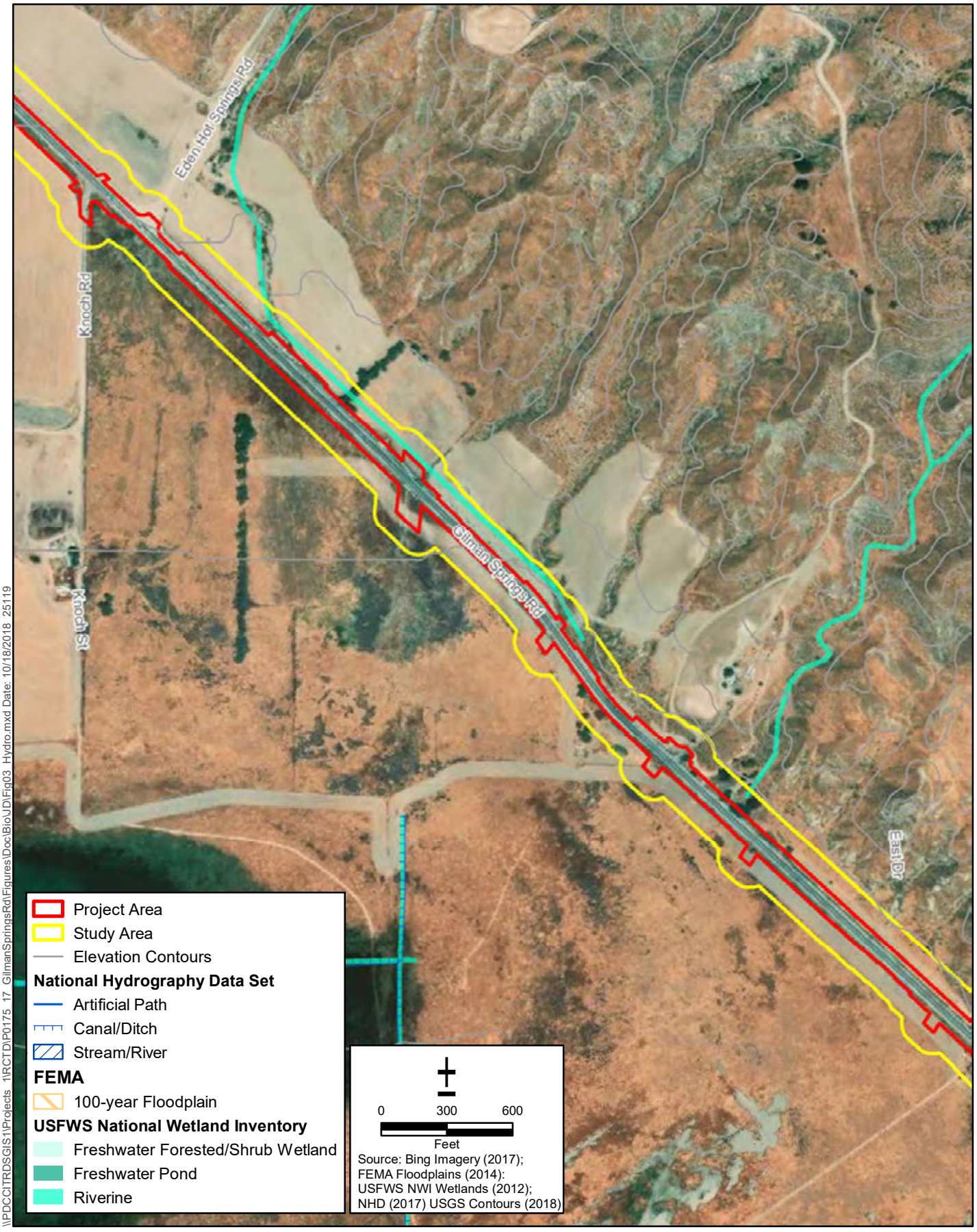


Figure 3
Page 2 of 5
Hydrology/Water Resources Map
Gilman Springs Median and Shoulder Improvements Project



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Gilman Springs Median and Shoulder Improvements Project

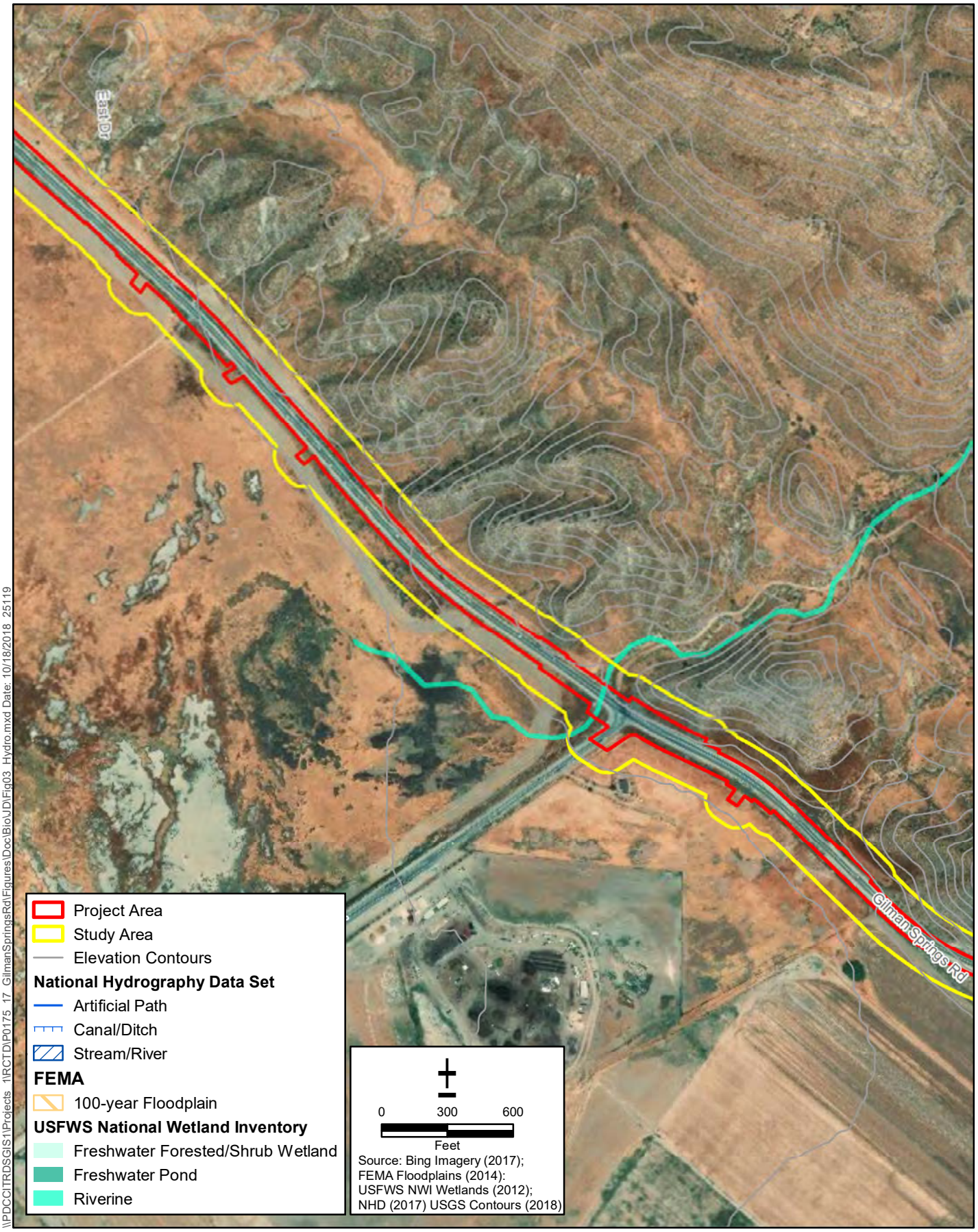

Figure 3
Page 4 of 5
Hydrology/Water Resources Map
Gilman Springs Median and Shoulder Improvements Project

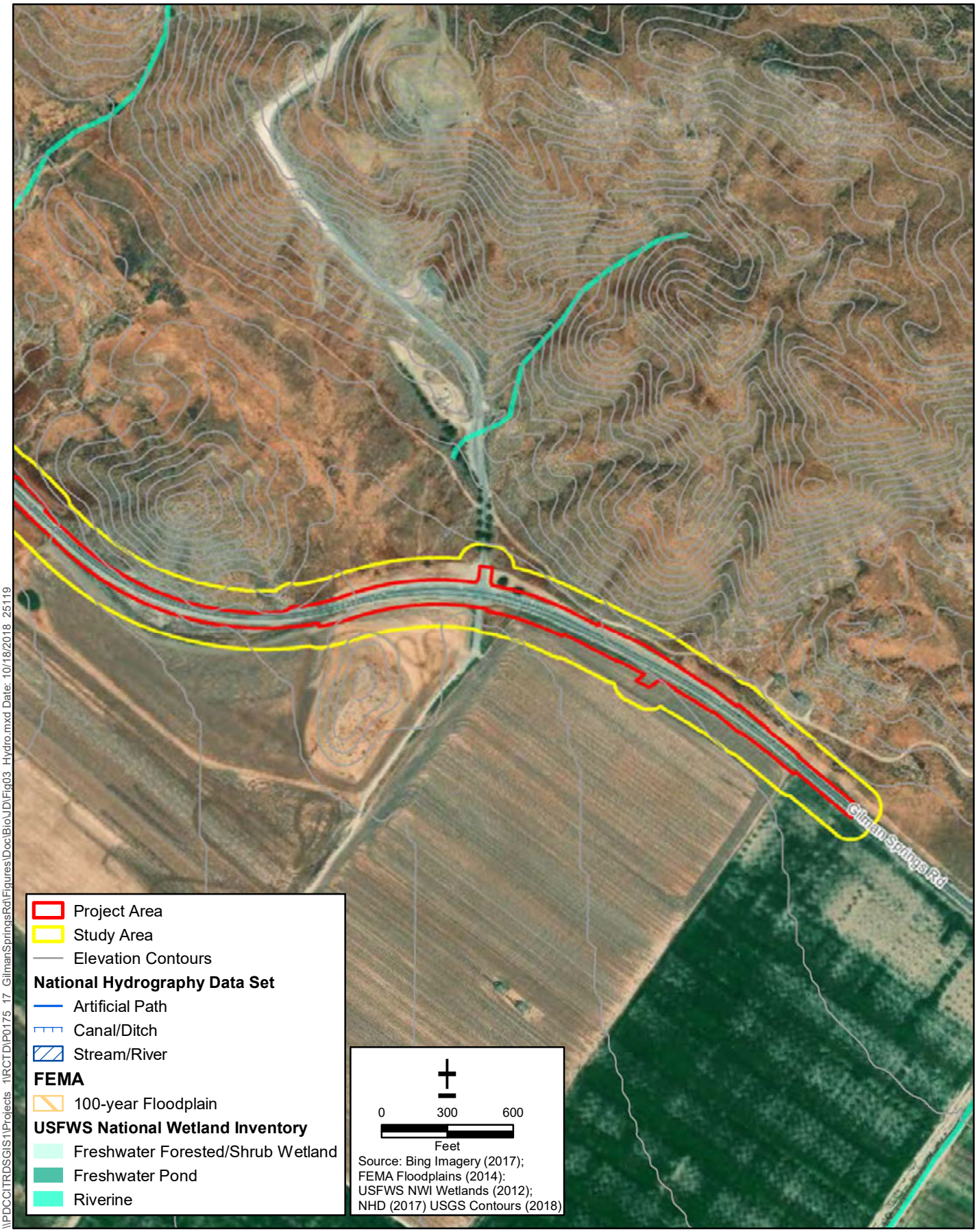

Figure 3
Page 5 of 5
Hydrology/Water Resources Map
Gilman Springs Median and Shoulder Improvements Project

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Figure 4
Watersheds Map
Gilman Springs Median and Shoulder Improvements Project

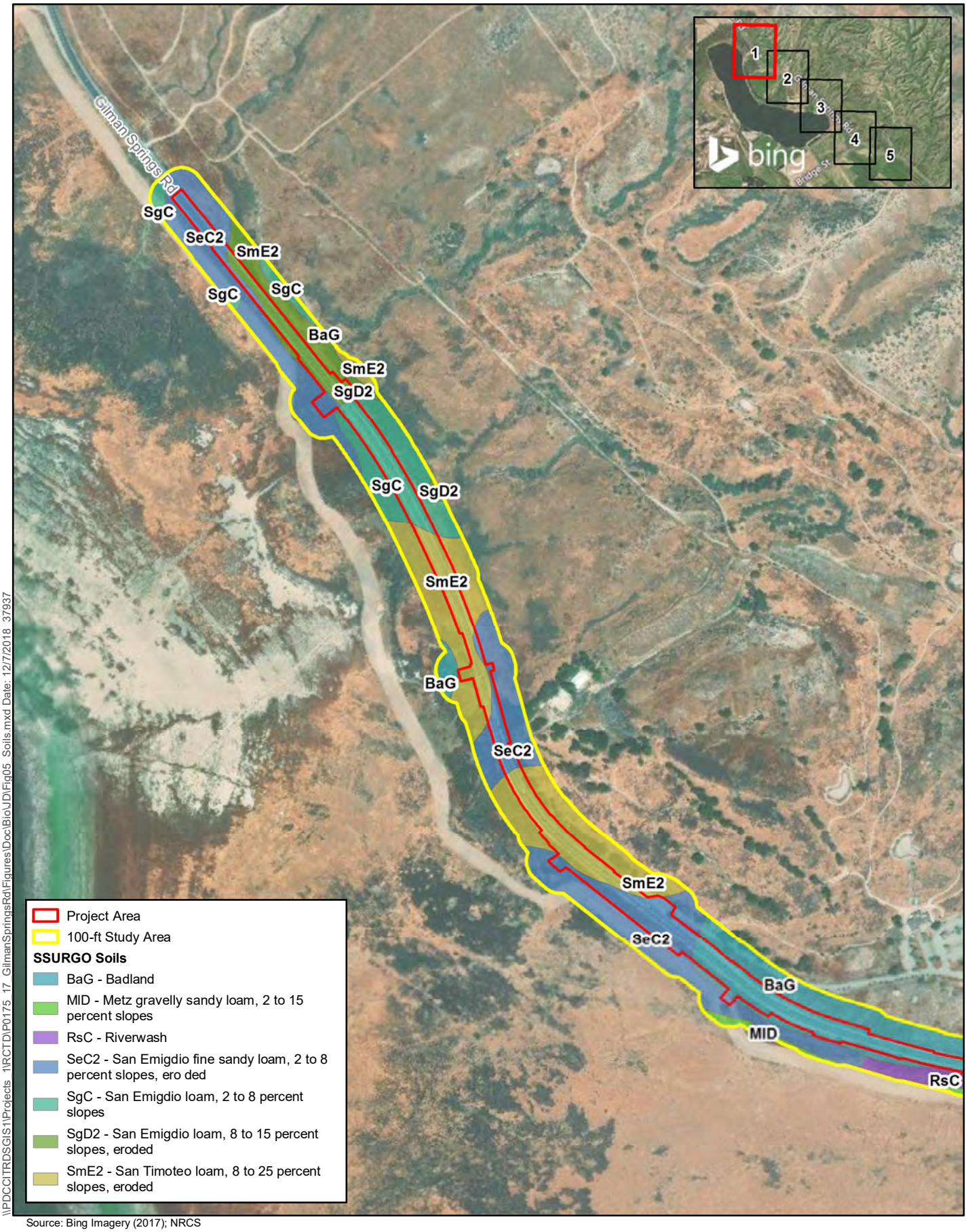

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Figure 5
Page 1 of 5
Soils Map
Gilman Springs Median and Shoulder Improvements Project

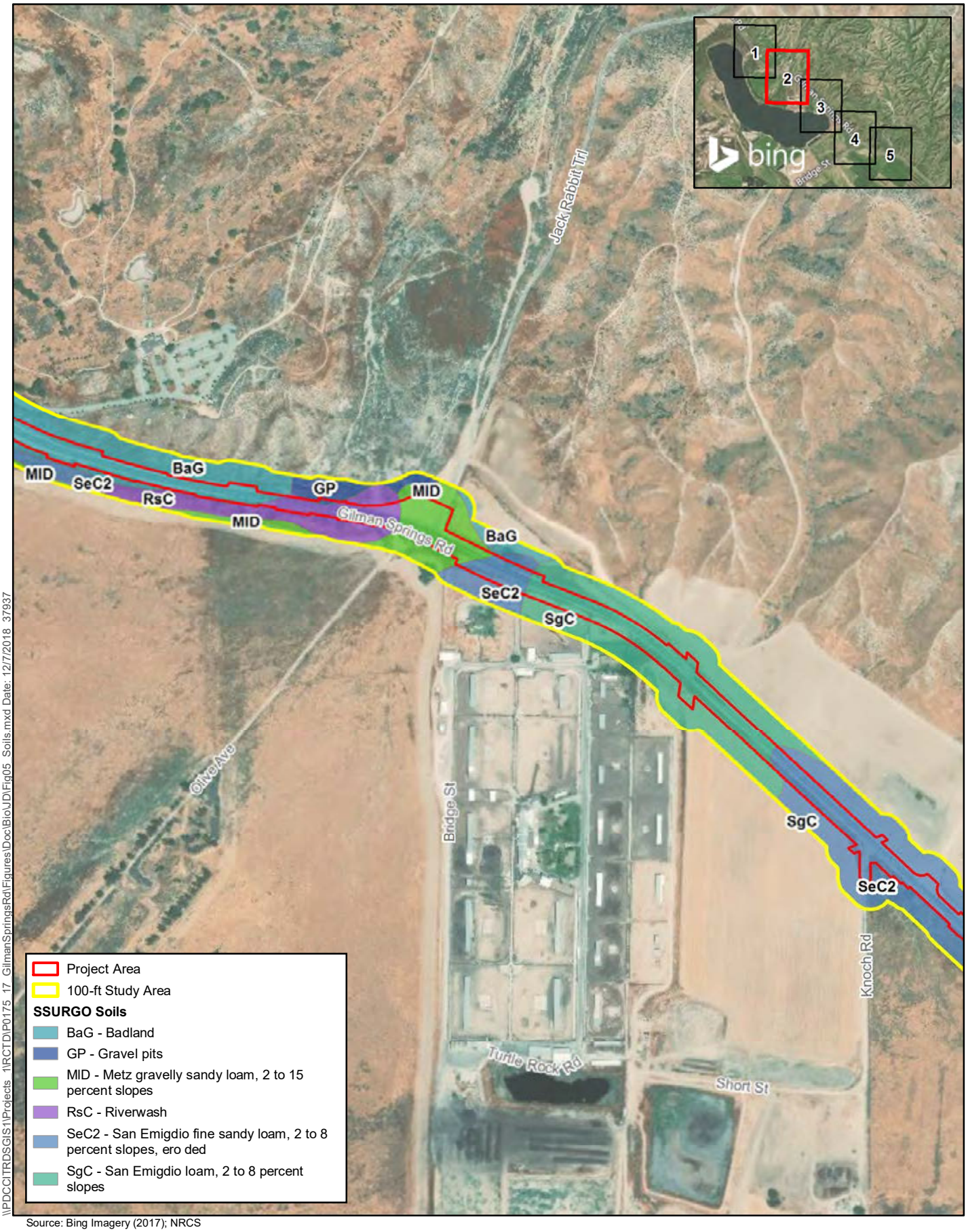

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Figure 5
Page 2 of 5
Soils Map
Gilman Springs Median and Shoulder Improvements Project

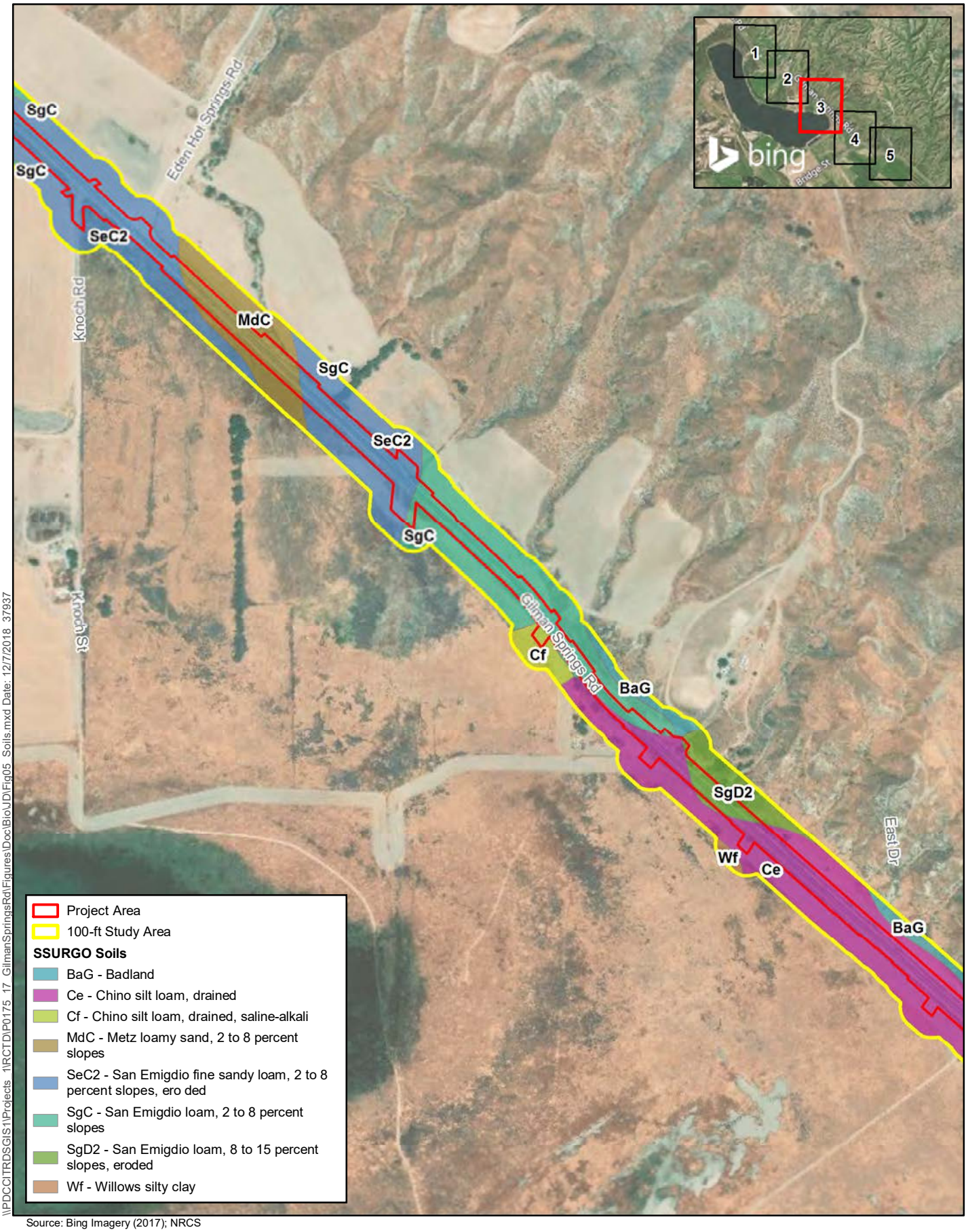

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Figure 5
Page 3 of 5
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Gilman Springs Median and Shoulder Improvements Project

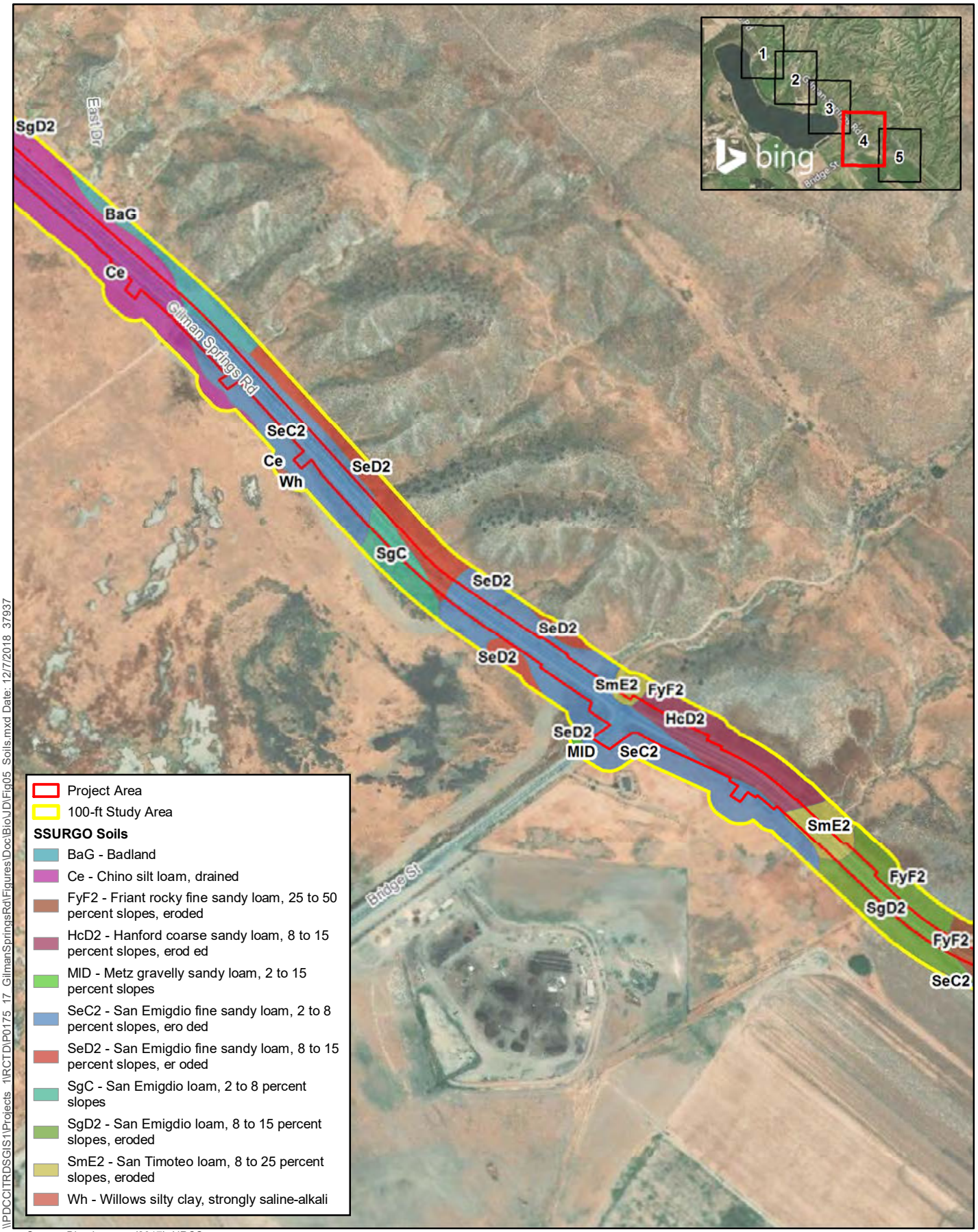

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Figure 5
Page 4 of 5
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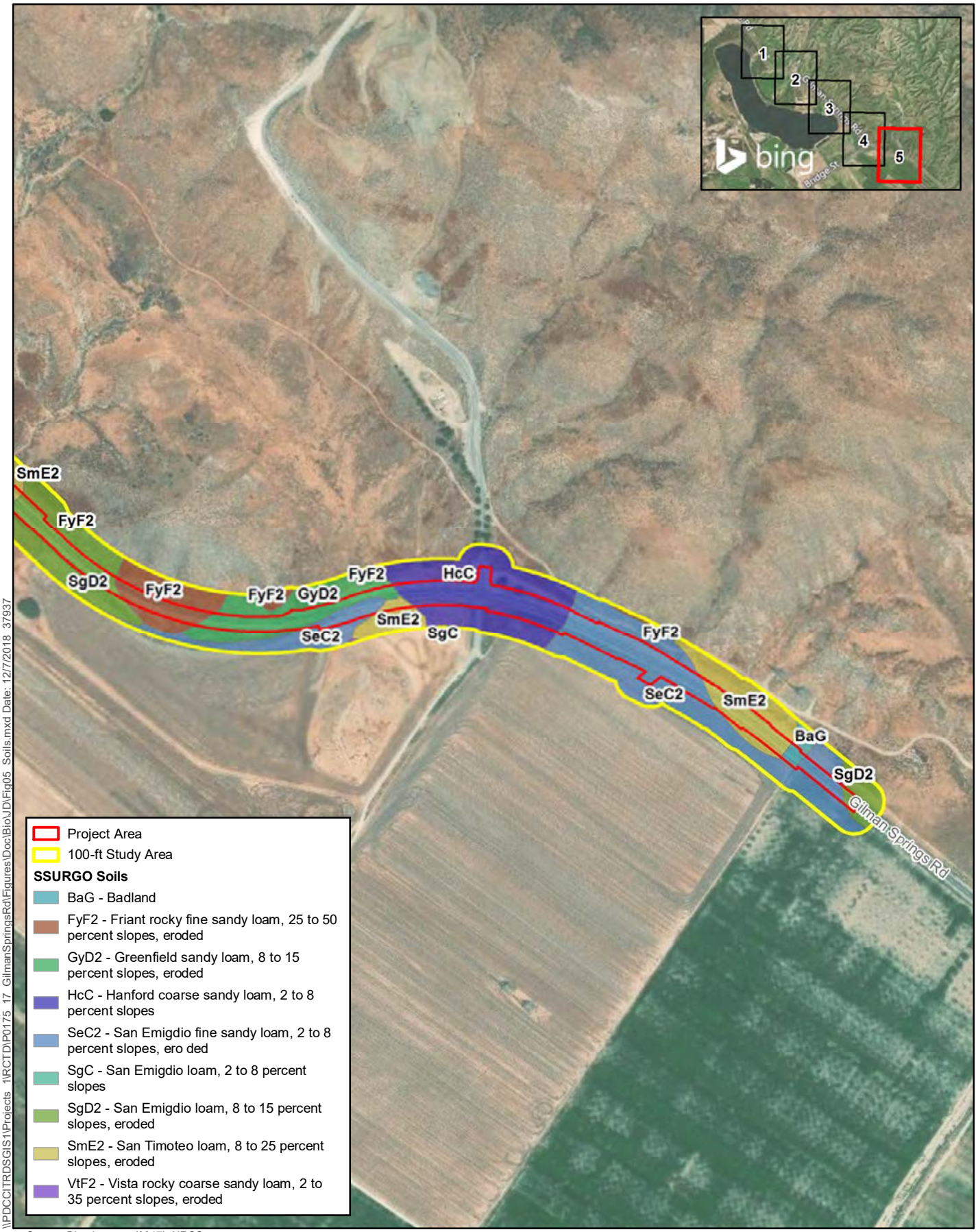
Gilman Springs Median and Shoulder Improvements Project



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Source: Bing Imagery (2017); NRCS

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Figure 5
Page 5 of 5
Soils Map
Gilman Springs Median and Shoulder Improvements Project

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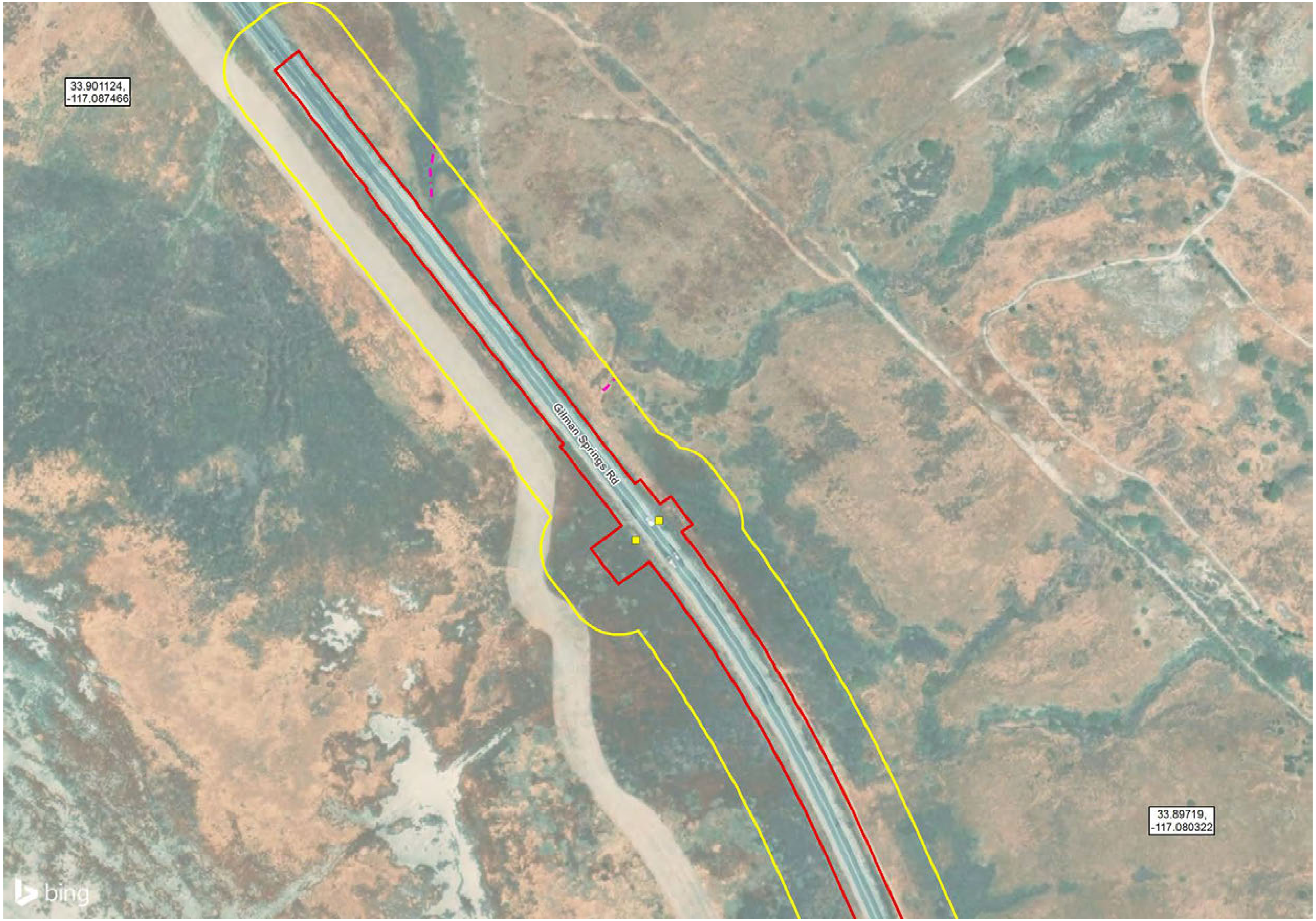
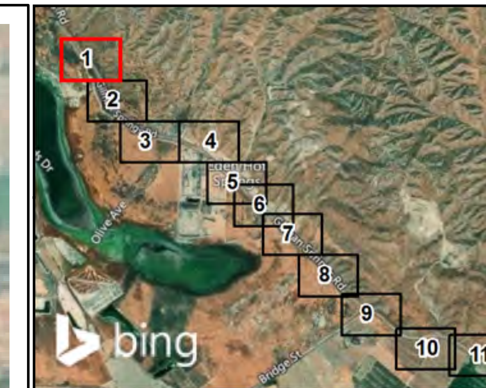




Legend

- 100-ft Study Area
- Limits of Disturbance
- Wetland Sample Point (SP#)
- OHWM Data Form
- Photo Location
- Culvert
- Swale

Potential USACE/WQCB Jurisdiction

- Non-wetland Waters of the U.S.
- Wetland Waters of the U.S.

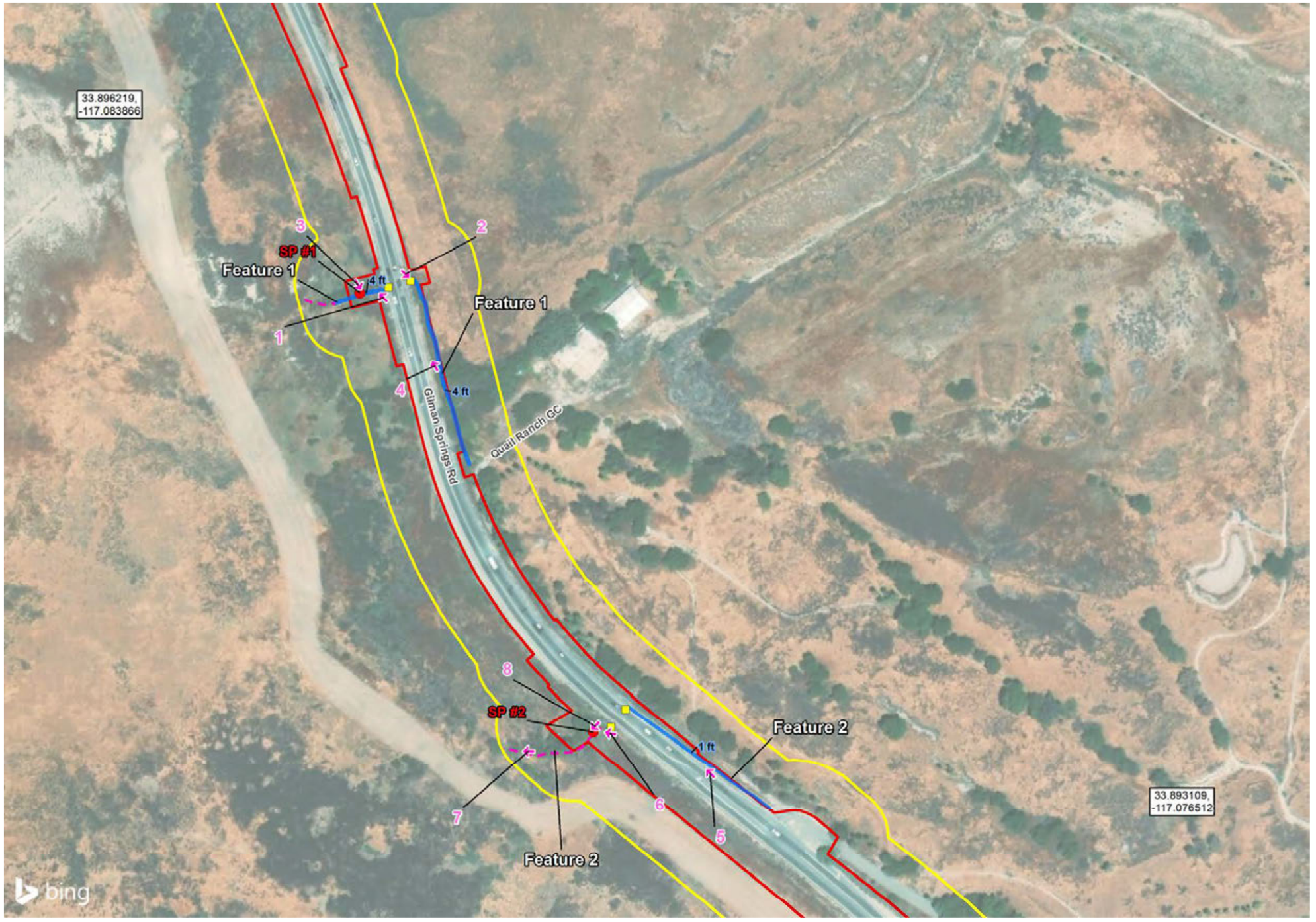
ft = Width at Ordinary High Water Mark

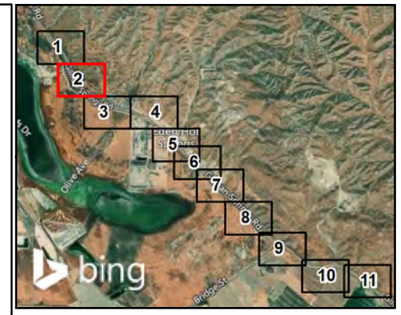
N

0 100 200 Feet

1:2,400

Figure 6- Sheet 1
USACE/RWQCB Results
Gilman Springs Median and Shoulder Improvements Project





Legend

- 100-ft Study Area
- Limits of Disturbance
- Wetland Sample Point (SP#)
- OHWM Data Form
- Photo Location
- Culvert
- Swale

Potential USACE/WQCB Jurisdiction

- Non-wetland Waters of the U.S.
- Wetland Waters of the U.S.

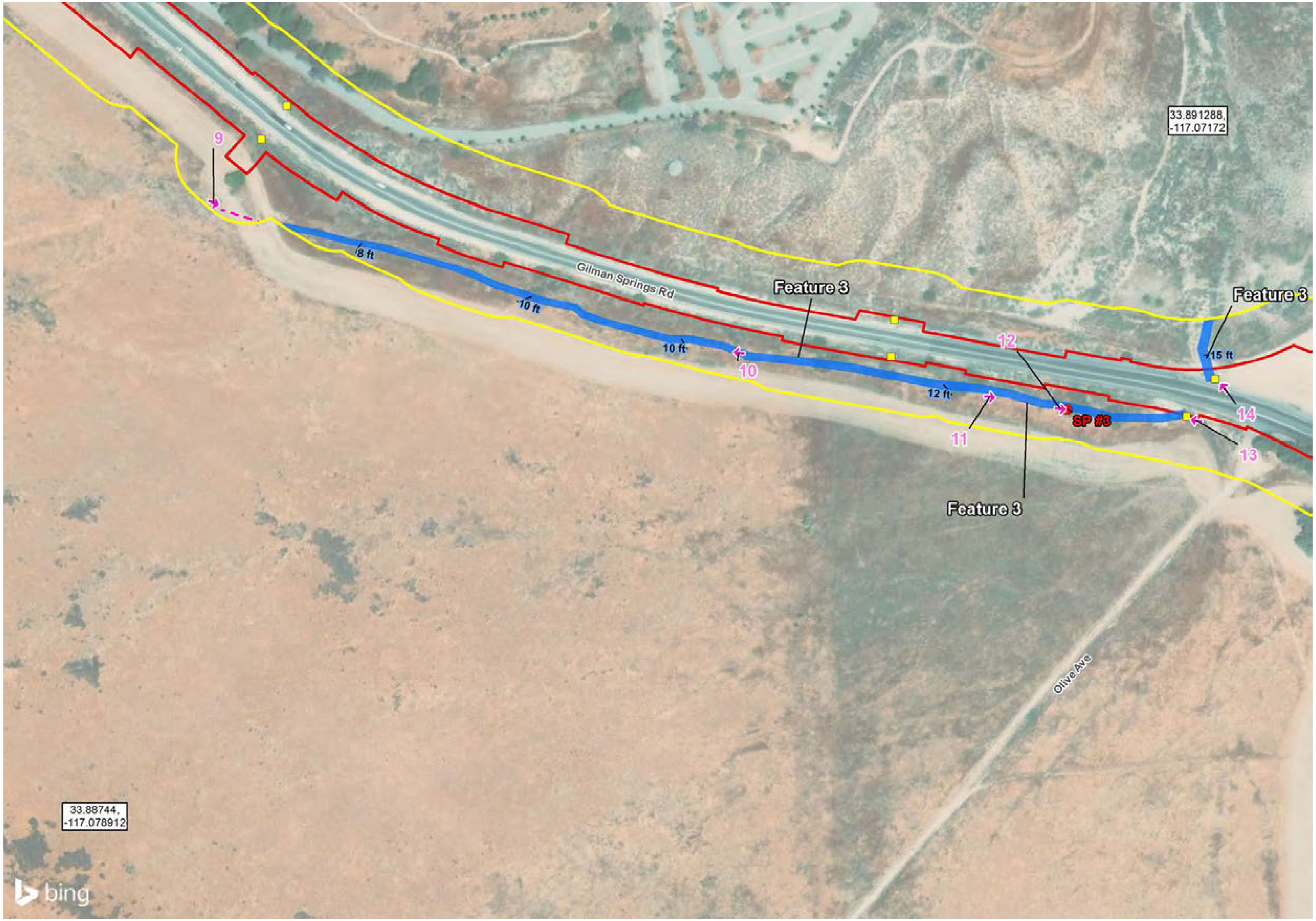
ft = Width at Ordinary High Water Mark

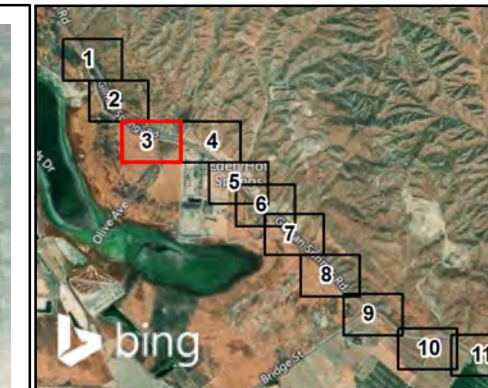
N

0 100 200 Feet

1:2,400

Figure 6- Sheet 2
USACE/RWQCB Results
Gilman Springs Median and Shoulder Improvements Project





Legend

- 100-ft Study Area
- Limits of Disturbance
- Wetland Sample Point (SP#)
- OHWM Data Form
- Photo Location
- Culvert
- Swale

Potential USACE/WQCB Jurisdiction

- Non-wetland Waters of the U.S.
- Wetland Waters of the U.S.

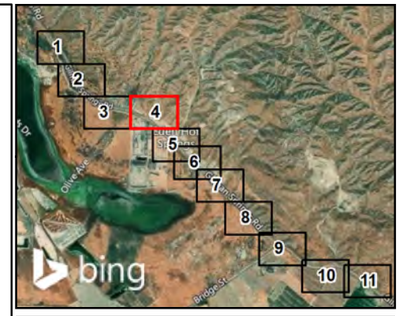
ft = Width at Ordinary High Water Mark

N

0 100 200 Feet

1:2,400

Figure 6- Sheet 3
USACE/RWQCB Results
Gilman Springs Median and Shoulder Improvements Project



Legend

- 100-ft Study Area
- Limits of Disturbance
- Wetland Sample Point (SP#)
- OHWM Data Form
- Photo Location
- Culvert
- Swale

Potential USACE/WQCB Jurisdiction

- Non-wetland Waters of the U.S.
- Wetland Waters of the U.S.

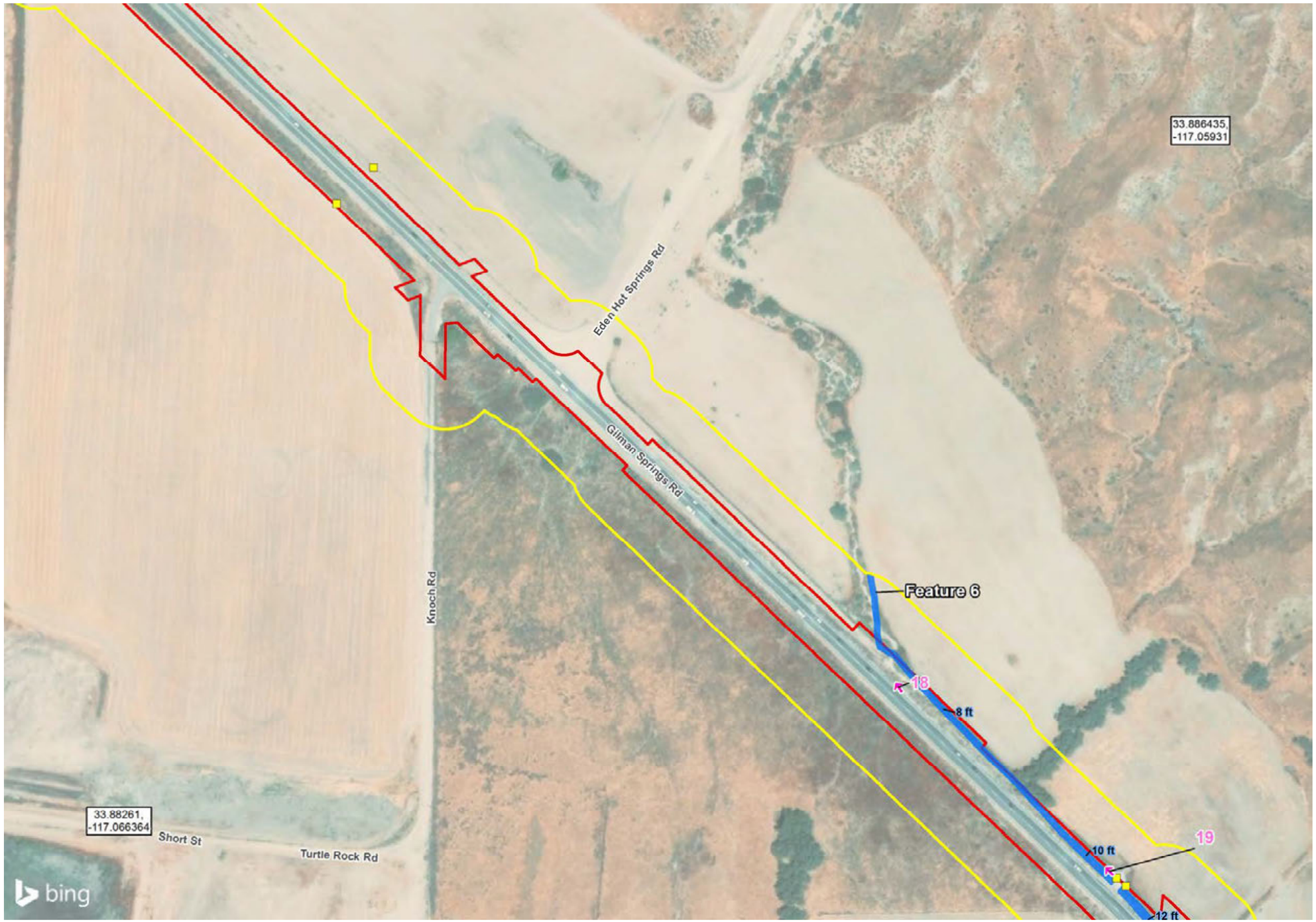
ft = Width at Ordinary High Water Mark

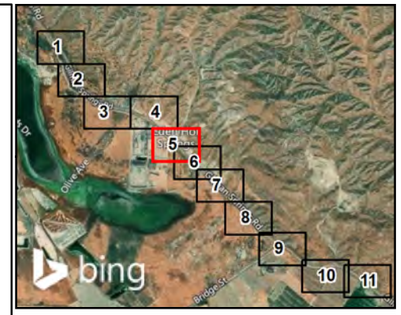
N

0 100 200 Feet

1:2,400

Figure 6- Sheet 4
USACE/RWQCB Results
Gilman Springs Median and Shoulder Improvements Project





Legend

- 100-ft Study Area
- Limits of Disturbance
- Wetland Sample Point (SP#)
- OHWM Data Form
- Photo Location
- Culvert
- Swale

Potential USACE/WQCB Jurisdiction

- Non-wetland Waters of the U.S.
- Wetland Waters of the U.S.

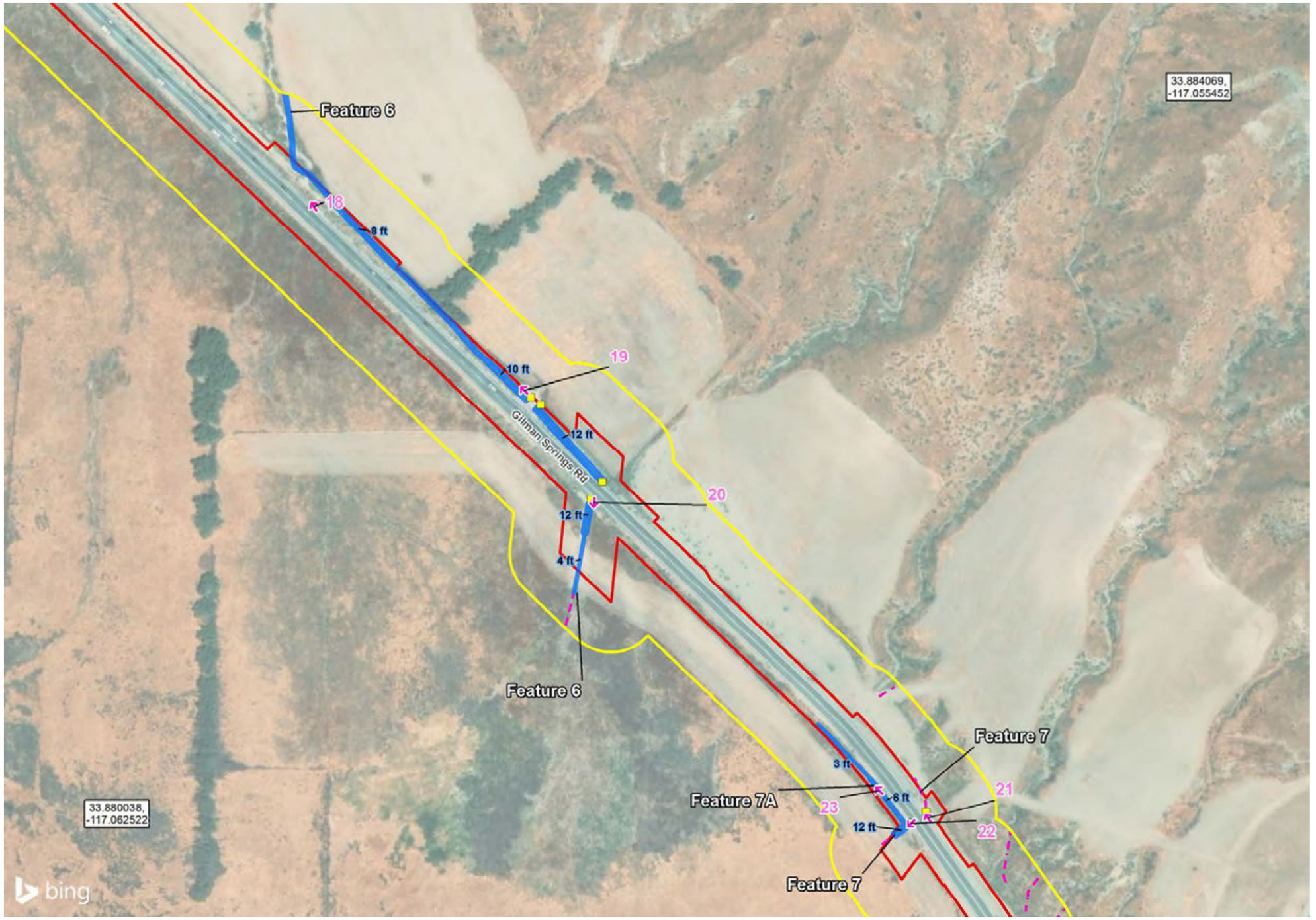
ft = Width at Ordinary High Water Mark

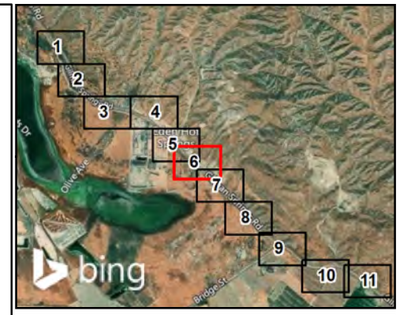
N

0 100 200 Feet

1:2,400

Figure 6- Sheet 5
USACE/RWQCB Results
Gilman Springs Median and Shoulder Improvements Project





Legend

- 100-ft Study Area
- Limits of Disturbance
- Wetland Sample Point (SP#)
- OHWM Data Form
- Photo Location
- Culvert
- Swale

Potential USACE/WQCB Jurisdiction

- Non-wetland Waters of the U.S.
- Wetland Waters of the U.S.

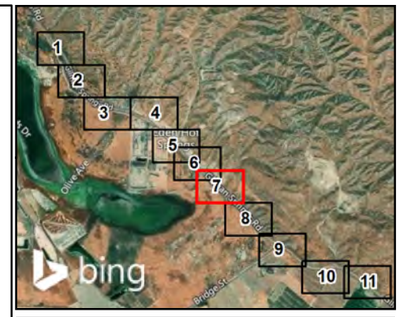
ft = Width at Ordinary High Water Mark

N

0 100 200 Feet

1:2,400

Figure 6- Sheet 6
USACE/RWQCB Results
Gilman Springs Median and Shoulder Improvements Project



Legend

- 100-ft Study Area
- Limits of Disturbance
- Wetland Sample Point (SP#)
- OHWM Data Form
- Photo Location
- Culvert
- Swale

Potential USACE/WQCB Jurisdiction

- Non-wetland Waters of the U.S.
- Wetland Waters of the U.S.

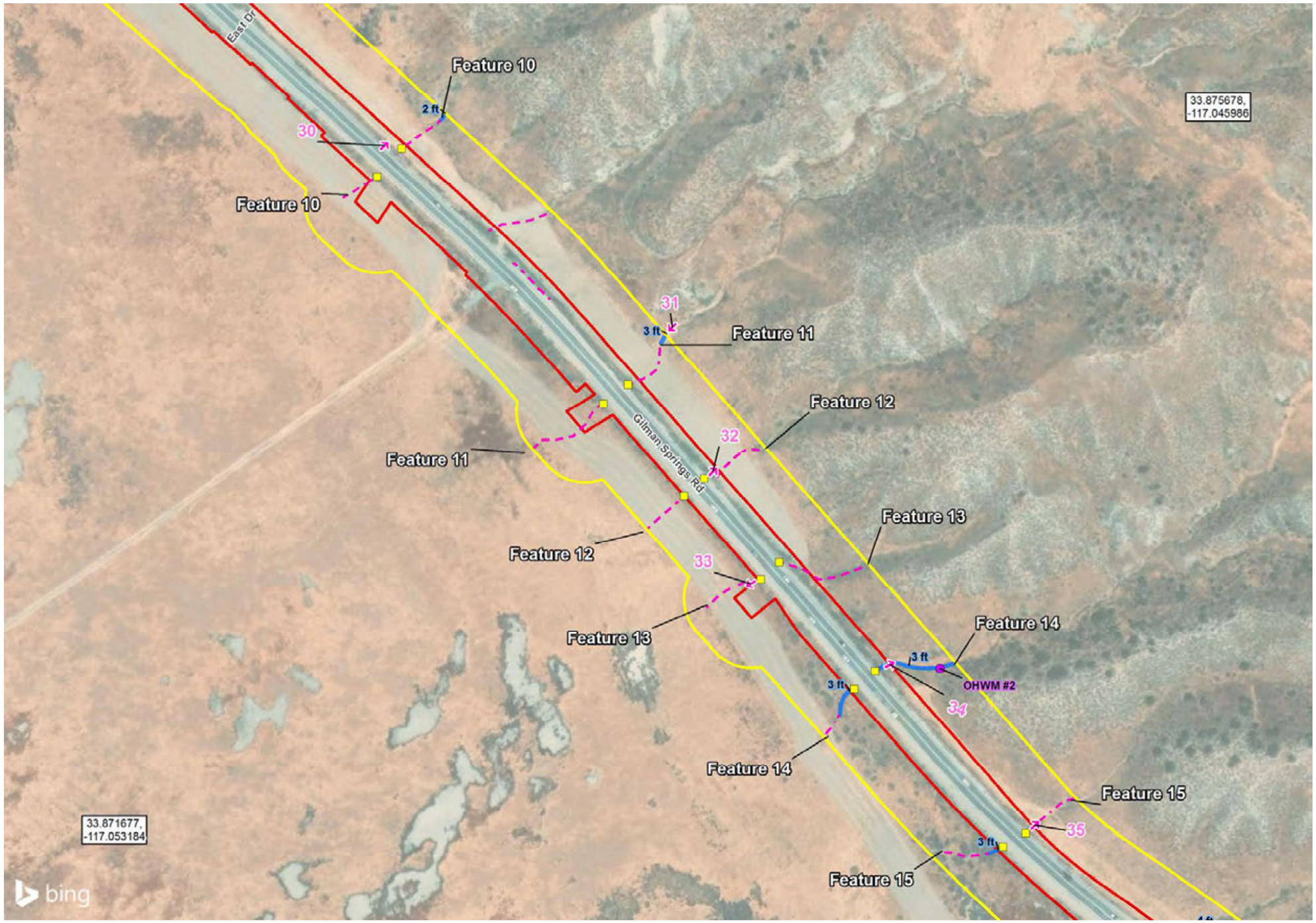
ft = Width at Ordinary High Water Mark

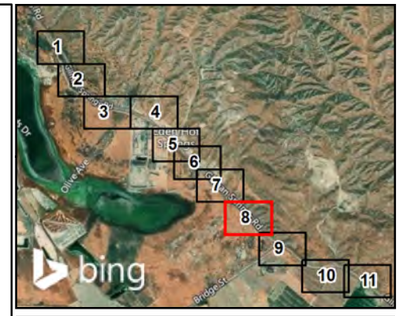
N

0 100 200 Feet

1:2,400

Figure 6- Sheet 7
USACE/RWQCB Results
Gilman Springs Median and Shoulder Improvements Project





Legend

- 100-ft Study Area
- Limits of Disturbance
- Wetland Sample Point (SP#)
- OHWM Data Form
- Photo Location
- Culvert
- Swale

Potential USACE/WQCB Jurisdiction

- Non-wetland Waters of the U.S.
- Wetland Waters of the U.S.

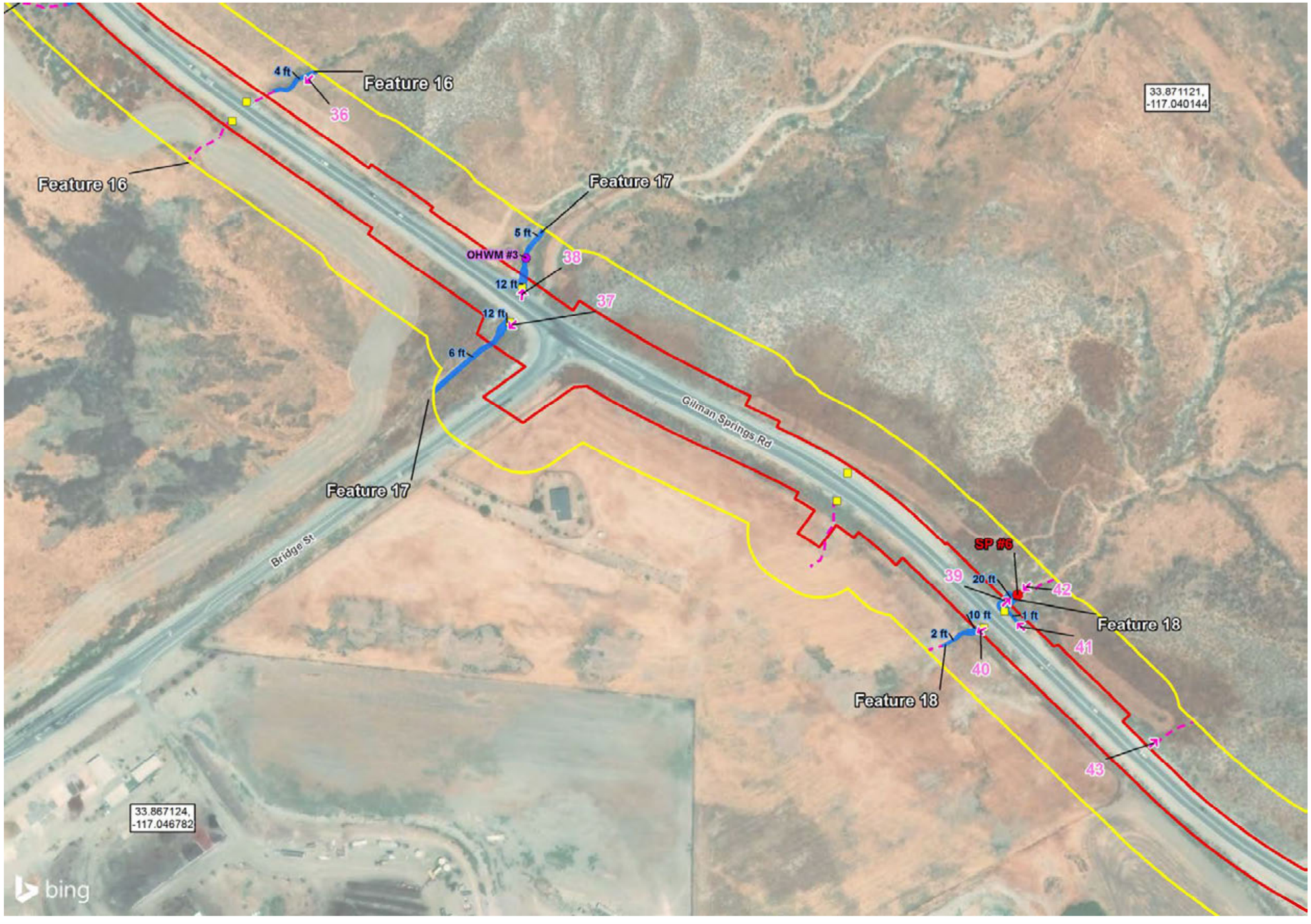
ft = Width at Ordinary High Water Mark

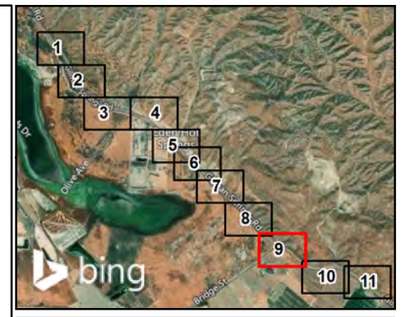
N

0 100 200 Feet

1:2,400

Figure 6- Sheet 8
USACE/RWQCB Results
Gilman Springs Median and Shoulder Improvements Project





Legend

- 100-ft Study Area
- Limits of Disturbance
- Wetland Sample Point (SP#)
- OHWM Data Form
- Photo Location
- Culvert
- Swale

Potential USACE/WQCB Jurisdiction

- Non-wetland Waters of the U.S.
- Wetland Waters of the U.S.

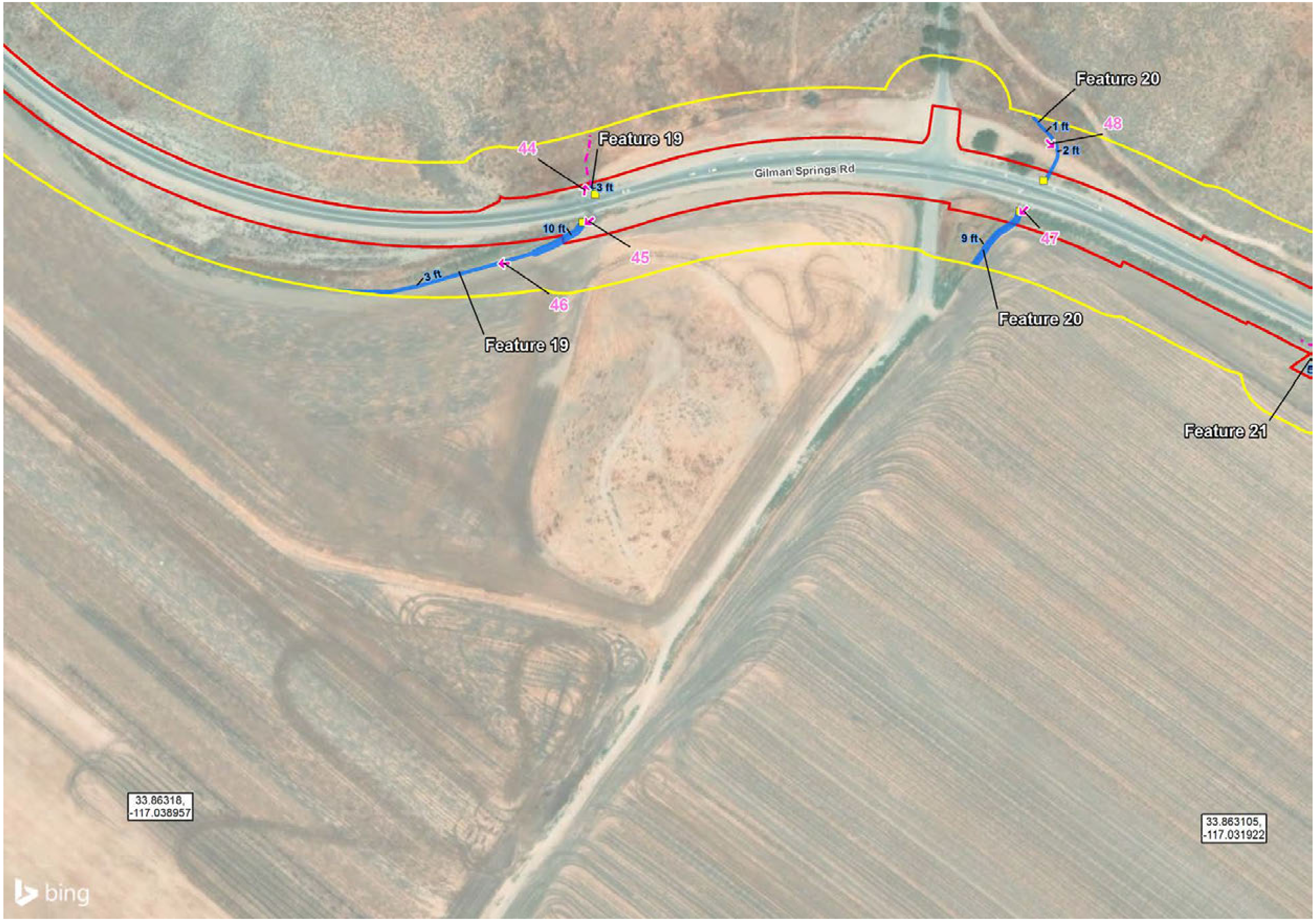
ft = Width at Ordinary High Water Mark

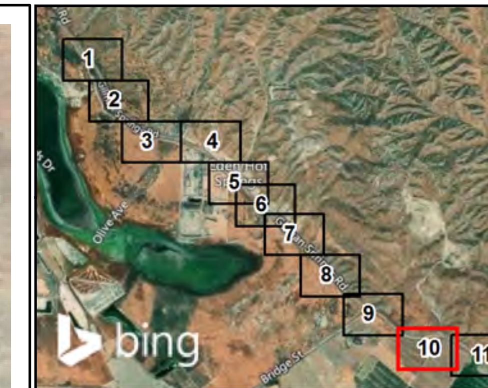
N

0 100 200 Feet

1:2,400

Figure 6- Sheet 9
USACE/RWQCB Results
Gilman Springs Median and Shoulder Improvements Project





Legend

- 100-ft Study Area
- Limits of Disturbance
- Wetland Sample Point (SP#)
- OHWM Data Form
- Photo Location
- Culvert
- Swale

Potential USACE/WQCB Jurisdiction

- Non-wetland Waters of the U.S.
- Wetland Waters of the U.S.

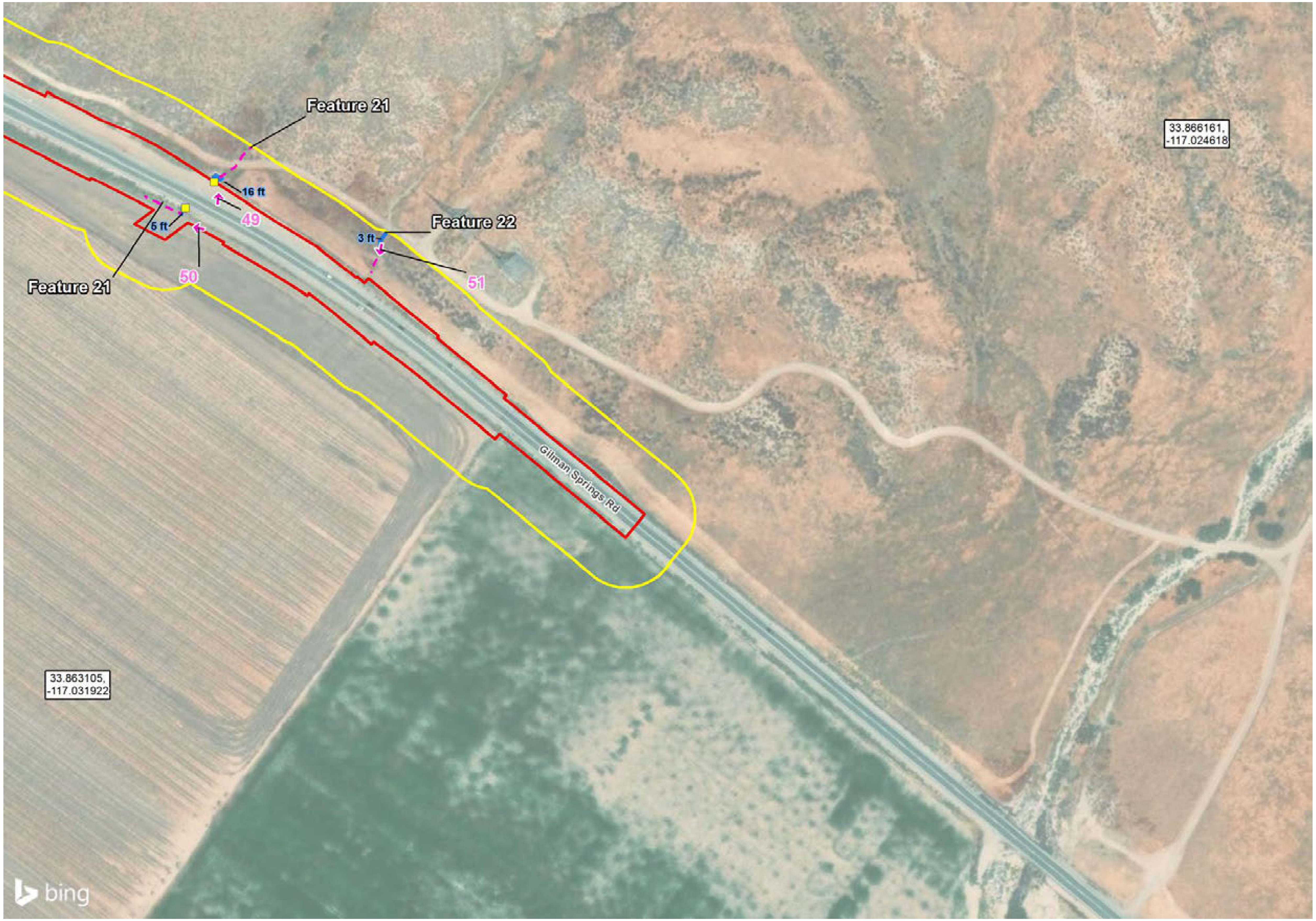
\# ft = Width at Ordinary High Water Mark

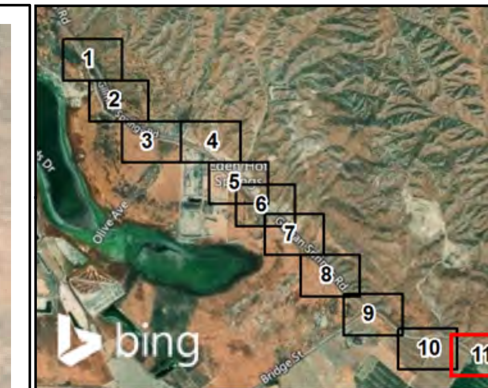
N

0 100 200 Feet

1:2,400

Figure 6- Sheet 10
USACE/RWQCB Results
Gilman Springs Median and Shoulder Improvements Project





Legend

- 100-ft Study Area
- Limits of Disturbance
- Wetland Sample Point (SP#)
- OHWM Data Form
- Photo Location
- Culvert
- Swale

Potential USACE/WQCB Jurisdiction

- Non-wetland Waters of the U.S.
- Wetland Waters of the U.S.

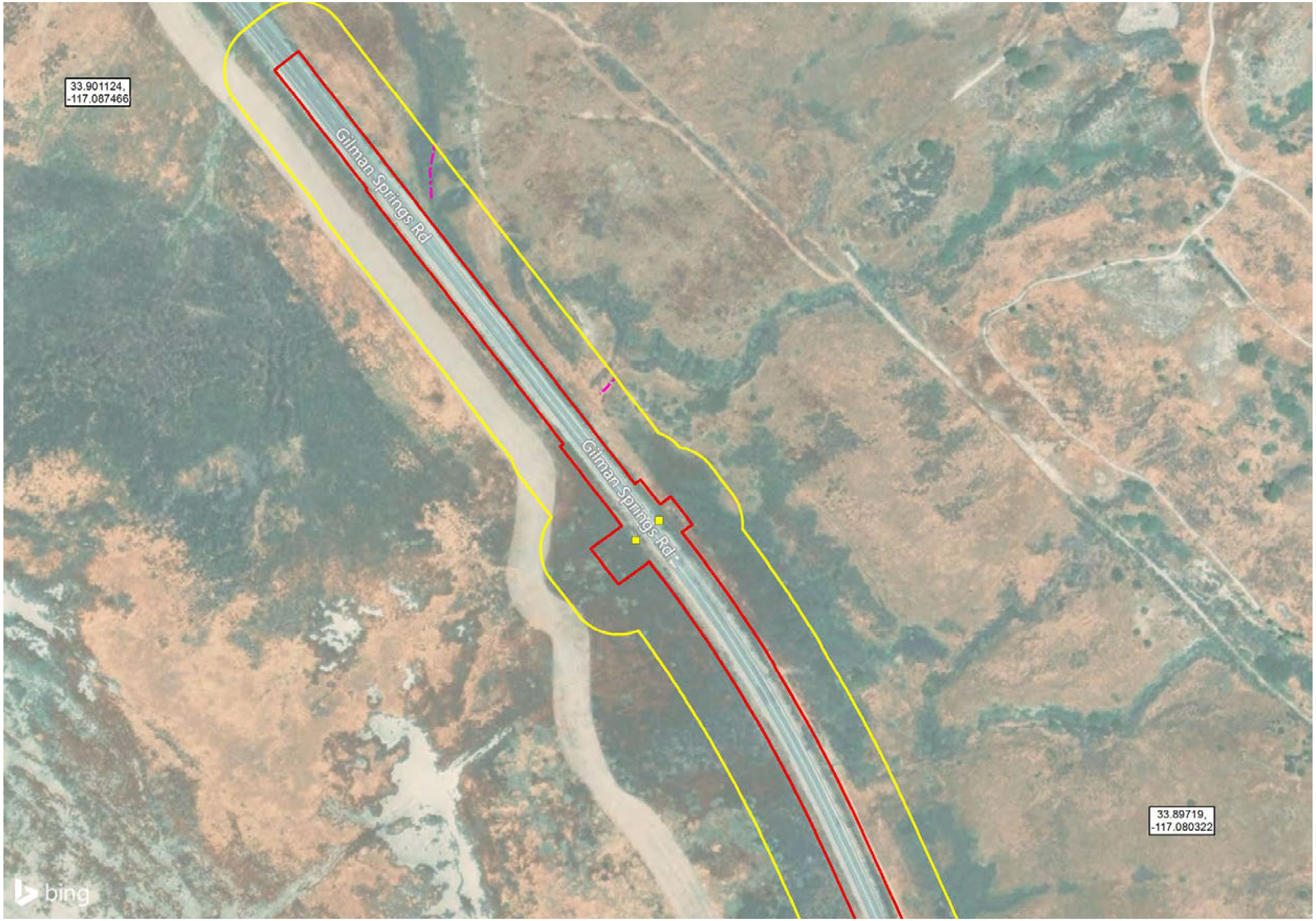
ft = Width at Ordinary High Water Mark

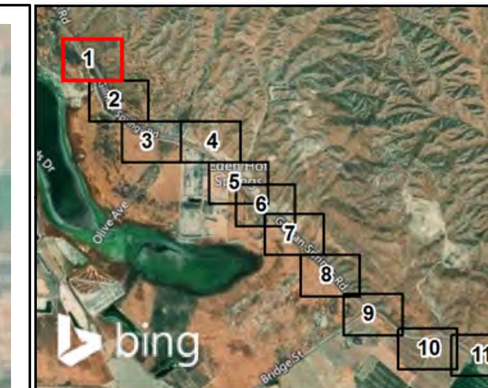
N

0 100 200 Feet

1:2,400

Figure 6- Sheet 11
USACE/RWQCB Results
Gilman Springs Median and Shoulder Improvements Project





Legend

- Limits of Disturbance
- Culvert
- Photo Location
- Swale

Potential CDFW Jursidiciton

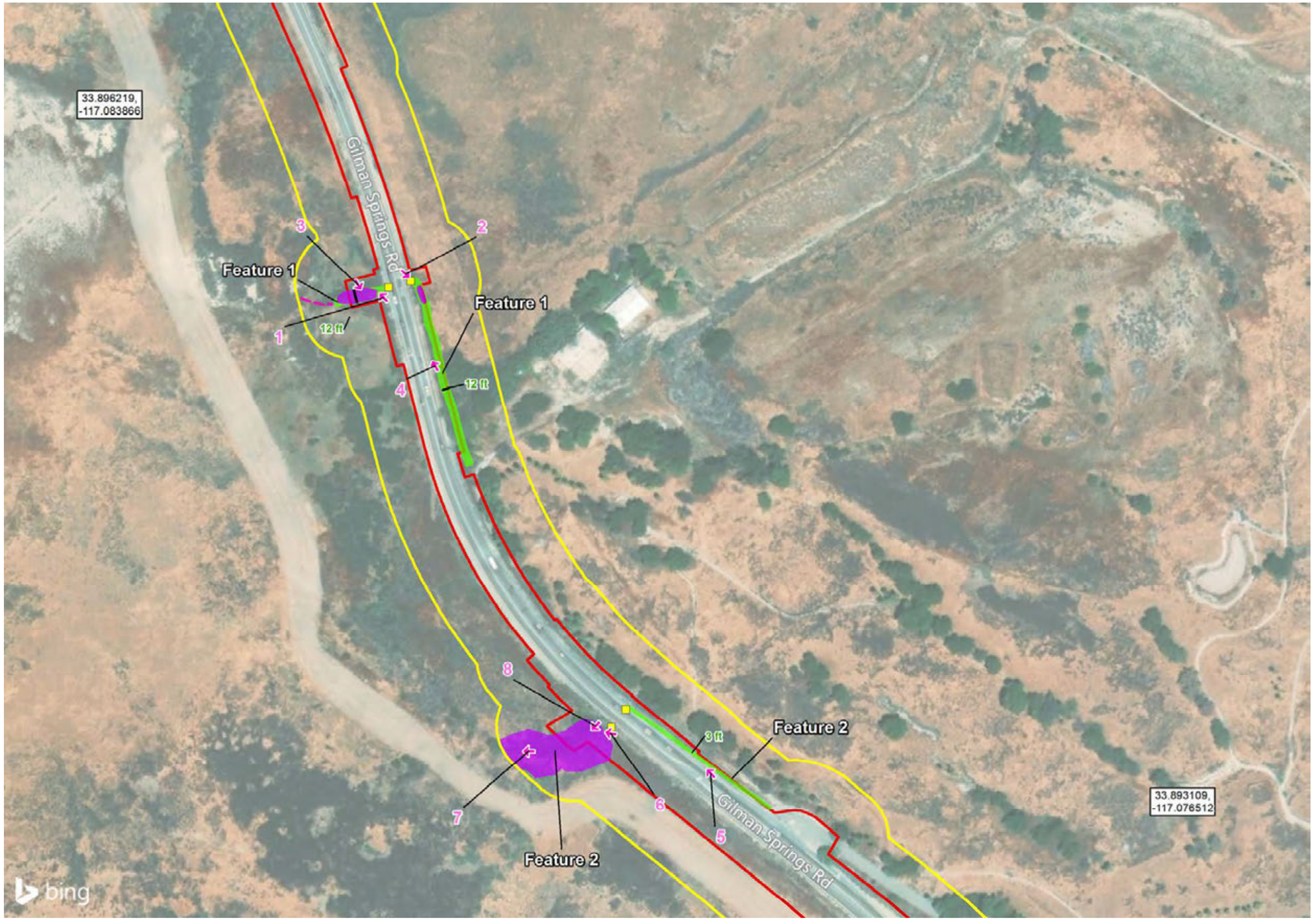
- Streambed
- Riparian
- # ft = Top of Bank

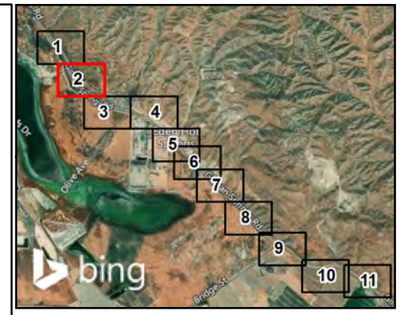
N

0 100 200 Feet

1:2,400

Figure 7 - Sheet 1
CDFW Results
Gilman Springs Median and Shoulder Improvements Project





Legend

- Limits of Disturbance
- Culvert
- Photo Location
- Swale

Potential CDFW Jursidiciton

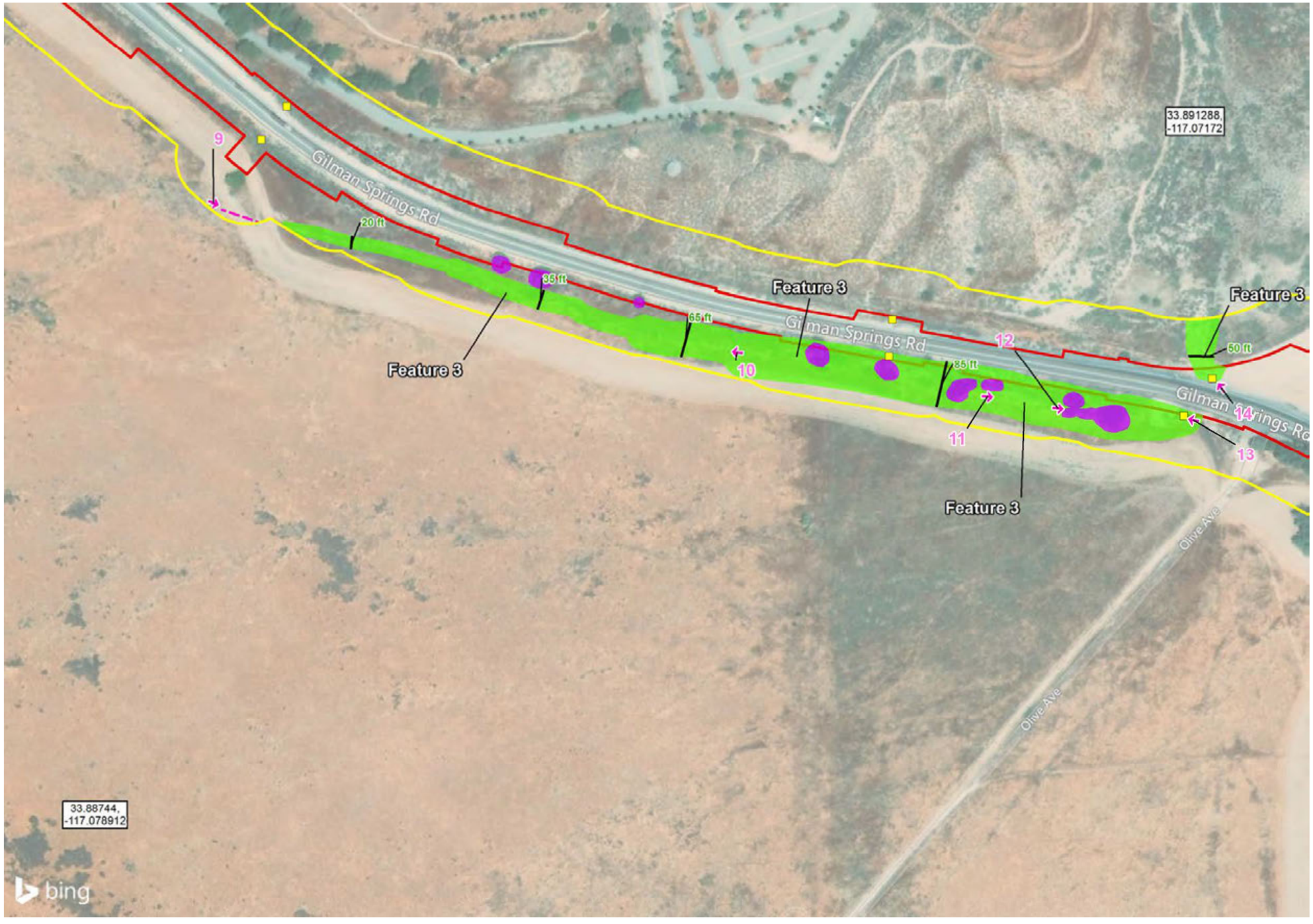
- Streambed
- Riparian

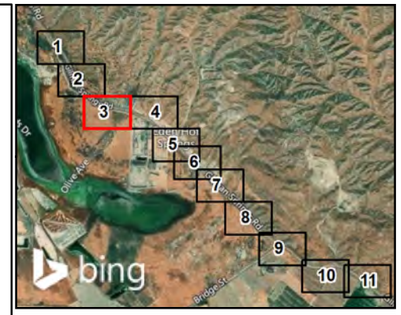
ft = Top of Bank

0 100 200 Feet
1:2,400

N

Figure 7 - Sheet 2
CDFW Results
Gilman Springs Median and Shoulder Improvements Project





Legend

- Limits of Disturbance
- Culvert
- Photo Location
- Swale

Potential CDFW Jursidiciton

- Streambed
- Riparian

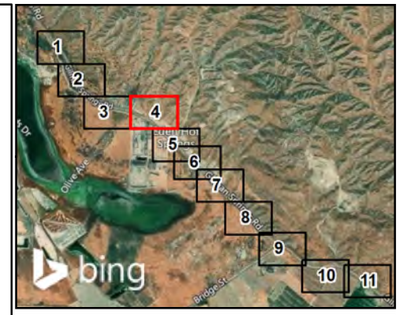
ft = Top of Bank

N

0 100 200 Feet

1:2,400

Figure 7 - Sheet 3
CDFW Results
Gilman Springs Median and Shoulder Improvements Project



Legend

- Limits of Disturbance
- Culvert
- Photo Location
- Swale

Potential CDFW Jursidiciton

- Streambed
- Riparian

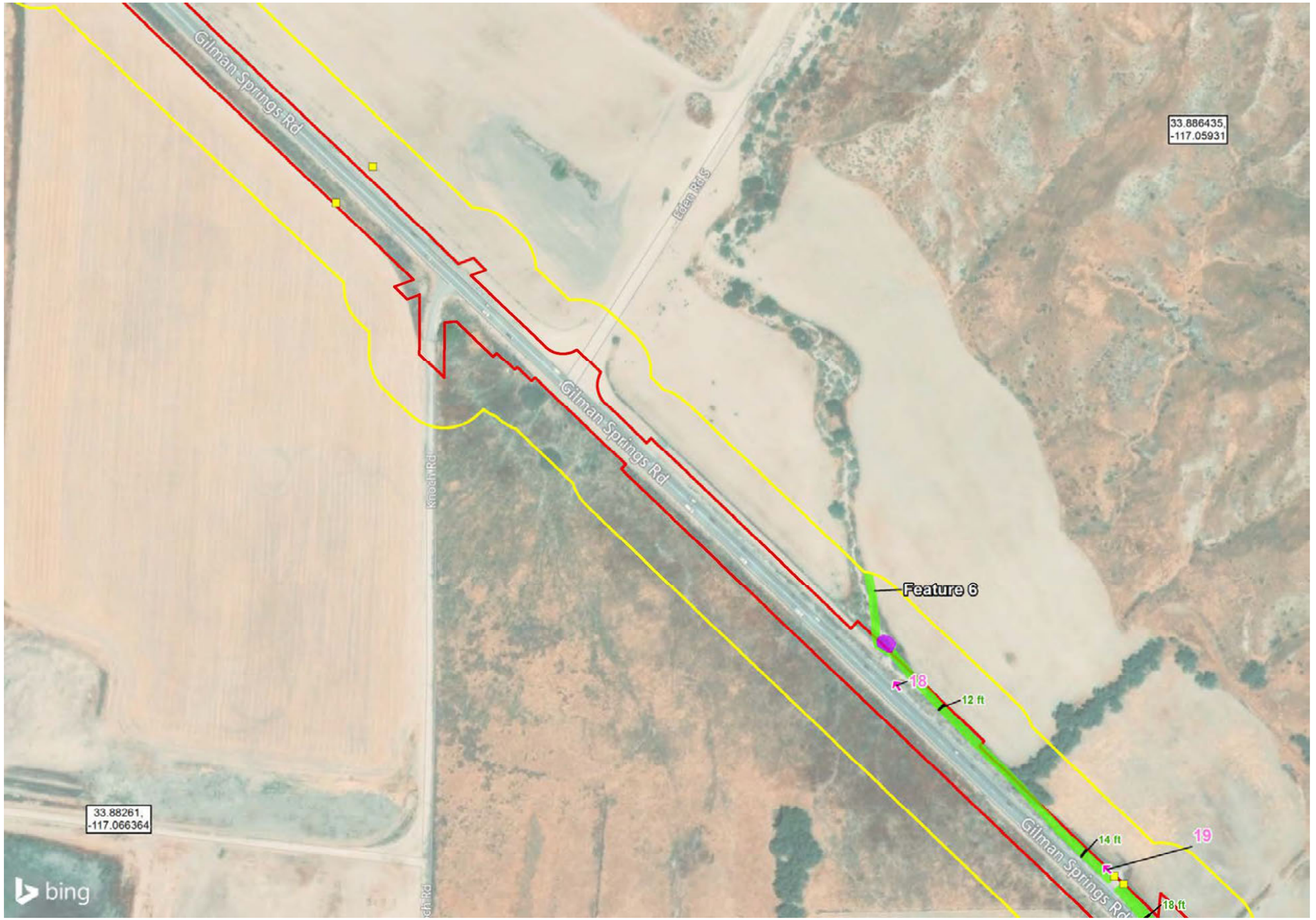
ft = Top of Bank

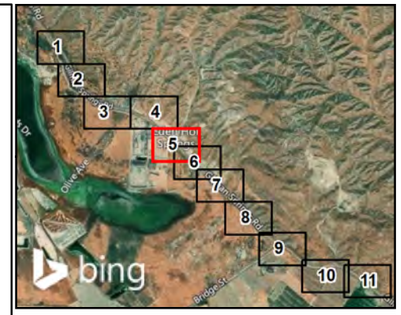
N

0 100 200 Feet

1:2,400

Figure 7 - Sheet 4
CDFW Results
Gilman Springs Median and Shoulder Improvements Project





Legend

- Limits of Disturbance
- Culvert
- Photo Location
- Swale

Potential CDFW Jursidiciton

- Streambed
- Riparian

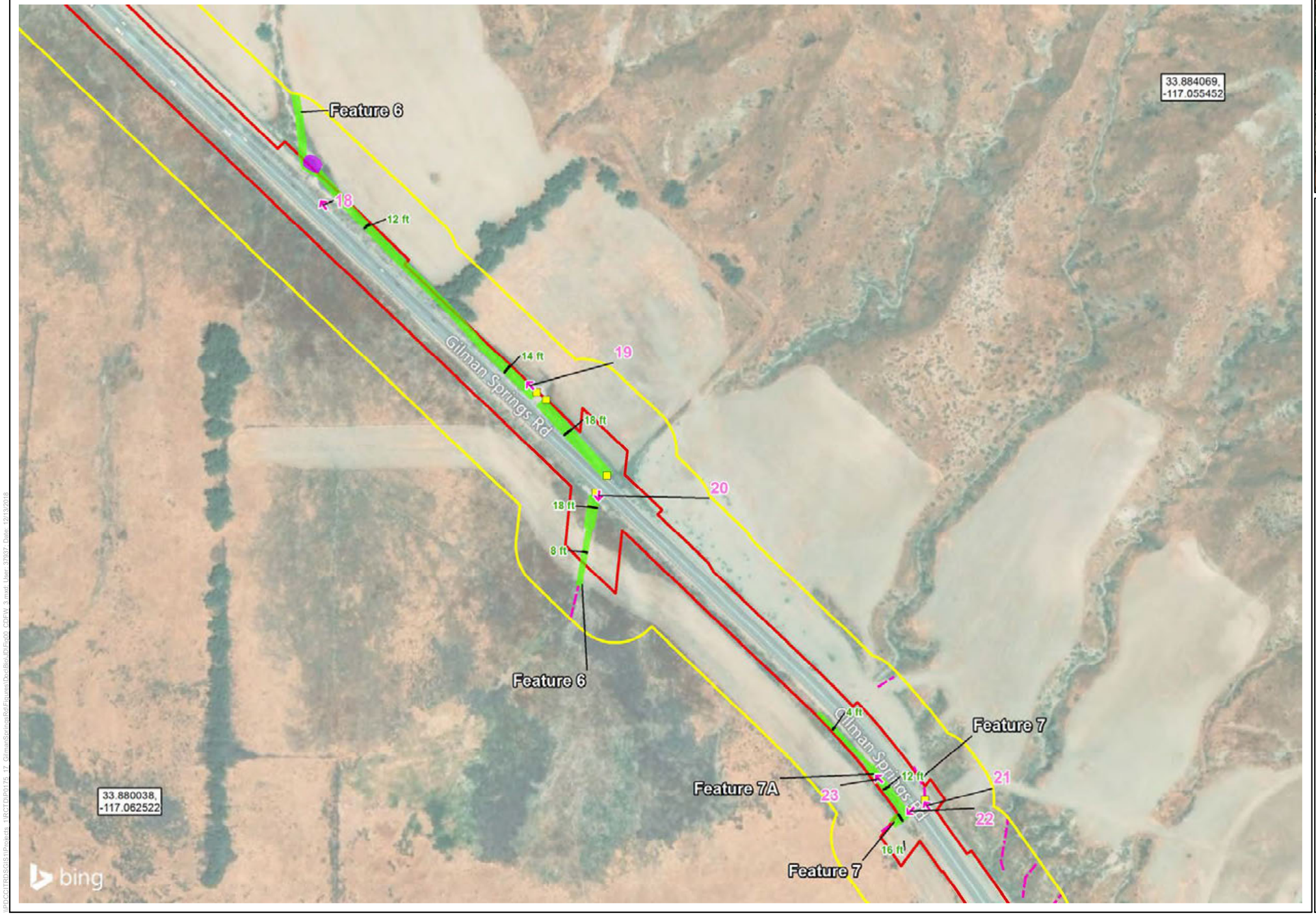
ft = Top of Bank

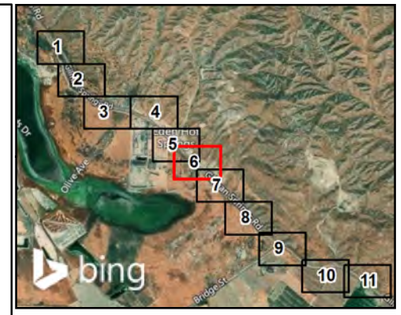
N

0 100 200 Feet

1:2,400

Figure 7 - Sheet 5
CDFW Results
Gilman Springs Median and Shoulder Improvements Project





Legend

- Limits of Disturbance
- Culvert
- Photo Location
- Swale

Potential CDFW Jursidiciton

- Streambed
- Riparian

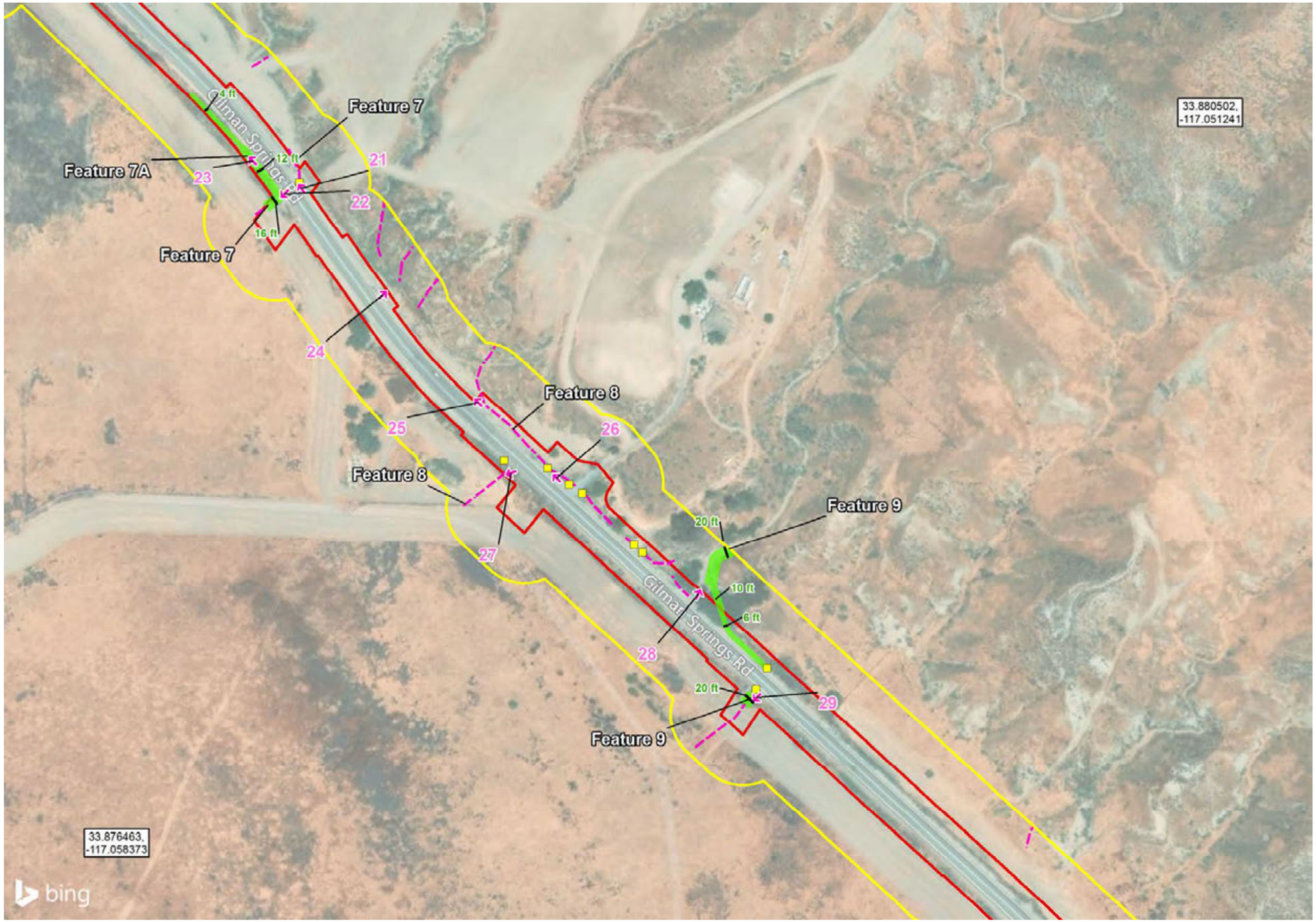
ft = Top of Bank

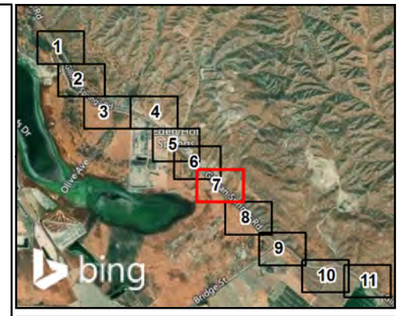
N

0 100 200 Feet

1:2,400

Figure 7 - Sheet 6
CDFW Results
Gilman Springs Median and Shoulder Improvements Project





Legend

- Limits of Disturbance
- Culvert
- Photo Location
- Swale

Potential CDFW Jursidiciton

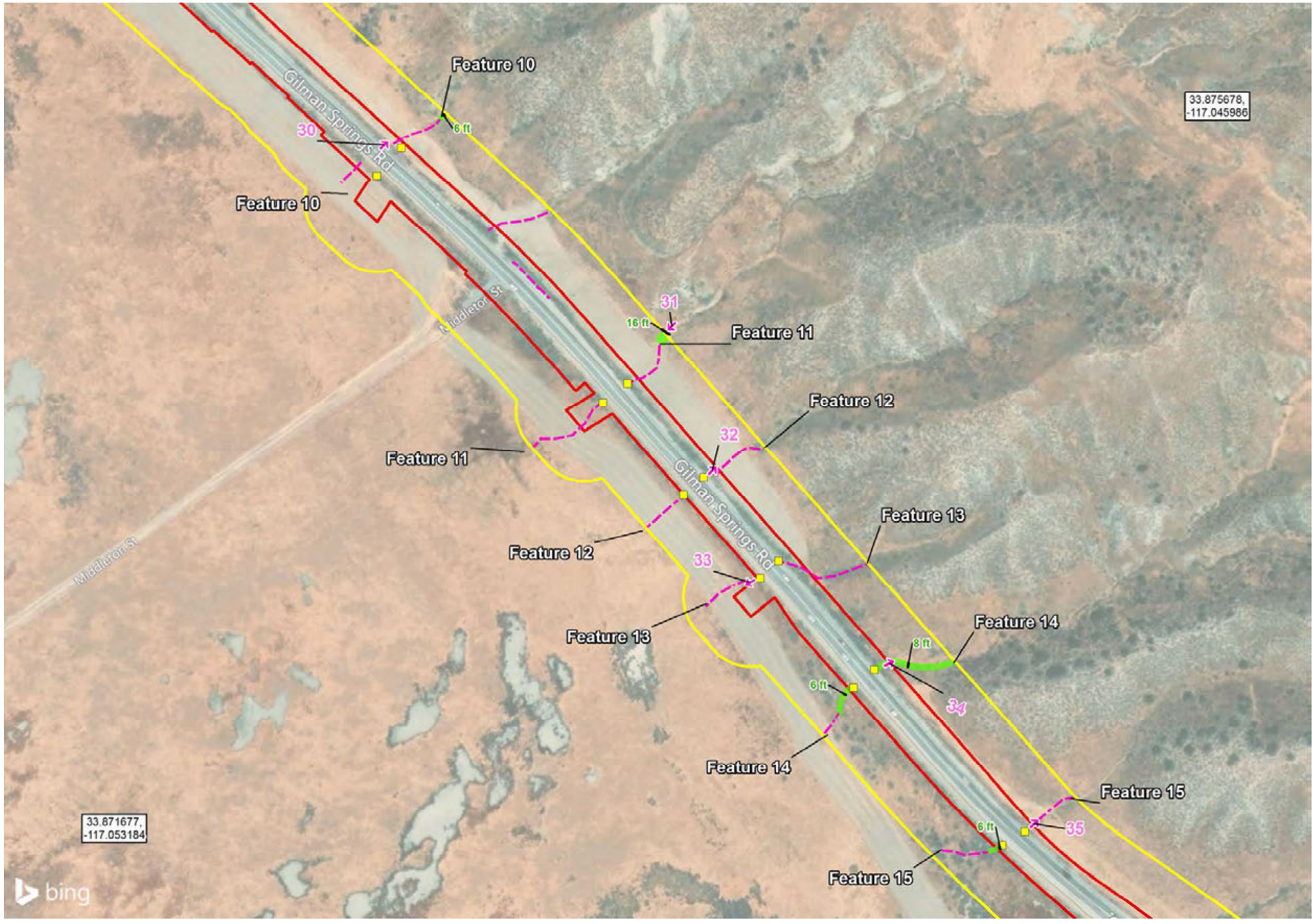
- Streambed
- Riparian

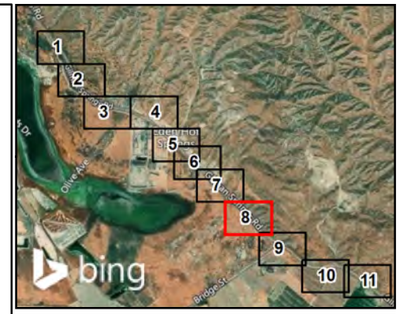
ft = Top of Bank

0 100 200 Feet
1:2,400

N

Figure 7 - Sheet 7
CDFW Results
Gilman Springs Median and Shoulder Improvements Project





Legend

- Limits of Disturbance
- Culvert
- Photo Location
- Swale

Potential CDFW Jursidiciton

- Streambed
- Riparian

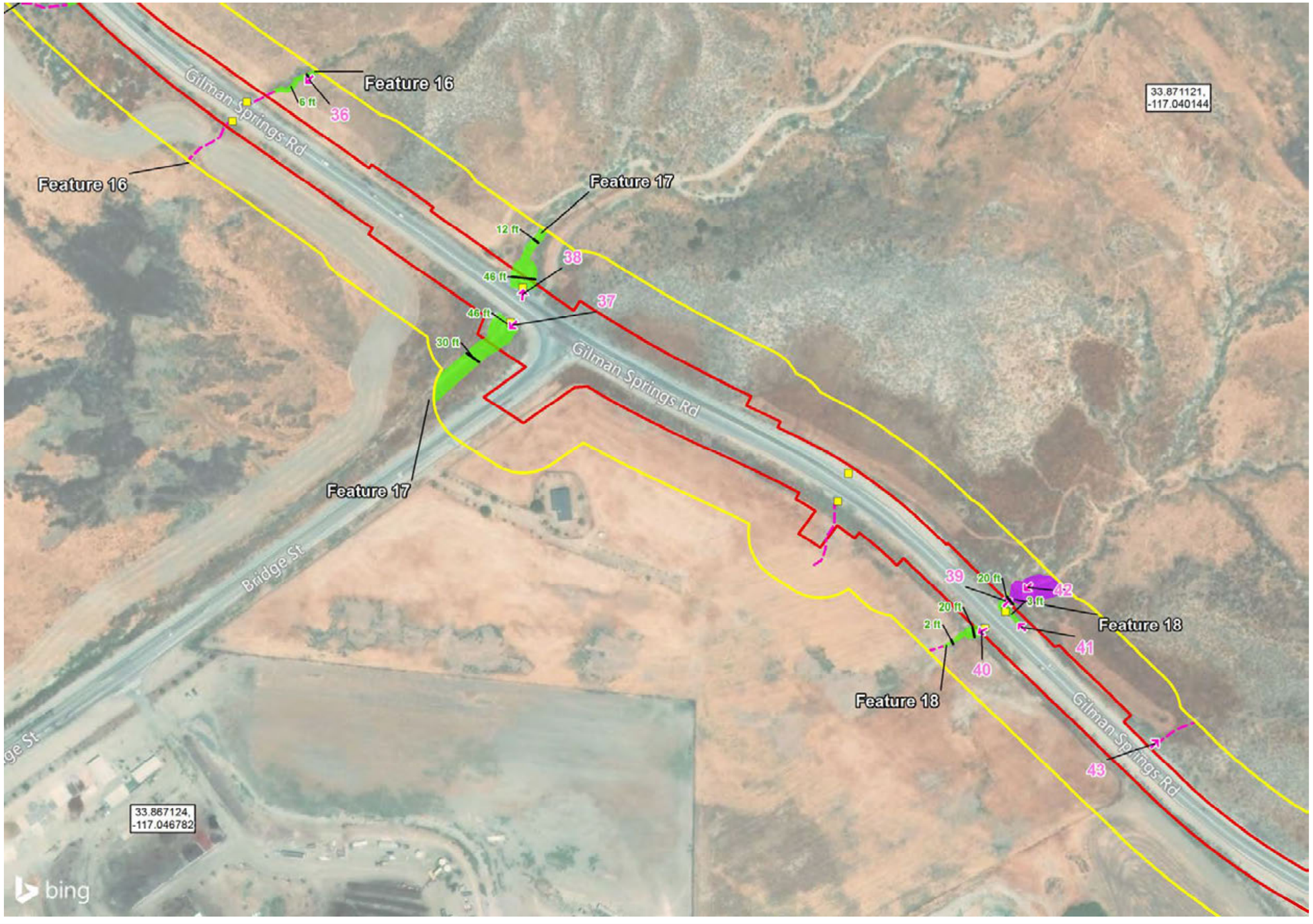
ft = Top of Bank

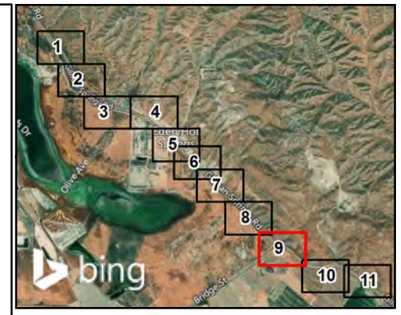
N

0 100 200 Feet

1:2,400

Figure 7 - Sheet 8
CDFW Results
Gilman Springs Median and Shoulder Improvements Project





Legend

- Limits of Disturbance
- Culvert
- Photo Location
- Swale

Potential CDFW Jursidiciton

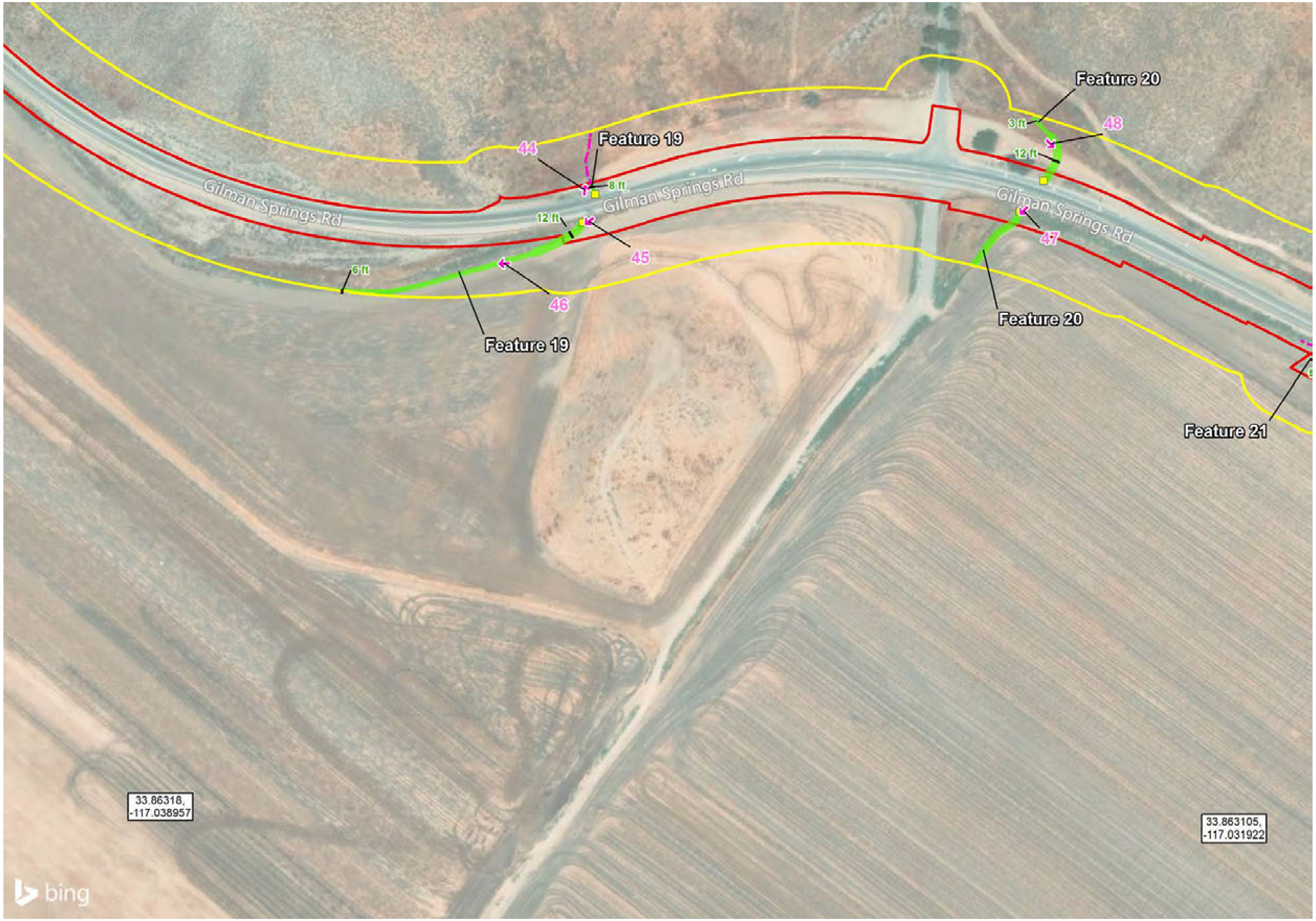
- Streambed
- Riparian

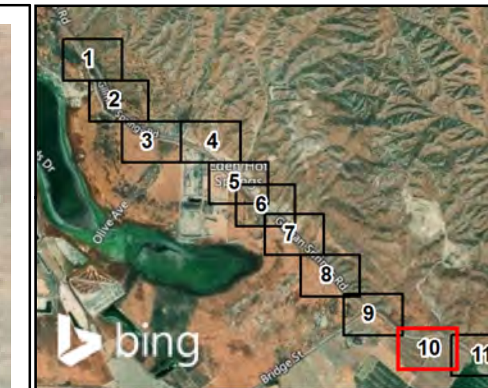
ft = Top of Bank

0 100 200 Feet
1:2,400

N

Figure 7 - Sheet 9
CDFW Results
Gilman Springs Median and Shoulder Improvements Project





Legend

- Limits of Disturbance
- Culvert
- Photo Location
- Swale

Potential CDFW Jursidiciton

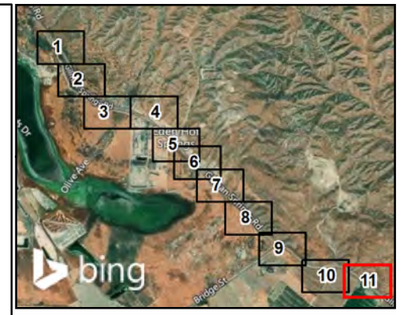
- Streambed
- Riparian
- # ft = Top of Bank

N

0 100 200 Feet

1:2,400

Figure 7 - Sheet 10
CDFW Results
Gilman Springs Median and Shoulder Improvements Project



Legend

- Limits of Disturbance
- Culvert
- Photo Location
- Swale

Potential CDFW Jursidiciton

- Streambed
- Riparian

ft = Top of Bank

N

0 100 200 Feet

1:2,400

Figure 7 - Sheet 11
CDFW Results
Gilman Springs Median and Shoulder Improvements Project

Appendix B
Site Photographs

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Appendix B – Site Photographs

Photograph	Information
	Photograph # : 1 Photo Date : 2/8/2018 Figure, Sheet: Figure 6 and 7, Sheet 2 Feature Number : 1 Direction : Northwest
	Photograph # : 2 Photo Date : 2/8/2018 Figure, Sheet: Figure 6 and 7, Sheet 2 Feature Number : 1 Direction : Southeast
	Photograph # : 3 Photo Date : 2/8/2018 Figure, Sheet: Figure 6 and 7, Sheet 2 Feature Number : 1 Direction : Southeast

Photograph # : 4

Photo Date : 12/27/2017

Figure, Sheet:
Figure 6 and 7, Sheet 2

Feature Number : 1

Direction : Northwest

Photograph # : 5

Photo Date : 12/27/2017

Figure, Sheet:
Figure 6 and 7, Sheet 2

Feature Number : 2

Direction : Northwest

Photograph # : 6

Photo Date : 12/27/2017

Figure, Sheet:
Figure 6 and 7, Sheet 2

Feature Number : 2

Direction : Northwest

Photograph # : 7

Photo Date : 12/27/2017

Figure, Sheet:
Figure 6 and 7, Sheet 2

Feature Number : 2

Direction : West

Photograph # : 8

Photo Date : 2/8/2018

Figure, Sheet:
Figure 6 and 7, Sheet 2

Feature Number : 2

Direction : West

Photograph # : 9

Photo Date : 2/8/2018

Figure, Sheet:
Figure 6 and 7, Sheet 3

Feature Number : 3

Direction : Southeast

Photograph # : 10

Photo Date : 12/27/2017

Figure, Sheet:
Figure 6 and 7, Sheet 3

Feature Number : 3

Direction : West

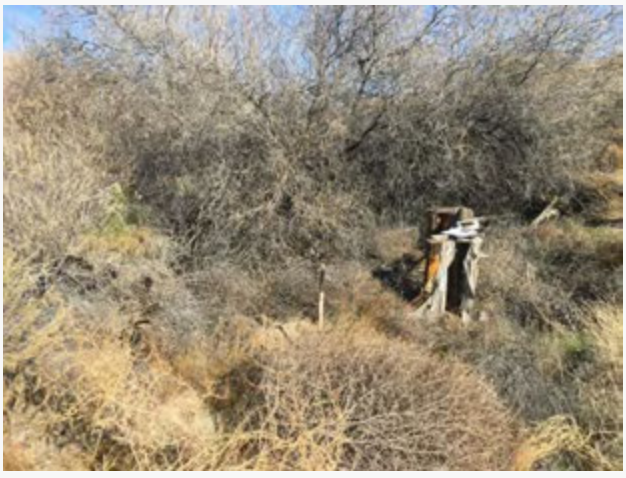
Photograph # : 11

Photo Date : 12/27/2017

Figure, Sheet:
Figure 6 and 7, Sheet 3

Feature Number : 3

Direction : East



Photograph # : 12

Photo Date : 2/8/2018

Figure, Sheet:
Figure 6 and 7, Sheet 3

Feature Number : 3

Direction : East

Photograph # : 13

Photo Date : 12/27/2017

Figure, Sheet:
Figure 6 and 7, Sheet 3

Feature Number :3

Direction : West

Photograph # : 14

Photo Date : 12/27/2017

Figure, Sheet:
Figure 6 and 7, Sheet 3

Feature Number : 3

Direction : Northwest

Photograph # : 15

Photo Date : 12/27/2017

Figure, Sheet:
Figure 6 and 7, Sheet 4

Feature Number : 4

Direction : Southwest

Photograph # : 16

Photo Date : 12/27/2017

Figure, Sheet:
Figure 6 and 7, Sheet 4

Feature Number : 4

Direction : Southwest

Photograph # : 17

Photo Date : 2/8/2018

Figure, Sheet:
Figure 6 and 7, Sheet 4

Feature Number : 5

Direction : Northwest

Photograph # : 18

Photo Date : 12/27/2017

Figure, Sheet:
Figure 6 and 7, Sheets 5 and 6

Feature Number : 6

Direction : Northwest

Photograph # : 19

Photo Date : 2/8/2018

Figure, Sheet:
Figure 6 and 7, Sheets 5 and 6

Feature Number : 6

Direction : Northwest

Photograph # : 20

Photo Date : 12/27/2017

Figure, Sheet:
Figure 6 and 7, Sheet 6

Feature Number : 6

Direction : South

Photograph # : 21

Photo Date : 12/27/2017

Figure, Sheet:
Figure 6 and 7, Sheets 6 and 7

Feature Number : 7

Direction : Northwest

Photograph # : 22

Photo Date : 12/27/2017

Figure, Sheet:
Figure 6 and 7, Sheets 6 and 7

Feature Number : 7

Direction : Southwest

Photograph # : 23

Photo Date : 2/8/2018

Figure, Sheet:
Figure 6 and 7, Sheets 6 and 7

Feature Number : 7A

Direction : Northwest

Photograph # : 24

Photo Date : 2/8/2018

Figure, Sheet:
Figure 6 and 7, Sheet 7

Feature Number : N/A - Swale

Direction : Northeast

Photograph # : 25

Photo Date : 2/8/2018

Figure, Sheet:
Figure 6 and 7, Sheet 7

Feature Number : N/A - Swale

Direction : Northwest

Photograph # : 26

Photo Date : 2/8/2018

Figure, Sheet:
Figure 6 and 7, Sheet 7

Feature Number : 8

Direction : Northwest

Photograph # : 27

Photo Date : 2/8/2018

Figure, Sheet:
Figure 6 and 7, Sheet 7

Feature Number : 8

Direction : Southwest

Photograph # : 28

Photo Date : 12/27/2017

Figure, Sheet:
Figure 6 and 7, Sheet 7

Feature Number : 9

Direction : Northeast

Photograph # : 29

Photo Date : 2/8/2018

Figure, Sheet:
Figure 6 and 7, Sheet 7

Feature Number : 9

Direction : Southwest

Photograph # : 30

Photo Date : 2/8/2018

Figure, Sheet:
Figure 6 and 7, Sheet 8

Feature Number : 10

Direction : Northeast

Photograph # : 31

Photo Date : 2/8/2018

Figure, Sheet:
Figure 6 and 7, Sheet 8

Feature Number : 11

Direction : Southwest

Photograph # : 32

Photo Date : 2/8/2018

Figure, Sheet:
Figure 6 and 7, Sheet 8

Feature Number : 12

Direction : Northeast

Photograph # : 33

Photo Date : 2/8/2018

Figure, Sheet:
Figure 6 and 7, Sheet 8

Feature Number : 13

Direction : Southwest

Photograph # : 34

Photo Date : 12/27/2017

Figure, Sheet:
Figure 6 and 7, Sheet 8

Feature Number : 14

Direction : Northeast

Photograph # : 35

Photo Date : 2/8/2018

Figure, Sheet:
Figure 6 and 7, Sheet 8

Feature Number : 15

Direction : Northeast

Photograph # : 36

Photo Date : 2/8/2018

Figure, Sheet:
Figure 6 and 7, Sheet 9

Feature Number : 16

Direction : Southwest

Photograph # : 37

Photo Date : 2/8/2018

Figure, Sheet:
Figure 6 and 7, Sheet 9

Feature Number : 17

Direction : Southwest

Photograph # : 38

Photo Date : 2/8/2018

Figure, Sheet:
Figure 6 and 7, Sheet 9

Feature Number : 17

Direction : North

Photograph # : 39

Photo Date : 12/27/2017

Figure, Sheet:
Figure 6 and 7, Sheet 9

Feature Number : 18

Direction : Northeast

Photograph # : 40

Photo Date : 12/27/2017

Figure, Sheet:
Figure 6 and 7, Sheet 9

Feature Number : 18

Direction : Southwest

Photograph # : 41

Photo Date : 12/27/2017

Figure, Sheet:
Figure 6 and 7, Sheet 9

Feature Number : 18

Direction : Northwest

Photograph # : 42

Photo Date : 2/8/2018

Figure, Sheet:
Figure 6 and 7, Sheet 9

Feature Number : 18

Direction : Southwest

Photograph # : 43

Photo Date : 2/8/2018

Figure, Sheet:
Figure 6 and 7, Sheet 9

Feature Number : N/A - Swale

Direction : Northeast

Photograph # : 44

Photo Date : 12/27/2017

Figure, Sheet:
Figure 6 and 7, Sheet 10

Feature Number : 19

Direction : North

Photograph # : 45

Photo Date : 2/8/2018

Figure, Sheet:
Figure 6 and 7, Sheet 10

Feature Number : 19

Direction : Southwest

Photograph # : 46

Photo Date : 12/27/2017

Figure, Sheet:
Figure 6 and 7, Sheet 10

Feature Number : 19

Direction : West

Photograph # : 47

Photo Date : 12/27/2017

Figure, Sheet:
Figure 6 and 7, Sheet 10

Feature Number : 20

Direction : Southwest

Photograph # : 48

Photo Date : 2/8/2018

Figure, Sheet:
Figure 6 and 7, Sheet 10

Feature Number : 20

Direction : Southeast

Photograph # : 49

Photo Date : 2/8/2018

Figure, Sheet:
Figure 6 and 7, Sheet 11

Feature Number : 21

Direction : North

Photograph # : 50

Photo Date : 2/8/2018

Figure, Sheet:
Figure 6 and 7, Sheet 11

Feature Number : 21

Direction : East

Photograph # : 51

Photo Date : 2/8/2018

Figure, Sheet:
Figure 6 and 7, Sheet 11

Feature Number : 22

Direction : South

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Appendix C

Wetland Determination and Ordinary High Water Mark Data Forms

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WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Gilman Springs Road Improvements City/County: Lakeview/Riverside Sampling Date: 2-8-2016

Applicant/Owner: RCTD State: CA Sampling Point: 1

Investigator(s): Paul Schwartz Dennis Miller Section, Township, Range: Sec. 22, T3S, R2W, El Casco

Landform (hillslope, terrace, etc.): toe of foothills Local relief (concave, convex, none): concave Slope (%): ~1

Subregion (LRR): C-Med Lat: 33.895136° Long: -117.081955 Datum: WGS 84

Soil Map Unit Name: San Timoteo loam 8-25% slopes NWI classification: N/A

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? No Are "Normal Circumstances" present? Yes ✓ No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? No (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 ____	**Is the Sampled Area within a Wetland?** Yes ____ No ✓
Hydric Soil Present?	Yes ____	No ✓	
Wetland Hydrology Present?	Yes ✓	No ____	

Remarks: small ditch w/ good sized patch of mulefat present w/in low flow portion of channel.

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: 30')			
1. N/A			
2.			
3.			
4.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 10')			
1. Baccharis salicifolia	45	Y	FAC
2.			
3.			
4.			
5.			
	45	= Total Cover	
Herb Stratum (Plot size: 5')			
1. Frankenia salina	15	Y	FACW
2. Oncosiphon pilulifernm	5	Y	UPL
3.			
4.			
5.			
6.			
7.			
8.			
	20	= Total Cover	
Woody Vine Stratum (Plot size: N/A)			
1.			
2.			
	0	= Total Cover	

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

Dominance Test worksheet:

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

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 66 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
OBL species	x 1 =	
FACW species	x 2 =	
FAC species	x 3 =	
FACU species	x 4 =	
UPL species	x 5 =	
Column Totals: (A)		(B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

✓ Dominance Test is >50% Yes

___ 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, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No ____

Remarks: ~35 litter present

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)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-14"	10YR 3/2	100	-	-	-	-	loam	No redox present

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

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[3]:

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

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: None

Depth (inches): Ø

Hydric Soil Present? Yes ____ No ✓

Remarks: Profile uniform throughout, no redox present or other indicators of hydric soil conditions.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ 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 Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ✓ 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)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5) No

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: Sample point in obvious drainage w/ mullefat (FAC) present in low flow channel

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Gilman Springs Road Improvements City/County: Lakeview/Riverside Sampling Date: 2-8-2018
Applicant/Owner: RCTD State: CA Sampling Point: 2
Investigator(s): Paul Schwartz, Dennis Miller Section, Township, Range: Sec 22, T3S, R2W El Casco
Landform (hillslope, terrace, etc.): Toe of Foothills Local relief (concave, convex, none): concave Slope (%): ~1
Subregion (LRR): C-Med Lat: 33.892799° Long: -117.060382 Datum: WGS 84
Soil Map Unit Name: San Emigdio Fine Loam 2-8 % slopes NWI classification: N/A
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? No Are "Normal Circumstances" present? Yes ✓ No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? No (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 ____	**Is the Sampled Area within a Wetland?** Yes ____ No ✓
Hydric Soil Present?	Yes ____	No ✓	
Wetland Hydrology Present?	Yes ✓	No ____	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. Salix goodingii	65	Y	FACW
2.			
3.			
4.			
	65	= Total Cover	
Sapling/Shrub Stratum (Plot size: 10')			
1. N/A			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 5')			
1. N/A			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	0	= Total Cover	
Woody Vine Stratum (Plot size: 5')			
1. N/A			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 5 % Cover of Biotic Crust 0

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)
Total Number of Dominant Species Across All Strata: 1 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species	x 2 =
FAC species	x 3 =
FACU species	x 4 =
UPL species	x 5 =
Column Totals: (A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:
✓ Dominance Test is >50%
___ 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, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No ____

Remarks: ~96% litter in herb layer, No herbaceous or shrub veg. present
Black willow trees appear stressed (drought).

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)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-16"	10YR 3/2	100	-	-	-	-	Silt loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

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[3]:

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

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: None

Depth (inches): 0

Hydric Soil Present? Yes ___ No ✓

Remarks: lots of organic material (wood, lvs) present throughout profile
No redox present, or other indicators of hydric soil conditions.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ 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 Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ✓ 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)
- ___ 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: Sample point just below 3 - 48" culverts. No defined ohwm present but has some debris wracking near willows, and obvious historical flow path.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Gilman Springs Road Improvement City/County: Lakeview/Riverside Sampling Date: 2-8-2018

Applicant/Owner: RCTD State: CA Sampling Point: 3

Investigator(s): Paul Schwaltz, Dennis Miller Section, Township, Range: Sec 22, T3S, R2W El Casco

Landform (hillslope, terrace, etc.): Toe of foothills Local relief (concave, convex, none): concave Slope (%): ~1

Subregion (LRR): C-Med Lat: 33.889586 Long: -117.072316 Datum: WGS 84

Soil Map Unit Name: Riverwash NWI classification: N/A

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? No Are "Normal Circumstances" present? Yes ✓ No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? No (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 ✓	**Is the Sampled Area within a Wetland?** Yes ____ No ✓
Hydric Soil Present?	Yes ____	No ✓	
Wetland Hydrology Present?	Yes ✓	No ____	

Remarks: Large sandy drainage w/ sporadic Desert Willow - Palo verde - Tamarisk throughout. Complete lack of FAC or wetter herbaceous plants in drainage.

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: 30')			
1. Chilopsis linearis	35	Y	FAC
2.			
3.			
4.			
	35	= Total Cover	
Sapling/Shrub Stratum (Plot size: 10')			
1. Lepidospartum squamatum	10	Y	FACU
2.			
3.			
4.			
5.			
	10	= Total Cover	
Herb Stratum (Plot size: 5')			
1. Salsola tragus	10	Y	FACU
2. Oncosiphon piluliferum	5	N	UPL
3. Bromus diandrus	10	Y	UPL
4. Bromus madritensis	10	Y	UPL
5.			
6.			
7.			
8.			
	35	= Total Cover	
Woody Vine Stratum (Plot size: 10 · 30')			
1. N/A			
2.			
	Ø	= Total Cover	

% Bare Ground in Herb Stratum 10 % Cover of Biotic Crust Ø

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 20 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
OBL species	x 1 =	
FACW species	x 2 =	
FAC species	x 3 =	
FACU species	x 4 =	
UPL species	x 5 =	
Column Totals: (A)		(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50% No

___ 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, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ____ No ✓

Remarks: ~65% litter (R. thismc)

SOIL

Sampling Point: 3

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 %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0 - 7	10YR 3/2	100	-	-	-	-	Sandy loam	
7-16	10 YR 5/2	100	-	-	-	-	Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

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[3]:

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

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: None

Depth (inches): 0

Hydric Soil Present? Yes ___ No ✓

Remarks: No redox features present or other indicators of hydric soil

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ 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 Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ✓ 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) limited
- ___ Dry-Season Water Table (C2)
- ___ 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: *Obvious large drainage feature on landscape but feature lacks sign of regular flow and low flow appears "grown in" w/ herbaceous vegetation.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Gilman Springs City/County: Lakeview / Riverside Sampling Date: 12/27/2017

Applicant/Owner: RCTD State: CA Sampling Point: 4

Investigator(s): Paul Schwartz, Marissa Maggio Section, Township, Range: Sec 26, T3S, R2W El Casco

Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): Concave Slope (%): < 1

Subregion (LRR): C-Med Lat: 33.887698 Long: -117.067527 Datum: WGS 84

Soil Map Unit Name: San Emigdio Loam 2-8% slopes NWI classification: N/A

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? No Are "Normal Circumstances" present? Yes ✓ No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? No (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 ____	**Is the Sampled Area within a Wetland?** Yes ✓ No ____
Hydric Soil Present?	Yes ✓	No ____	
Wetland Hydrology Present?	Yes ✓	No ____	

Remarks: Small wetland area caused by runoff from adjacent ranch operation, wetland more or less defined by presence of cattail + obvious wet soil conditions. Veg and boundary of "wetland" estimated from Gilman Springs Rd.

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: 30')			
1.			
2.			
3.			
4.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 10')			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 5')			
1. Typha domingensis	35	Y	OBL
2. Helianthus annus	5	N	FACU
3. Distichlis spicata	10	N	FACW
4. Oncosiphon piluliferum	5	N	FACU
5. Polypogon monospeliensis	5	N	FACW
6.			
7.			
8.			
	65	= Total Cover	
Woody Vine Stratum (Plot size: 5')			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 35 % Cover of Biotic Crust 20

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	35	x 1 =	35
FACW species	15	x 2 =	30
FAC species		x 3 =	
FACU species	10	x 4 =	40
UPL species		x 5 =	
Column Totals:	60 (A)		105 (B)

Prevalence Index = B/A = 1.75

Hydrophytic Vegetation Indicators:

✓ Dominance Test is >50%

✓ 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, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No ____

Remarks: ~20% salt crust

SOIL

Sampling Point: 4

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

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[3]:

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

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✓ No ___

Remarks: Soils assumed due to no access to private property. + presence of hydrology + vegetation

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ✓ 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 Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ 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)
- ___ 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): 0.5"

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: water coming from adj. ranch operations, appears to be salt crust near boundary of wetland area.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Gilman Springs Road Improvement City/County: Lakeview / Riverside Sampling Date: 12/27/2017
Applicant/Owner: RCTD State: CA Sampling Point: 5
Investigator(s): Paul Schwartz, Marissa Maggio Section, Township, Range: Sec 26, T3S, R2W El Casco
Landform (hillslope, terrace, etc.): +/- flat Local relief (concave, convex, none): ~flat Slope (%): <1
Subregion (LRR): C - Med Lat: 33.887565 Long: -117.067478 Datum: WGS 84
Soil Map Unit Name: San Emigdio Loam 2-8% slopes NWI classification: N/A
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? No Are "Normal Circumstances" present? Yes ✓ No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? No (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 ✓	**Is the Sampled Area within a Wetland?** Yes ____ No ✓
Hydric Soil Present?	Yes ____	No ✓	
Wetland Hydrology Present?	Yes ✓	No ____	

Remarks: Paired pit w/ SP#4, Dry non-hydrophytic vegetation adj. to wetland feature. Soils not assummed due to lack of hydrophytic vegetation. Veg estimated from Gilman Springs Road.

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: 30')			
1.			
2.			
3.			
4.			
	Ø = Total Cover		
Sapling/Shrub Stratum (Plot size: 10')			
1.			
2.			
3.			
4.			
5.			
	Ø = Total Cover		
Herb Stratum (Plot size: 5')			
1. Helianthus annus	15	Y	FACU
2. Oncosiphon pilulifernm	15	Y	FACU
3. Salsola tragus	15	Y	FACU
4.			
5.			
6.			
7.			
8.			
	45 = Total Cover		
Woody Vine Stratum (Plot size: 5')			
1.			
2.			
	Ø = Total Cover		

% Bare Ground in Herb Stratum ____ % Cover of Biotic Crust 20%

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: Ø (A)
Total Number of Dominant Species Across All Strata: Ø (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: Ø (A/B)

Prevalence Index worksheet:

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

Prevalence Index = B/A = 4.0

Hydrophytic Vegetation Indicators:
___ Dominance Test is >50% No
___ Prevalence Index is ≤3.0[1] No
___ 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, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ____ No ✓

Remarks: ~20% salt crust

SOIL

Sampling Point: 5

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

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[3]:

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

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✓

Remarks: No access. Soils not assumed to be hydric due to lack of hydrophytic vegetation.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ✓ 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 Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ 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)
- ___ 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): 2"

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: Water coming from adj. ranch operation, appears to be salt crust on surface of soil in area and some surface water present.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Gilman Springs Road Improvement City/County: Lakeview/Riverside Sampling Date: 2-8-2018

Applicant/Owner: RCTD State: CA Sampling Point: 6

Investigator(s): Paul Schwartz Dennis Miller Section, Township, Range: Sec 36, T3S, R2W Lakeview

Landform (hillslope, terrace, etc.): Toe of Foothill Local relief (concave, convex, none): concave Slope (%): ~1

Subregion (LRR): C-Med Lat: 33.868402 Long: -117.041212 Datum: WGS84

Soil Map Unit Name: San Timoteo Loam 8-25% slopes NWI classification: N/A

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? No Are "Normal Circumstances" present? Yes ✓ No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? No (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 ✓	**Is the Sampled Area within a Wetland?** Yes ____ No ✓
Hydric Soil Present?	Yes ____	No ✓	
Wetland Hydrology Present?	Yes ✓	No ____	

Remarks: Large drainage feature vegetated w/ arroweed (P. sericea, FACW) throughout but lacks any FAC or wetter herbaceous veg.

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: 30')			
1. N/A			
2.			
3.			
4.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 10')			
1. Pluchea sericea	40	Y	FACW
2.			
3.			
4.			
5.			
	40	= Total Cover	
Herb Stratum (Plot size: 5')			
1. Bromus madritensis	60	Y	UPL
2. Sisymbrium irio	5	N	UPL
3. Bromus diandrus	25	Y	UPL
4.			
5.			
6.			
7.			
8.			
	90	= Total Cover	
Woody Vine Stratum (Plot size: 30'-10')			
1. N/A			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 10 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 33 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	40	x 2 =	80
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	90	x 5 =	450
Column Totals:	130 (A)		530 (B)

Prevalence Index = B/A = 4.07

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50% No

___ Prevalence Index is ≤3.0[1] No

___ 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, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ____ No ✓

Remarks: complete UPL herb layer w/ arrow weed shrubs (FACW)

SOIL

Sampling Point: 6

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-16"	10YR 4/2	100	-	-	-	-	loam	one layer, no redox

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

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[3]:

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

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: None

Depth (inches): ___

Hydric Soil Present? Yes ___ No ✓

Remarks: No hydric soil indicators present. Top 1-2" of soil column contains roots/organic matter but is 10YR 4/2 consistent w/ remainder of column.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ 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 Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- K 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)
- ___ 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: *obvious drainage feature w/ bed + banks w/ some minor bent veg near culvert inlet area (drainage patterns) no OHWM otherwise, no cut bank/scol. or other definitive OHWM indicator.

(#1)

* Visually estimated from Right of Way along Gilman Springs Rd.

Arid West Ephemeral and Intermittent Streams OHWM Datasheet

Project: Gilman Springs Rd. Improvements
Project Number:
Stream: Feature 9, un-named intermittent blue-line feature.
Investigator(s): Paul Schwartz, Marissa Maggio
Date: 2/8/2018 **Time:** 12:15 PM
Town: Moreno Valley **State:** CA
Photo begin file#: **Photo end file#:**
OHWM form completed above Gilman Springs Rd.

Y ☒ / N ☐ Do normal circumstances exist on the site?

Y ☒ / N ☐ Is the site significantly disturbed?

Location Details: El Casco, CA USGS Quad Gilman Springs Rd. Approx 325' SE of Peppertree Lane

Projection: Lat: 33.877889° **Datum:** WGS 84
Coordinates: Long: -117.054539°

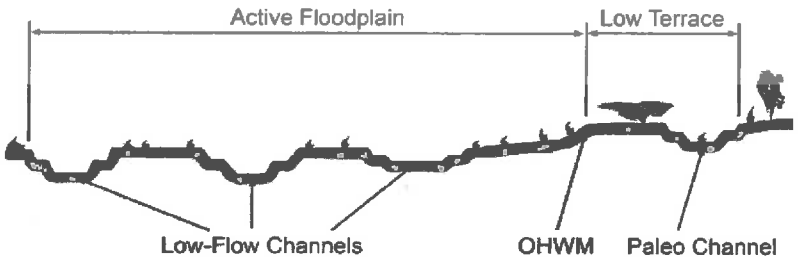
Potential anthropogenic influences on the channel system: Feature is culverted under Gilman Springs Rd. via several 36" culverts. Road constructed on west side of feature.

Brief site description: Earthen drainage (Ephemeral) that is relatively shallow. Feature appears to be more defined above/outside project study area limits and then gets shallow as it enters study area. Some cobble and sign of sheet flow "splays" apparent. Some mesquite + mesic desert shrubs assoc. w/ feature along Gilman Springs Rd.

Checklist of resources (if available):

- ☒ Aerial photography
  Dates: Google Earth: 10/2003 - 2/2018
- ☒ Topographic maps
- ☐ Geologic maps
- ☒ Vegetation maps
- ☒ Soils maps
- ☐ Rainfall/precipitation maps
- ☐ Existing delineation(s) for site
- ☒ Global positioning system (GPS)
- ☐ Other studies
- ☐ Stream gage data
  Gage number:
  Period of record:
- ☐ History of recent effective discharges
- ☐ Results of flood frequency analysis
- ☐ Most recent shift-adjusted rating
- ☐ Gage heights for 2-, 5-, 10-, and 25-year events and the most recent event exceeding a 5-year event

Hydrogeomorphic Floodplain Units

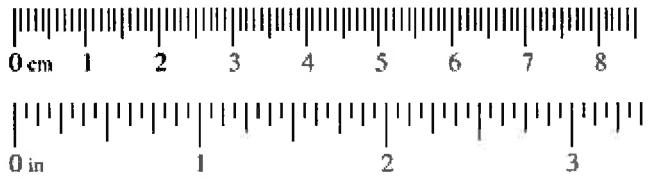


Procedure for identifying and characterizing the floodplain units to assist in identifying the OHWM:

1. Walk the channel and floodplain within the study area to get an impression of the geomorphology and vegetation present at the site.
2. Select a representative cross section across the channel. Draw the cross section and label the floodplain units.
3. Determine a point on the cross section that is characteristic of one of the hydrogeomorphic floodplain units.
   a) Record the floodplain unit and GPS position.
   b) Describe the sediment texture (using the Wentworth class size) and the vegetation characteristics of the floodplain unit.
   c) Identify any indicators present at the location.
4. Repeat for other points in different hydrogeomorphic floodplain units across the cross section.
5. Identify the OHWM and record the indicators. Record the OHWM position via:
   - ☐ Mapping on aerial photograph
   - ☐ Digitized on computer
   - ☒ GPS
   - ☒ Other: Depicted on cross-section drawings in OHWM form.

Wentworth Size Classes

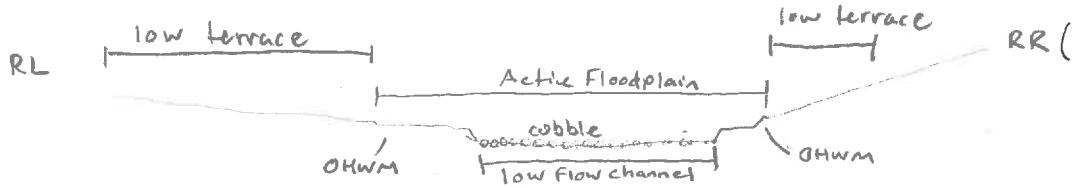
Millimeters (mm)		Inches (in)		Wentworth size class	
	10.08		256	Boulder	
	2.56		64	Cobble	Gravel
	0.157		4	Pebble	
	0.079		2.00	Granule	
	0.039		1.00	Very coarse sand	
	0.020		0.50	Coarse sand	
1/2	0.0098		0.25	Medium sand	Sand
1/4	0.005		0.125	Fine sand	
1/8	0.0025		0.0625	Very fine sand	
1/16	0.0012		0.031	Coarse silt	
1/32	0.00061		0.0156	Medium silt	
1/64	0.00031		0.0078	Fine silt	Silt
1/128	0.00015		0.0039	Very fine silt	
				Clay	Mud



Gilman Springs Feature 9 2/8/2018

Project ID: Rd. **Cross section ID:** **Date:** **Time:** 12:15PM

Cross section drawing: upstream of Gilman Springs Rd.



R.R = Right hand side of River (feature) when facing downstream.

R.L. = Left hand side of River (feature) when facing downstream.

OHWM

GPS point: _____

Indicators:

- [x] Change in average sediment texture
- [ ] Change in vegetation species
- [x] Change in vegetation cover
- [x] Break in bank slope
- [x] Other: lack of debris above OHWM
- [ ] Other: _____

Comments:

OHWM distinct w/ obvious break in slope, distinct change in vegetation cover and distinct change in sediment texture.

Floodplain unit: [x] Low-Flow Channel [ ] Active Floodplain [ ] Low Terrace

GPS point: _____

Characteristics of the floodplain unit:

Average sediment texture: cobble / sand

Total veg cover: < 5 % Tree: 0 % Shrub: 0 % Herb: < 5 %

Community successional stage:

- [ ] NA
- [x] Early (herbaceous & seedlings)
- [ ] Mid (herbaceous, shrubs, saplings)
- [ ] Late (herbaceous, shrubs, mature trees)

Indicators:

- [ ] Mudcracks
- [ ] Ripples
- [x] Drift and/or debris
- [x] Presence of bed and bank
- [x] Benches
- [ ] Soil development
- [ ] Surface relief
- [ ] Other: _____
- [ ] Other: _____
- [ ] Other: _____

Comments:

Low flow defined as area w/ higher sand composition + cobble and very little herbaceous veg cover (grasses).

Project ID: Gilman Springs Rd Cross section ID: Feature 9 Date: 2/8/2018 Time: 12:15 PM

Floodplain unit: ☐ Low-Flow Channel ☒ Active Floodplain ☐ Low Terrace

GPS point: _____

Characteristics of the floodplain unit:

Average sediment texture: sandy loam

Total veg cover: 60 % Tree: 0 % Shrub: 10 % Herb: 50 %

Community successional stage:

- ☐ NA
- ☐ Early (herbaceous & seedlings)
- ☒ Mid (herbaceous, shrubs, saplings)
- ☐ Late (herbaceous, shrubs, mature trees)

Indicators:

- ☐ Mudcracks
- ☐ Ripples
- ☒ Drift and/or debris
- ☒ Presence of bed and bank
- ☒ Benches
- ☒ Soil development
- ☐ Surface relief
- ☐ Other: _____
- ☐ Other: _____
- ☐ Other: _____

Comments:

Active floodplain defined by OHWM indicators such as an obvious break in slope, change in vegetation cover and lack of debris located above OHWM.

Floodplain unit: ☐ Low-Flow Channel ☐ Active Floodplain ☒ Low Terrace

GPS point: _____

Characteristics of the floodplain unit:

Average sediment texture: sandy loam

Total veg cover: 75 % Tree: 0 % Shrub: 25 % Herb: 50 %

Community successional stage:

- ☐ NA
- ☐ Early (herbaceous & seedlings)
- ☒ Mid (herbaceous, shrubs, saplings)
- ☐ Late (herbaceous, shrubs, mature trees)

Indicators:

- ☐ Mudcracks
- ☐ Ripples
- ☐ Drift and/or debris
- ☒ Presence of bed and bank
- ☒ Benches
- ☐ Soil development
- ☐ Surface relief
- ☐ Other: _____
- ☐ Other: _____
- ☐ Other: _____

Comments:

Low terrace defined by lack of OHWM indicators. NO debris located above OHWM, higher shrub cover (Δ in veg cover). No obvious break in slope above OHWM.

#2

Arid West Ephemeral and Intermittent Streams OHWM Datasheet

Project: Gilman Springs Rd. Improvements
Project Number:
Stream: Feature 14 Non blue-line feature.
Investigator(s): Paul Schwartz, Merissa Maggio
Date: 2/8/2018 **Time:** 2:30 PM
Town: Moreno Valley **State:** CA
Photo begin file#: OHWM completed above Gilman Springs Rd. **Photo end file#:**

Y ☒ / N ☐ Do normal circumstances exist on the site?

Y ☒ / N ☐ Is the site significantly disturbed?

Location Details: Lakeview CA USGS Quad Gilman Springs Rd. Approx 0.3mi NW of Bridge St.

Projection: Lat: 33.872568° **Datum:** WGS 84
Coordinates: Long: -117.048111°

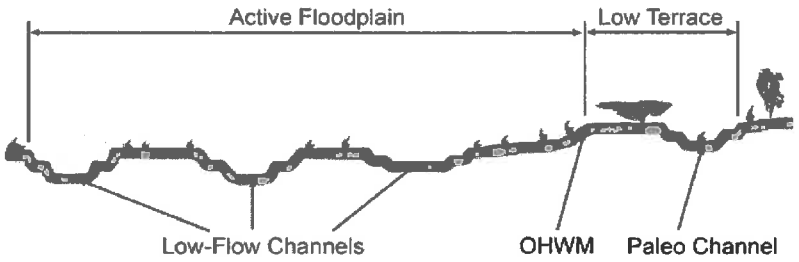
Potential anthropogenic influences on the channel system:
Feature is culverted under Gilman Springs Rd,

Brief site description: Small ephemeral earthen drainage. Feature is better defined above / outside of study area. Vegetation consists of herbs/grasses and some shrub cover.

Checklist of resources (if available):

- ☒ Aerial photography
  Dates: Google Earth; 10/2003 - 2/2018
- ☒ Topographic maps
- ☐ Geologic maps
- ☒ Vegetation maps
- ☒ Soils maps
- ☐ Rainfall/precipitation maps
- ☐ Existing delineation(s) for site
- ☒ Global positioning system (GPS)
- ☐ Other studies
- ☐ Stream gage data
  Gage number:
  Period of record:
- ☐ History of recent effective discharges
- ☐ Results of flood frequency analysis
- ☐ Most recent shift-adjusted rating
- ☐ Gage heights for 2-, 5-, 10-, and 25-year events and the most recent event exceeding a 5-year event

Hydrogeomorphic Floodplain Units

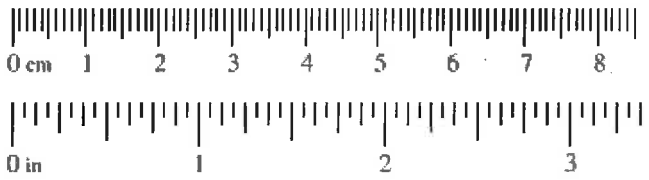


Procedure for identifying and characterizing the floodplain units to assist in identifying the OHWM:

1. Walk the channel and floodplain within the study area to get an impression of the geomorphology and vegetation present at the site.
2. Select a representative cross section across the channel. Draw the cross section and label the floodplain units.
3. Determine a point on the cross section that is characteristic of one of the hydrogeomorphic floodplain units.
   a) Record the floodplain unit and GPS position.
   b) Describe the sediment texture (using the Wentworth class size) and the vegetation characteristics of the floodplain unit.
   c) Identify any indicators present at the location.
4. Repeat for other points in different hydrogeomorphic floodplain units across the cross section.
5. Identify the OHWM and record the indicators. Record the OHWM position via:
   - ☐ Mapping on aerial photograph
   - ☐ Digitized on computer
   - ☒ GPS
   - ☒ Other: Depicted on cross-section drawings in OHWM Form.

Wentworth Size Classes

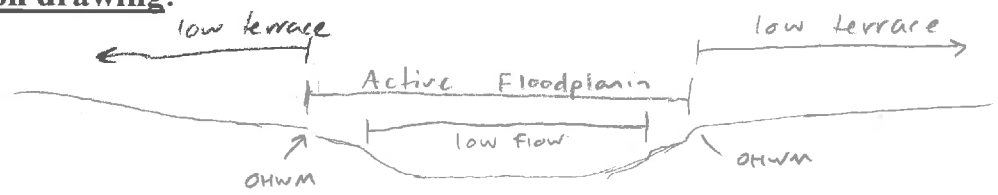
Millimeters (mm)		Inches (in)		Wentworth size class	
	10.08		256	Boulder	
	2.56		64	Cobble	Gravel
	0.157		4	Pebble	
	0.079		2.00	Granule	
	0.039		1.00	Very coarse sand	
	0.020		0.50	Coarse sand	
1/2	0.0098		0.25	Medium sand	Sand
1/4	0.005		0.125	Fine sand	
1/8	0.0025		0.0625	Very fine sand	
1/16	0.0012		0.031	Coarse silt	
1/32	0.00061		0.0156	Medium silt	
1/64	0.00031		0.0078	Fine silt	Silt
1/128	0.00015		0.0039	Very fine silt	
				Clay	Mud



Gilman Springs Rd. Feature 14

Project ID: **Cross section ID:** **Date:** 2/8/2018 **Time:** 2:30 PM

Cross section drawing:



R.R. = Right hand side of river (feature) when facing downstream.
R.L. = Left hand side of river (feature) when facing downstream.

OHWM

GPS point: _____

Indicators:

- [x] Change in average sediment texture
- [ ] Change in vegetation species
- [x] Change in vegetation cover
- [x] Break in bank slope
- [ ] Other: _____
- [ ] Other: _____

Comments:

Noticably less veg cover in low flow, break in slope defines OHWM (active floodplain). Most change in veg cover assoc. w/ low flow channel compared to edge of active floodplain.

Floodplain unit: [x] Low-Flow Channel [ ] Active Floodplain [ ] Low Terrace

GPS point: _____

Characteristics of the floodplain unit:

Average sediment texture: sandy loam

Total veg cover: 65 % Tree: 0 % Shrub: 10 % Herb: 55 %

Community successional stage:

- [ ] NA
- [ ] Early (herbaceous & seedlings)
- [x] Mid (herbaceous, shrubs, saplings)
- [ ] Late (herbaceous, shrubs, mature trees)

Indicators:

- [ ] Mudcracks
- [ ] Ripples
- [ ] Drift and/or debris
- [x] Presence of bed and bank
- [x] Benches
- [ ] Soil development
- [ ] Surface relief
- [ ] Other: _____
- [ ] Other: _____
- [ ] Other: _____

Comments:

Low flow defined w/ change in veg cover and some change in species. Break in slope is apparent + some change in sediment.

Project ID: Gilman Springs Rd Cross section ID: Feature 14 Date: Time: 2:30 PM

Floodplain unit: ☐ Low-Flow Channel ☒ Active Floodplain ☐ Low Terrace

GPS point: _____

Characteristics of the floodplain unit:

Average sediment texture: _____

Total veg cover: 75 % Tree: 0 % Shrub: 15 % Herb: 60 %

Community successional stage:

- ☐ NA
- ☐ Early (herbaceous & seedlings)
- ☒ Mid (herbaceous, shrubs, saplings)
- ☐ Late (herbaceous, shrubs, mature trees)

Indicators:

- ☐ Mudcracks
- ☐ Ripples
- ☐ Drift and/or debris
- ☒ Presence of bed and bank
- ☒ Benches
- ☐ Soil development
- ☐ Surface relief
- ☐ Other: _____
- ☐ Other: _____
- ☐ Other: _____

Comments:

Active floodplain defined by slight change in slope / veg cover changes.

Floodplain unit: ☐ Low-Flow Channel ☐ Active Floodplain ☒ Low Terrace

GPS point: _____

Characteristics of the floodplain unit:

Average sediment texture: _____

Total veg cover: 75 % Tree: 0 % Shrub: 15 % Herb: 60 %

Community successional stage:

- ☐ NA
- ☐ Early (herbaceous & seedlings)
- ☒ Mid (herbaceous, shrubs, saplings)
- ☐ Late (herbaceous, shrubs, mature trees)

Indicators:

- ☐ Mudcracks
- ☐ Ripples
- ☐ Drift and/or debris
- ☒ Presence of bed and bank
- ☒ Benches
- ☐ Soil development
- ☐ Surface relief
- ☐ Other: _____
- ☐ Other: _____
- ☐ Other: _____

Comments:

Low terrace defined by lack of active floodplain indicators.

(#3)

Arid West Ephemeral and Intermittent Streams OHWM Datasheet

Project: Gilman Springs Rd. Improvements
Project Number:
Stream: Feature 17 un-named intermittent blue line feature.
Investigator(s): Paul Schwartz, Marissa Maggio

Date: 2/8/2018 **Time:** N/A
Town: Moreno Valley **State:** CA
Photo begin file#: **Photo end file#:**
*OHWM Form completed upstream of Gilman Springs Rd.

Y ☒ / N ☐ Do normal circumstances exist on the site?

Y ☒ / N ☐ Is the site significantly disturbed?

Location Details: Lakeview, CA USGS Quad
Intersection of Gilman Springs Rd / Bridge St.

Projection: Lat: 33.870066° **Datum:** WGS 84
Coordinates: Long: -117.044238°

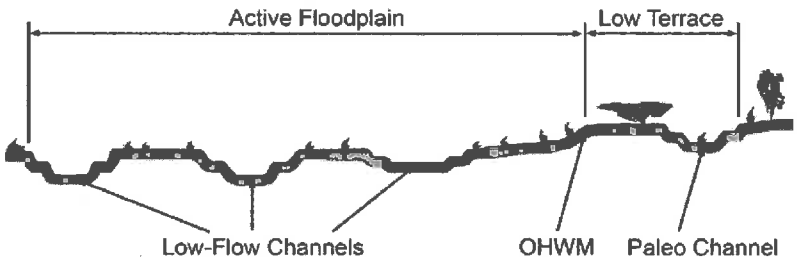
Potential anthropogenic influences on the channel system: Feature passes under Gilman Springs Rd via large box culvert. Trash present in drainage.

Brief site description: Earthen drainage that is culverted under Gilman Springs Rd. via large box culvert. Drainage consists of low flow channel and two terraces. No riparian veg assoc. w/ drainage. Drainage is ephemeral, only flowing after rain events.

Checklist of resources (if available):

- ☒ Aerial photography
  Dates: Google Earth: 10/2013 – 2/2018
- ☒ Topographic maps
- ☐ Geologic maps
- ☒ Vegetation maps
- ☒ Soils maps
- ☐ Rainfall/precipitation maps
- ☐ Existing delineation(s) for site
- ☒ Global positioning system (GPS)
- ☐ Other studies
- ☐ Stream gage data
  Gage number:
  Period of record:
- ☐ History of recent effective discharges
- ☐ Results of flood frequency analysis
- ☐ Most recent shift-adjusted rating
- ☐ Gage heights for 2-, 5-, 10-, and 25-year events and the most recent event exceeding a 5-year event

Hydrogeomorphic Floodplain Units

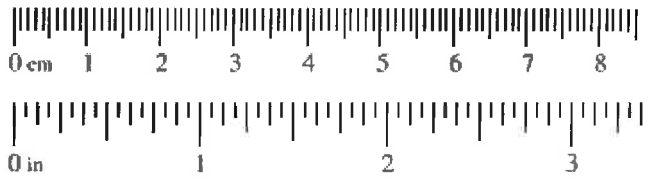


Procedure for identifying and characterizing the floodplain units to assist in identifying the OHWM:

1. Walk the channel and floodplain within the study area to get an impression of the geomorphology and vegetation present at the site.
2. Select a representative cross section across the channel. Draw the cross section and label the floodplain units.
3. Determine a point on the cross section that is characteristic of one of the hydrogeomorphic floodplain units.
   a) Record the floodplain unit and GPS position.
   b) Describe the sediment texture (using the Wentworth class size) and the vegetation characteristics of the floodplain unit.
   c) Identify any indicators present at the location.
4. Repeat for other points in different hydrogeomorphic floodplain units across the cross section.
5. Identify the OHWM and record the indicators. Record the OHWM position via:
   - ☐ Mapping on aerial photograph
   - ☐ Digitized on computer
   - ☒ GPS
   - ☒ Other: Depicted on cross-section drawings in OHWM Form.

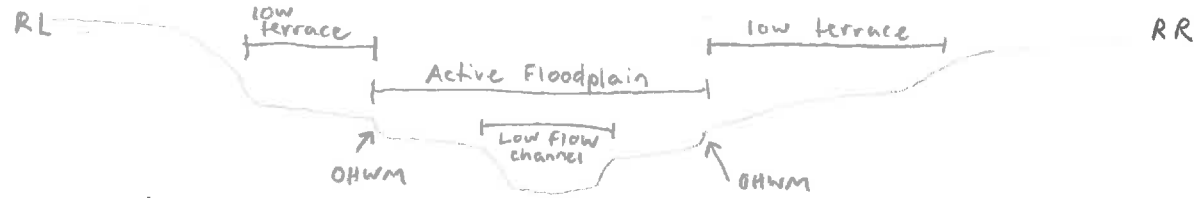
Wentworth Size Classes

Millimeters (mm)	Inches (in)	Wentworth size class	
10.08	256	Boulder	
		Cobble	Gravel
2.56	64	Pebble	
0.157	4	Granule	
0.079	2.00	Very coarse sand	
0.039	1.00	Coarse sand	
0.020	0.50	Medium sand	Sand
1/2 0.0098	0.25	Fine sand	
1/4 0.005	0.125	Very fine sand	
1/8 0.0025	0.0625	Coarse silt	
1/16 0.0012	0.031	Medium silt	
1/32 0.00061	0.0156	Fine silt	Silt
1/64 0.00031	0.0078	Very fine silt	
1/128 0.00015	0.0039	Clay	Mud



Project ID: Gilman Springs Rd. **Cross section ID:** Feature 17 **Date:** 2/8/2018 **Time:** 2:55 PM

Cross section drawing: upstream of Gilman Springs Rd.



RR = Right hand side of River (Feature) when facing downstream
RL = Left hand side of River (Feature) when facing downstream.

OHWM

GPS point: _____

Indicators:

- [x] Change in average sediment texture
- [ ] Change in vegetation species
- [x] Change in vegetation cover
- [x] Break in bank slope
- [x] Other: lack of debris above OHWM
- [ ] Other: _____

Comments:

OHWM distinct w/ obvious break in slope and some change in sediment texture. Some debris located below OHWM but not above. Some change in veg. cover on E bank.

Floodplain unit: [x] Low-Flow Channel [ ] Active Floodplain [ ] Low Terrace

GPS point: _____

Characteristics of the floodplain unit:

Average sediment texture: sandy loam

Total veg cover: 20* % Tree: 0 % Shrub: 5 % Herb: 15 % (*all overhanging not much veg rooted in low flow)

Community successional stage:

- [ ] NA
- [ ] Early (herbaceous & seedlings)
- [x] Mid (herbaceous, shrubs, saplings)
- [ ] Late (herbaceous, shrubs, mature trees)

Indicators:

- [ ] Mudcracks
- [ ] Ripples
- [x] Drift and/or debris
- [x] Presence of bed and bank
- [x] Benches
- [ ] Soil development
- [ ] Surface relief
- [ ] Other: _____
- [ ] Other: _____
- [ ] Other: _____

Comments:

Obvious low flow channel primarily engaged when feature is active. Low flow channel has noticably less vegetation and is approx. 1 - 1.5 feet deep w/ vertical banks. Some debris in low flow.

Project ID: Gilman Springs Rd. Cross section ID: Date: 2/8/2018 Time: 2:55pm

Floodplain unit: ☐ Low-Flow Channel ☒ Active Floodplain ☐ Low Terrace

GPS point: _____

Characteristics of the floodplain unit:

Average sediment texture: sandy loam

Total veg cover: 60 % Tree: 0 % Shrub: 15 % Herb: 45 %

Community successional stage:

- ☐ NA
- ☐ Early (herbaceous & seedlings)
- ☒ Mid (herbaceous, shrubs, saplings)
- ☐ Late (herbaceous, shrubs, mature trees)

Indicators:

- ☐ Mudcracks
- ☐ Ripples
- ☒ Drift and/or debris
- ☒ Presence of bed and bank
- ☒ Benches
- ☐ Soil development
- ☐ Surface relief
- ☐ Other: _____
- ☐ Other: _____
- ☐ Other: _____

Comments:

Active Floodplain distinctly defined by OHWM features such as presence of break in slope, presence of debris at/below OHWM but not above,

Floodplain unit: ☐ Low-Flow Channel ☐ Active Floodplain ☒ Low Terrace

GPS point: _____

Characteristics of the floodplain unit:

Average sediment texture: sandy loam

Total veg cover: 75 % Tree: 0 % Shrub: 25 % Herb: 50 %

Community successional stage:

- ☐ NA
- ☐ Early (herbaceous & seedlings)
- ☒ Mid (herbaceous, shrubs, saplings)
- ☐ Late (herbaceous, shrubs, mature trees)

Indicators:

- ☐ Mudcracks
- ☐ Ripples
- ☐ Drift and/or debris
- ☒ Presence of bed and bank
- ☒ Benches
- ☐ Soil development
- ☐ Surface relief
- ☐ Other: _____
- ☐ Other: _____
- ☐ Other: _____

Comments:

Defined by lack of OHWM features such as debris, also no obvious other sign of regular flow above OHWM, which is well defined.

Appendix D
Study Area Plant List

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Appendix D – Study Area Plant List

Adoxaceae (Elderberry Family)
blue elderberry (*Sambucus nigra* ssp. *caerulea*)

Anacardiaceae (Sumac Family)
laurel sumac (*Malosma laurina*)
Peruvian pepper tree (*Schinus molle*)

Amaranthaceae (Amaranth Family)
five horn bassia (*Bassia hyssopifolia*)
four-winged saltbush (*Atriplex canescens*)
Russian thistle (*Salsola tragus*)

Arecaceae (Palm Family)
Mexican fan palm (*Washingtonia robusta*)

Asteraceae (Sunflower Family)
annual burrweed (*Ambrosia acanthicarpa*)
annual sunflower (*Helianthus annuus*)
arrow-weed (*Pluchea sericea*)
brittelbrush (*Encelia farinosa*)
California sagebrush (*Artemisia californica*)
mule fat (*Baccharis salicifolia*)
pinebush (*Ericameria pinifolia*)
prickly lettuce (*Lactuca serriola*)
scalebroom (*Lepidospartum squamatum*)
stinknet (*Oncosiphon piluliferum*)
willow baccharis (*Baccharis salicina*)

Bignoniaceae (Bignonia Family)
desert willow (*Chilopsis linearis*),

Boraginaceae (Borage Family)
fiddleneck (*Amsinckia intermedia*)
salt heliotrope (*Heliotropium curassavicum* var. *oculatum*)

Brassicaceae (Mustard Family)
summer mustard (*Hirschfeldia incana*)

Cactaceae (Cactus Family)
California cholla (*Cylindropuntia californica*)
coastal prickly pear (*Opuntia littoralis*)

Convolvulaceae (Morning Glory Family)
alkali weed (*Cressa truxillensis*)

Euphorbiaceae (Spurge Family)
castor bean (*Ricinus communis*)
doveweed (*Croton setigerus*)

Fabaceae (Pea Family)
palo verde (*Parkinsonia acuelata*)

Fagaceae (Oak Family)
honey mesquite (*Prosopis glandulosa*)
inland scrub oak (*Quercus berberidifolia*)

Frankeniaceae (Heath Family)
alkali heath (*Frankenia salina*)

Lamiaceae (Mint Family)
white sage (*Salvia apiana*)

Malvaceae (Mallow Family)
alkali mallow (*Malvella leprosa*)

Myrtaceae (Myrtle Family)
eucalyptus (*Eucalyptus sp.*)

Poaceae (Grass Family)
barley (*Hordeum sp.*)
dense-flowered sprangletop (*Diplachne fusca*)
foxtail brome (*Bromus madritensis* ssp. *rubens*)
rabbit's foot grass (*Polypogon monospeliensis*)
rip-gut brome (*Bromus diandrus*)
salt grass (*Distichlis spicata*)
slim oat (*Avena barbata*)
wild oats (*Avena fatua*)

Pinaceae (Pine Family)
pine (*Pinus* sp.)

Polygonaceae (Buckwheat Family)
California buckwheat (*Eriogonum fasciculatum*)

Salicaceae (Willow Family)
black willow (*Salix goodingii*)

Solanaceae (Nightshade Family)
tree tobacco (*Nicotiana glauca*)

Tamariaceae (Tamarisk Family)
athel (*Tamarix aphylla*)

Typhaceae (Cat-tail Family)
cat-tail (*Typha domingensis*)

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Appendix I Avoidance and Minimization Measures/Compensatory Mitigation

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BIO-1: Clearing of natural vegetation (including sage scrub) will be performed outside of the active breeding season for birds, as defined in the Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP) (March 1 through June 30) (MSHCP Volume I, Section 7.5.3). If construction activities and disturbances to vegetation cannot be avoided during the active breeding season, measure **BIO-16** is required (refer to measure **BIO-16** for the nesting bird survey requirements).

BIO-2: Active construction areas will be watered regularly to control dust and thus minimize impacts on adjacent vegetation (MSHCP Volume I, Section 7.5.3).

BIO-3: When work is conducted during the fire season (as identified by the Riverside County Fire Department) adjacent to Riversidian sage scrub (RSS), appropriate fire-fighting equipment (e.g., extinguishers, shovels, water tankers) will be available on the project site during all phases of project construction to help minimize the chance of human-caused wildfires. Shields, protective mats, and/or other fire preventative methods will be used during grinding, welding, and other spark-inducing activities. Personnel trained in fire hazards, preventative actions, and responses to fires will advise contractors regarding fire risk from all construction-related activities (MSHCP Volume I, Section 7.5.3).

BIO-4: The qualified project biologist will monitor construction activities for the duration of the proposed project at a frequency necessary to ensure that practicable measures are being employed and avoid incidental disturbance of habitat and species of concern outside the project footprint (MSHCP Volume I, Section 7.5.3). To avoid attracting predators of the species of concern, the project site shall be kept as clean of debris as possible. All food related trash items shall be enclosed in sealed containers and regularly removed from the site(s), as will any other waste, dirt, or rubble that is generated from project activities. Special attention will be provided to ensure that any environmentally sensitive area (ESA) fencing required in **BIO-5** is maintained. Additionally, ongoing monitoring and reporting will occur for the duration of the construction activity to ensure implementation of best management practices (BMPs). This will be done in tandem with **BIO-5**, below, which includes the fencing of sensitive areas (e.g., riparian/riverine resources and jurisdictional waters and wetlands adjacent to the project limits of disturbance [LOD] and conserved lands).

BIO-5: Construction personnel will strictly limit their activities, vehicles, equipment, and construction materials to the proposed project footprint and designated staging areas and routes of travel. The construction area(s) will be the minimal area necessary to complete the proposed project and will be specified in the construction plans. Construction limits adjacent to sensitive resource areas will be demarcated using ESA fencing (e.g., orange snow fencing, silt fencing, signage). The ESA fencing will be reviewed at a frequency deemed necessary by the biological monitor (as indicated in **BIO-4**) until the completion of all construction activities. Employees will be instructed that their activities are restricted to the construction areas (MSHCP Volume I, Appendix C). Access to sites will be from pre-existing access routes to the greatest extent possible (MSHCP Volume I, Section 7.5.3, and MSHCP Volume I, Appendix C).

BIO-6: Exotic plant species removed during construction will be properly handled to prevent sprouting or regrowth (MSHCP Volume I, Section 7.5.3). Vegetation removed from the project site will be covered while being carried on trucks, and vegetation materials removed from the site will be disposed of in accordance with applicable laws and regulations.

BIO-7: Construction equipment will be cleaned of mud or other debris that may contain invasive plants and/or seeds and inspected to reduce the potential of spreading noxious weeds before mobilizing to the site and before leaving the site during the course of construction. The cleaning of equipment will occur at least 300 feet from ESA fencing to prevent the spread of invasives.

BIO-8: Plans for water pollution and erosion control (i.e., Storm Water Pollution Prevention Plan [SWPPP]) will be prepared in accordance with project aquatic resource permits and other project requirements. The plans will describe sediment and hazardous materials control, dewatering or diversion structures, fueling and equipment management practices, and use of plant material for erosion control. Plans will be reviewed and approved by the County prior to construction (MSHCP Volume I, Section 7.5.3). The following measures will be incorporated into the plans, as applicable, to ensure consistency with the MSHCP:

- Water pollution and erosion control plans will be developed and implemented in accordance with Regional Water Quality Control Board (RWQCB) requirements (MSHCP Volume I, Appendix C) and will ensure that no fluids or sediment from construction will enter the ESA fenced areas.
- Sediment and erosion control measures will be implemented until such time soils are determined to be successfully stabilized (MSHCP Volume I, Section 7.5.3).
- No erodible materials will be deposited into watercourses or areas demarcated with ESA fencing. Vegetation, loose soils, or other debris material will not be stockpiled within stream channels or on adjacent banks (MSHCP Volume I, Section 7.5.3, and MSHCP Volume I, Appendix C).
- Projects that cannot be conducted without placing equipment or personnel in riparian vegetation areas shall be timed to avoid the breeding season of riparian-associated species identified in MSHCP Global Species Objective No. 7 (MSHCP Volume I, Appendix C). Breeding season as defined by the MSHCP is March 1 through June 30.
- If stream flows must be diverted, the diversions will be conducted using sandbags or other methods requiring minimal instream impacts as directed in project permits. Silt fencing or other sediment trapping materials will be installed at the downstream end of construction activity to minimize the transport of sediments off-site. Settling ponds where sediment is collected will be cleaned out in a manner that prevents the sediment from reentering the stream (if applicable). Care will be exercised when removing silt fences, as feasible, to prevent debris or sediment from returning to the stream (MSHCP Volume I, and Section 7.5.3, MSHCP Volume I, Appendix C). Short-term diversions will consider impacts on wildlife (MSHCP Volume I, Section 7.5.3).
- Equipment storage, fueling, and staging areas will be located on non-sensitive upland sites with minimal risks of direct drainage into riparian areas or other sensitive habitats (MSHCP Volume I, Section 7.5.3, and MSHCP Volume I, Appendix C). These designated areas will be located in such a manner as to prevent any runoff from entering sensitive habitat. Necessary precautions will be taken to prevent the release of cement or other toxic substances into surface waters. Project-related spills of hazardous materials will be reported to appropriate entities, including, but not limited to, the applicable jurisdictional city, County, U.S. Fish and Wildlife Service (USFWS), California Department of Fish and Wildlife (CDFW), and the RWQCB, and will be cleaned up immediately and contaminated soils removed to approved disposal areas (MSHCP Volume I, Appendix C).

- All equipment maintenance, staging, and dispensing of fuel, oil, coolant, or any other toxic substances will occur only in designated areas within the proposed grading limits of the project site. These designated areas will be clearly marked and located in such a manner as to contain runoff (MSHCP Volume I, Section 7.5.3).

BIO-9: The LOD, including the upstream, downstream, and lateral extents on either side of any stream adjacent to the project impact footprint, will be clearly defined and marked in the field. Monitoring personnel (biology) will review the LOD prior to initiation of construction activities (MSHCP Volume I, Section 7.5.3, and MSHCP Volume I, Appendix C). This will ensure avoidance of jurisdictional areas and riparian habitat.

BIO-10: During construction, the placement of equipment within a stream or on adjacent banks or adjacent upland habitats occupied by MSHCP covered species that are outside of the project footprint will be avoided (MSHCP Volume I, Section 7.5.3, and MSHCP Volume I, Appendix C).

BIO-11: A Determination of Biologically Equivalent or Superior Preservation (DBESP) report that provides analysis of direct and indirect impacts, avoidance, minimization, and compensatory mitigation, if necessary, along with the functions and values of the resources being affected as related to Section 6.1.2 of the MSHCP Volume I will be prepared and submitted to Western Riverside County Regional Conservation Authority (WRCRCA), USFWS, and CDFW for review and approval. This measure includes implementation of measures identified in the DBESP.

BIO-12 (Mitigation): Compensation for permanent impacts on Public/Quasi-Public (P/QP) lands and riparian/riverine resources will occur at a minimum 1:1 ratio for P/QP lands, 3:1 ratio for riparian resources, and 3:1 ratio for riverine resources. The compensation can be a combination of restoration, and/or creation as long as there is no net loss of either P/QP lands functions and values, or riparian/riverine resources, as applicable. The remaining compensation can occur as restoration or as directed in the project permits. Compensation can also occur through the purchase of mitigation bank credits through the Riverpark Mitigation Bank, Santa Ana River Watershed In-lieu Fee Program, or other agency approved location. The temporary impacts may be replaced through in-kind restoration at their current locations at a 1:1 ratio.

BIO-13: A qualified biologist will conduct a training session for project and construction personnel (MSHCP Volume I, Section 7.5.3) prior to grading or staging. The training will include a description of the species of concern and their habitats, the general provisions of the Endangered Species Acts (FESA and CESA) and the MSHCP, the need to adhere to the provisions of the acts and the MSHCP, the penalties associated with violating the provisions of the acts, and the general measures that are being implemented to conserve the species of concern as they relate to the proposed project. In addition, the access routes and the project site boundaries within which the project activities must be accomplished will be clearly defined (MSHCP Volume I, Appendix C). All sensitive areas will be fenced as presented in measure **BIO-5**.

BIO-14: The MSHCP requires that shielding be incorporated in project designs to ensure ambient lighting in MSHCP conservation areas does not increase (MSHCP Volume I, Section 6.1.4). Night lighting will be directed away from natural lands within existing and proposed MSHCP conservation areas to support potential linkage and core functions during construction.

This is intended to protect species within existing and proposed MSHCP conservation areas from direct night lighting during construction activities occurring at night.

BIO-15: Narrow Endemic and Criteria Area Plant Species will be avoided; if avoidance is not feasible, then mitigation as described in Sections 6.1.3 and 6.3.2 of the MSHCP, respectively, will be implemented (MSHCP Volume I, Section 7.5.1).

BIO-16: If construction commences during the bird breeding season (March 1 through June 30), a preconstruction survey for nesting birds will occur within three days prior to construction activities by an experienced avian biologist. The survey will occur within all suitable nesting habitat within the project impact area and a 500-foot buffer where access is permitted. If nesting birds are found, an avoidance area will be established as appropriate by a qualified biologist around the nest until it has determined that young have fledged or nesting activities have ceased. The project site will need to be re-surveyed if there is a lapse in construction activities for more than seven days during the nesting season.

BIO-17: A preconstruction sweep will be conducted by a qualified biologist each morning prior to clearing/grubbing in areas of suitable habitat to support terrestrial wildlife. The goal of the survey will be to identify any special-status species not covered by the MSHCP that may be present within the project footprint, and to remove the animal(s) from the project footprint as possible to avoid any injury or mortality.

BIO-18: This measure is only applicable within the Bridge Street biological study area (BSA).

A) Prior to adoption of the California Environmental Quality Act (CEQA) document, a focused survey for special-status plants will be conducted within a 100-foot buffer area Bridge Street BSA. The survey will be conducted for Narrow Endemic Plant Survey Area 3 Species, Criteria Area Species Survey Area 3 species, and any special-status plants that are not already covered under the MSHCP. The focused survey will follow protocols established by USFWS (2000), CNPS (2001), and CDFW (CDFG 2009). The results of the focused survey and impacts analysis will be incorporated into the final CEQA document prior to adoption.

B) If special-status plants are found in the right of way along Bridge Street during the spring 2021 surveys and would be impacted by the proposed project, the County will immediately notify the WRCRCA, USFWS, and CDFW. If any special-species plants are located during the surveys then these same agencies will be notified; the information provided will include the location of all specials-status plants, including whether the species was found in the LOD. (This is not expected based on analysis provided in Section 4.2.1.2 of the Natural Environment Study/Minimal Impacts). Full avoidance as described in **BIO-15** will then occur, as feasible.

C) For potential impacts on narrow endemic and criteria area species, the County will provide a finding of whether 90% of the property with long-term conservation value can be avoided or not.

- If 90% avoidance cannot be achieved, the County will replace that portion that would have long-term conservation value as part of the mitigation in measure **BIO- 21** to ensure biological equivalency is achieved and consistency with MSHCP Section 6.1.3 and 6.3.2.
- If there is no long-term conservation value, this finding will be documented in the CEQA document for consistency with MSHCP Section 6.1.3 and 6.3.2.

D) If no special-status plants are found, no additional surveys or analysis will be necessary.

BIO-19: The County will perform annual clearing of debris from all culverts within the drainage easements after project completion.

BIO-20: A Habitat Mitigation and Monitoring Plan (HMMP) will be prepared for permanent and temporary impacts on P/QP conserved lands. Off-site mitigation lands shall be acquired for the replacement of 0.16 acre of P/QP conserved lands which would be permanently removed by the proposed project. The plan will provide a 5-year restoration plan for off-site mitigation areas for P/QP and other conserved lands replacement, include a plant palette with native species, monitoring requirements, frequency of monitoring, performance criteria, and reporting requirements. Due to the high percentage of nonnative annual species within the footprint, performance standards will be developed based on current habitat conditions and will include the specifications, and performance criteria that will be used to demonstrate equivalent or superior habitat value after restoration.

The HMMP will also describe the procedures for scarifying, soil decompaction, and reseeding with a native seed mix to ensure that temporary impact areas on P/QP lands are returned to their original condition. The County will submit the HMMP to the WRCRCA, USFWS, and CDFW for review and approval at least 30 days prior to initiating any project activities that could impact P/QP lands.

BIO-21 (Mitigation): Compensation for permanent loss of conserved lands owned by CDFW (for both P/QP and MSHCP Additional Reserve Lands [ARL]) within the San Jacinto Wildlife Area will be accomplished through the acquisition of replacement lands at a minimum 1:1 ratio. These lands will be located contiguous to the existing conservation area and would not occur within lands which are already described for MSHCP conservation. The HMMP (**BIO-20**) will provide the detail for the restoration, creation, and/or enhancement that would occur on the selected site. Acquisition lands must, at a minimum, provide equivalent habitat value to the lands which are impacted. This will ensure that the San Jacinto Wildlife Area remains whole and complete. The County will coordinate with CDFW to identify suitable properties and ensure the criteria identified in this measure are met.

BIO-22: As part of the construction phase of the project, all culverts and undercrossings will be cleared of weedy vegetation, debris, and trash that may be obstructing the entrances and the immediate surrounding areas upstream and downstream, as necessary, and any crossings that are partially blocked will be cleared entirely such that they are fully open and functional (MSHCP Volume I, Section 7.5.2).

BIO-23: A Wildlife Fencing Plan will be developed and implemented for the proposed Bridge Street undercrossing. Final Wildlife Fencing Plans will include the following considerations:

- guidelines on fencing design;
- access gates design;
- construction requirements for fence ends; and
- facilitation of escape opportunities.

The plan will be prepared by a qualified biologist and will use the best available science and any requirements from the MSHCP. The Wildlife Fencing Plan shall be approved by WRCRCA, USFWS, and CDFW prior to construction.

BIO-24: This measure is only applicable within the Bridge Street BSA.

A) Since there is a potential for burrowing owl (*Athene cunicularia*; BUOW) to occur within the Bridge Street BSA, the following actions will be taken prior to adoption of the CEQA document:

- A focused survey for BUOW will be conducted in spring 2021 and will include the project limits along Bridge Street and a 500-ft buffer. No additional focused studies are necessary along Gilman Springs Road. The survey shall follow the MSHCP protocol for BUOW within suitable habitat and where legally accessible:
    - Part A- Focused Burrow Survey: A pedestrian survey for burrows and BUOW sign will take place throughout suitable habitat. Surveyors will be spaced no more than 30 feet apart (may be reduced based on topography and density of vegetation) to ensure 100% visual cover of the ground surface. All potential burrows within 300 feet of the LOD will be mapped using a GPS unit. If suitable burrows are found, Part B surveys will commence.
    - Part B- Focused Burrowing Owl Survey: The survey will occur over four separate site visits and will take place between March 1 and August 31, 2021. The focused survey will be conducted in the morning one hour before sunrise to two hours after sunrise or in the early evening two hours before sunset to one hour after sunset within areas providing suitable burrow habitat for BUOW and when weather conditions are suitable for BUOW to be observed outside of their burrow.

Once the survey is complete, the final results of the BUOW survey will be incorporated into the CEQA document prior to adoption.

B) If BUOW are found within the Bridge Street BSA, the County will immediately notify the WRCRCA, USFWS, and CDFW with the location of the BUOW including whether potential direct effects from project construction would occur. If the species is present, full avoidance (**BIO-16)** and preconstruction surveys (**BIO-25**) would apply to the Bridge Street BSA.

C) If no BUOW are found within the Bridge Street BSA, no additional focused studies or analysis will be necessary. Implementation of measure **BIO-25** will ensure any potential indirect effects to BUOW that may migrate to the project site are addressed.

BIO-25: Because BUOW focused surveys along Gilman Springs Road were positive in 2018 and there is a potential for BUOW to occur within the Bridge Street BSA, the following actions will be taken prior to construction of the proposed project:

- A 30-day pre-construction survey for BUOW is required prior to initial ground-disturbing activities (e.g., vegetation clearing, clearing and grubbing, tree removal, site watering) to ensure that no BUOW have colonized the site in the days or weeks preceding the ground-disturbing activities. Pre-construction surveys will be conducted in the morning one hour before sunrise to two hours after sunrise or in the early evening two hours before sunset to one hour after sunset within areas providing suitable habitat for BUOW. The survey will include the proposed project limits and a 500-foot buffer. If BUOWs are present within 500 feet of project activities, the following measures will be implemented, as applicable.
- If BUOWs have colonized the project site prior to the initiation of ground-disturbing activities, the project proponent will immediately inform and coordinate further with the Wildlife Agencies and the WRCRCA, including the possibility of preparing a Burrowing Owl Protection and Relocation Plan, prior to initiating ground disturbance. The Protection

and Relocation Plan will provide any additional avoidance/minimization, relocation/exclusion, and monitoring methods that will be used, nest buffers, and any additional mitigation requirements, which may include the following:

- If BUOW are found outside of the project site but within 500-ft of project activities during pre-construction take avoidance surveys during the nesting season, the BUOW will be fully avoided by establishing an appropriate buffer in coordination with CDFW. No work will occur within the buffered area until a qualified biologist has verified that BUOW young have fledged, or owls are no longer occupying the burrow.
- If BUOW are found during pre-construction take avoidance surveys outside of the nesting season, passive relocation by a qualified avian biologist will be conducted once it has been confirmed that pairing activities are not observed. Passive relocation efforts will be conducted in coordination with CDFW.
- If construction activities have ceased or the site has been left undisturbed for more than 30 days, a pre-construction survey must be repeated to ensure that BUOW has not recolonized the site. If BUOW is found, the same coordination described above will be necessary.

BIO-26: This measure is only applicable within the Bridge Street BSA.

A) A habitat evaluation for Los Angeles pocket mouse (LAPM) will take place within the Bridge Street BSA (within the MSHCP survey area for the species). If suitable habitat is present, a live-trapping study across five consecutive evenings will be conducted in spring 2021 following the established CDFW protocol when weather conditions are suitable for this species to be detectable above the ground surface.

Once the survey is complete, the final results will be incorporated into the CEQA document prior to adoption.

B) If LAPM is found within the Bridge Street BSA during the spring 2021 surveys, the County will immediately notify the WRCRCA, USFWS, and CDFW with the location of LAPM including whether direct effects from project construction would occur. If species impacts would occur, the project must avoid impacts on 90% of lands that provide long-term conservation value for LAPM.

- If 90% avoidance cannot be achieved, the County will replace that portion that would have long-term conservation value as part of the mitigation in measure **BIO- 21** to ensure biological equivalency is achieved and consistency with MSHCP Section 6.3.2.
- If there is no long-term conservation value, this finding will be documented in the CEQA document for consistency with MSHCP Section 6.3.2.

C) If LAPM is not found in the Bridge Street BSA, no additional surveys or analysis will be necessary.

Appendix J Culverts and Core Linkages

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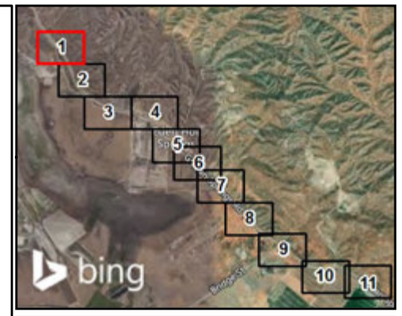
Table J-1. Under Crossings within the Project Study Area and their Wildlife Corridor Attributes

Culvert Pair	Height (meters)	Width (meters)	Current Length (meters)	Current Openness Ratio	New Length (meters)	New Openness Ratio	Appropriate Wildlife Class[1]
1/2	0.91	0.91	14.33	0.06	16.76	0.05	Sm/med
3/4	0.91	0.91	14.02	0.06	17.07	0.05	Sm/med
5/6	16.40 , 13.12 (x3)	9.84 , 13.12 (x3)	21.34	NA[2]	23.16	NA[2]	NA
7/8	0.91	0.91	25.60	0.03	30.48	0.03	Sm/med
9/10	0.91	0.91	15.24	0.05	17.68	0.05	Sm
11/12	2.74	4.27	23.16	0.51	24.99	0.47	Sm/med/lar
13/14	0.91 (x6)	0.91 (x6)	14.02	0.06	20.73	0.04	Sm/med
15/16	0.61	0.61	33.53	0.01	35.97	0.01	Sm
17/18	1.52 (x7)	2.03 (x7)	12.80	0.24	17.07	0.18	Sm/med
19/20	0.91 (x4)	0.91 (x4)	13.41	0.06	19.51	0.04	Sm/med
21/22	0.91 (x5)	0.91 (x5)	16.46	0.05	18.90	0.04	Sm/med
23/24	0.91 (x2)	0.91 (x2)	15.85	0.05	21.34	0.04	Sm/med
25/26	0.91 (x2)	0.91 (x2)	14.94	0.06	19.81	0.04	Sm/med
27/28	0.71	0.51	18.90	0.02	21.34	0.02	Sm
29/30	0.46	0.46	19.81	0.01	21.03	0.01	Sm
31/32	0.61	0.61	17.68	0.02	22.56	0.02	Sm
33/34	0.61	0.89	17.68	0.03	20.12	0.03	Sm
35/36	0.76	0.76	17.68	0.03	18.90	0.03	Sm
37/38	0.61	0.61	15.54	0.02	17.98	0.02	Sm
39/40	1.83	3.66	21.95	0.31	22.05[3]	0.82	Sm/med/lar
41/42	1.22 (x2)	1.22 (x2)	20.73	0.07	20.73	0.07	Sm/med
43/44	0.91 (x3)	0.91 (x3)	22.86	0.04	28.65	0.03	Sm/med
45/46	0.97 (x3)	0.81 (x3)	25.60	0.03	25.60	0.03	Sm
47/48	0.89 (x3)	0.61 (x3)	27.43	0.02	34.14	0.02	Sm

[1] Sm = small, med = medium, lar = large

[2] The inlet of this feature is a vertical grated drain straight down into the ground that then curves horizontally and outlets below the other side of the road. Therefore, it has no openness ratio because it cannot be used by wildlife.

[3] The Bridge Street bridge will have a new width of 7.92 meters and height of 2.29 meters.



Legend

- Permanent Impacts
- Temporary Impacts
- Permanent, Roadway
- Culverts
- Culvert Alignment
- NHD Blue Line
- Core Linkage

Source: RCTD (2017); ESRI (2017); County of Riversidee

N

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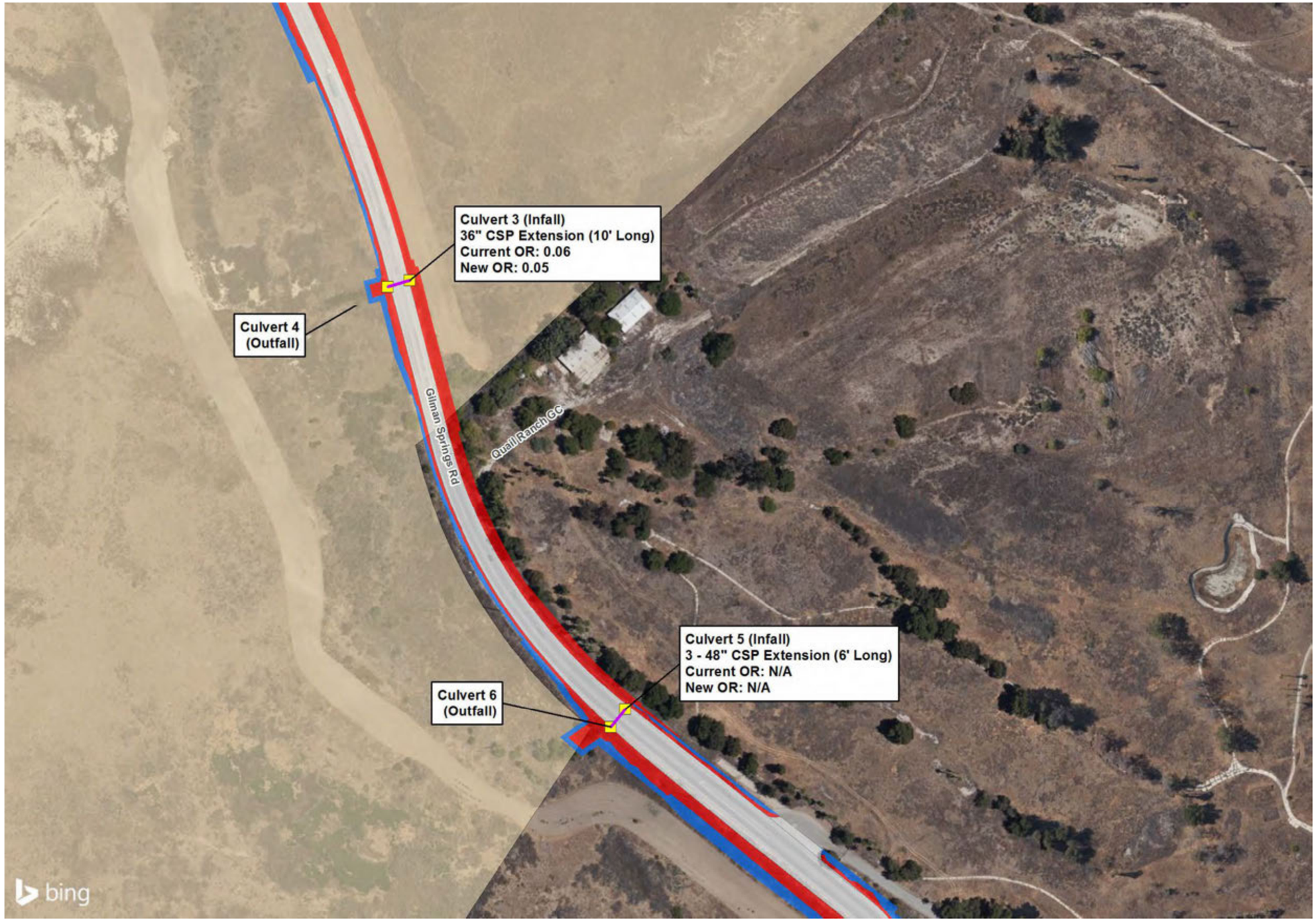
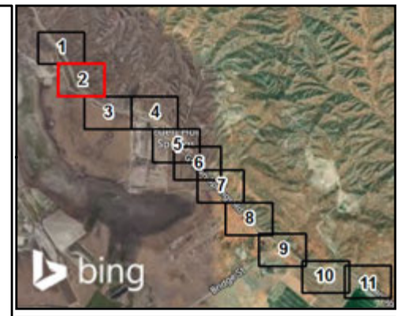
Appendix J- Sheet 1
Culverts and Core Linkages
Gilman Springs Road Improvement Project





Legend

- Permanent Impacts
- Temporary Impacts
- Permanent, Roadway
- Culverts
- Culvert Alignment
- NHD Blue Line
- Core Linkage

Source: RCTD (2017); ESRI (2017); County of Riversidee

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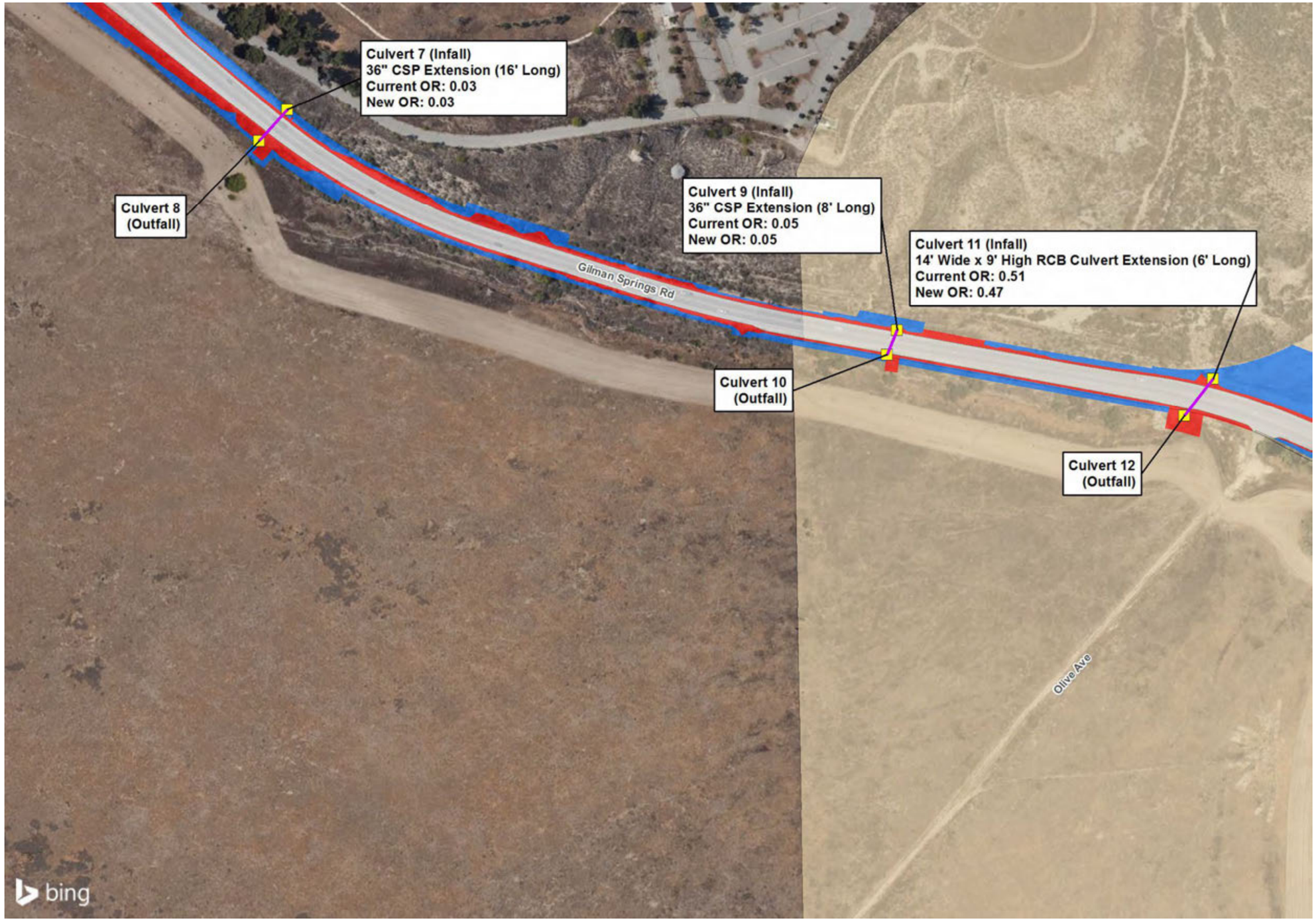
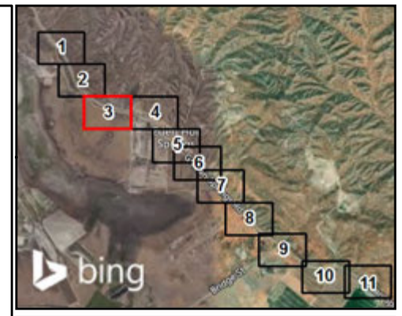
Appendix J- Sheet 2
Culverts and Core Linkages
Gilman Springs Road Improvement Project





Legend

- Permanent Impacts
- Temporary Impacts
- Permanent, Roadway
- Culverts
- Culvert Alignment
- NHD Blue Line
- Core Linkage

Source: RCTD (2017); ESRI (2017); County of Riversidee

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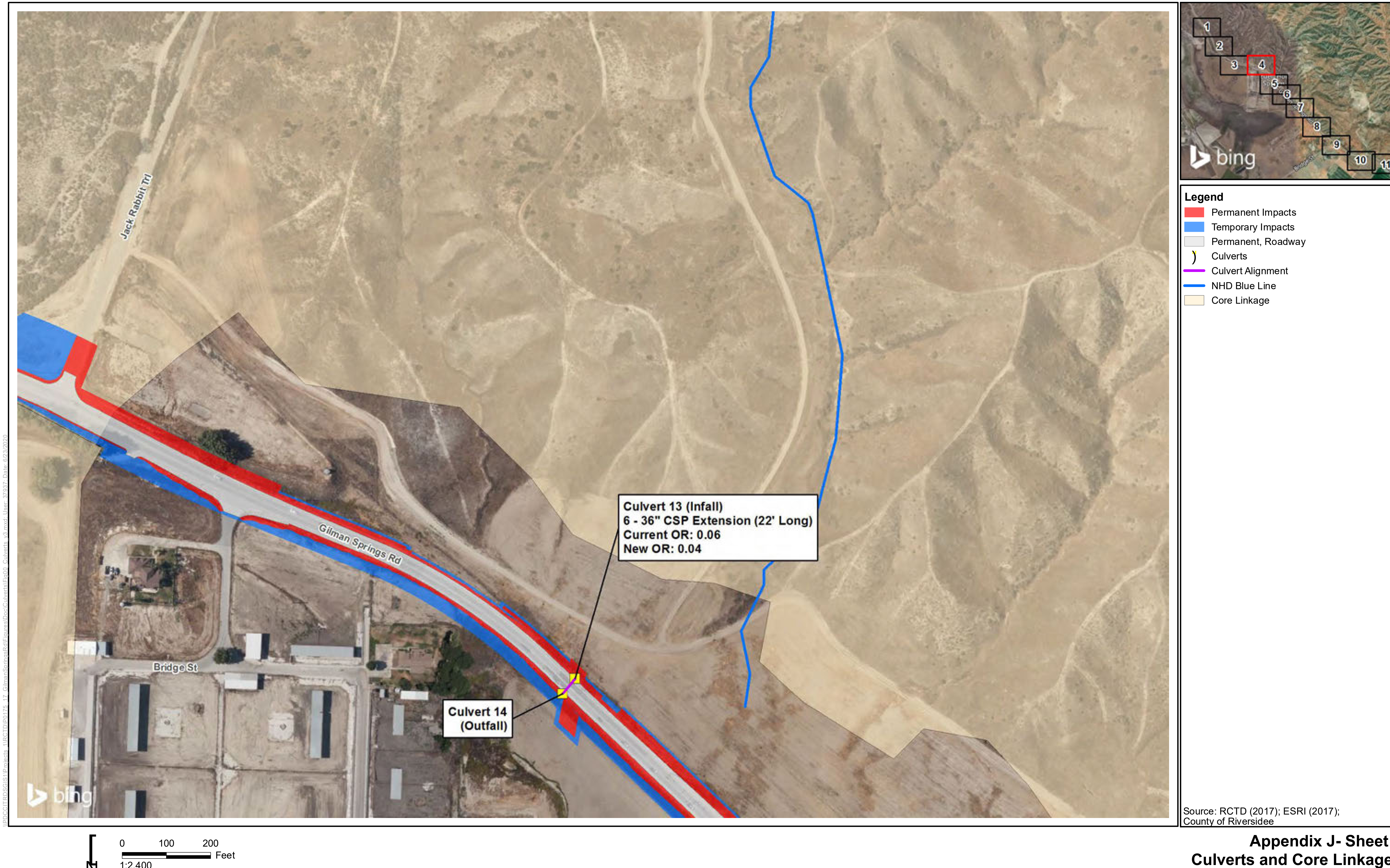
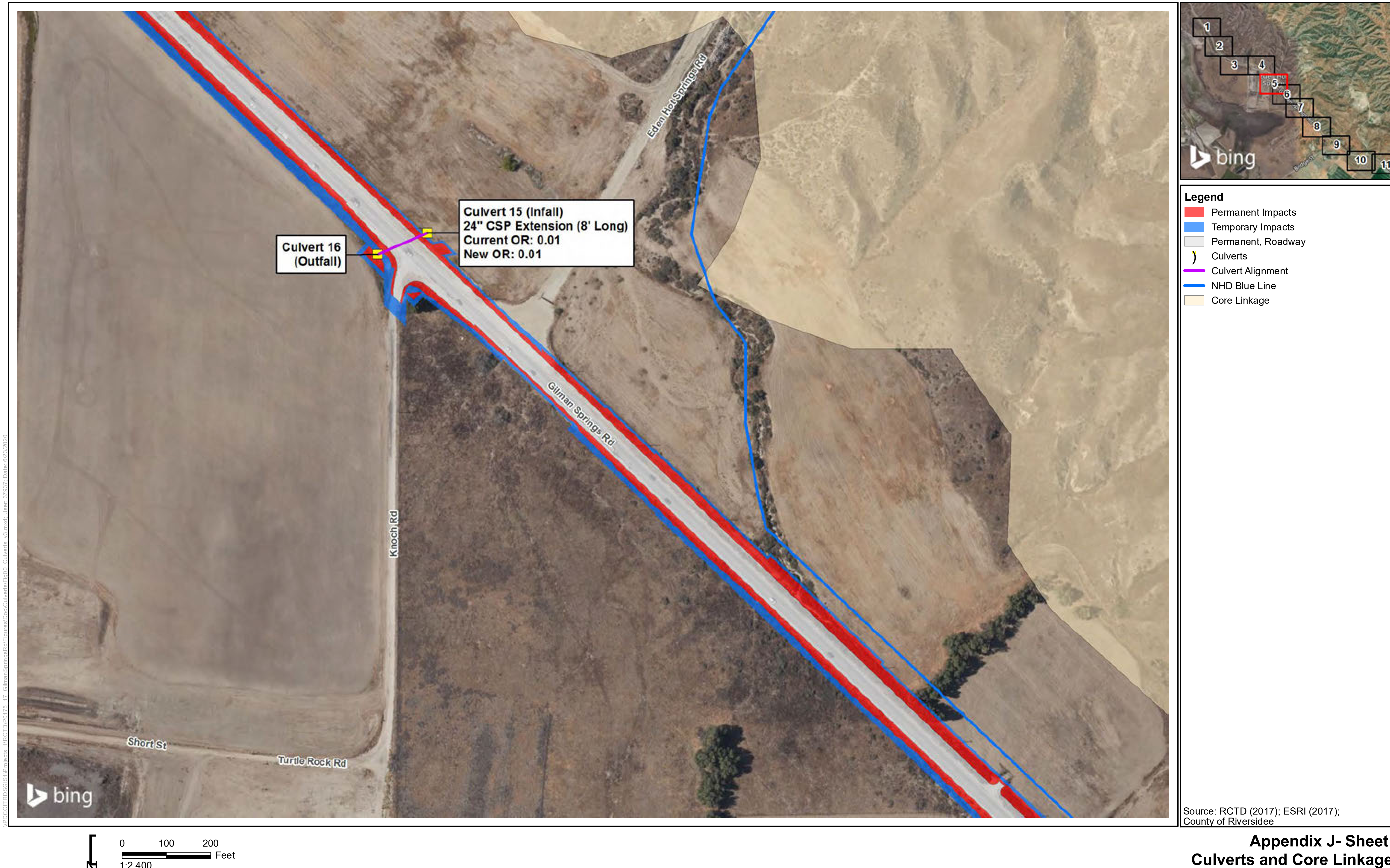
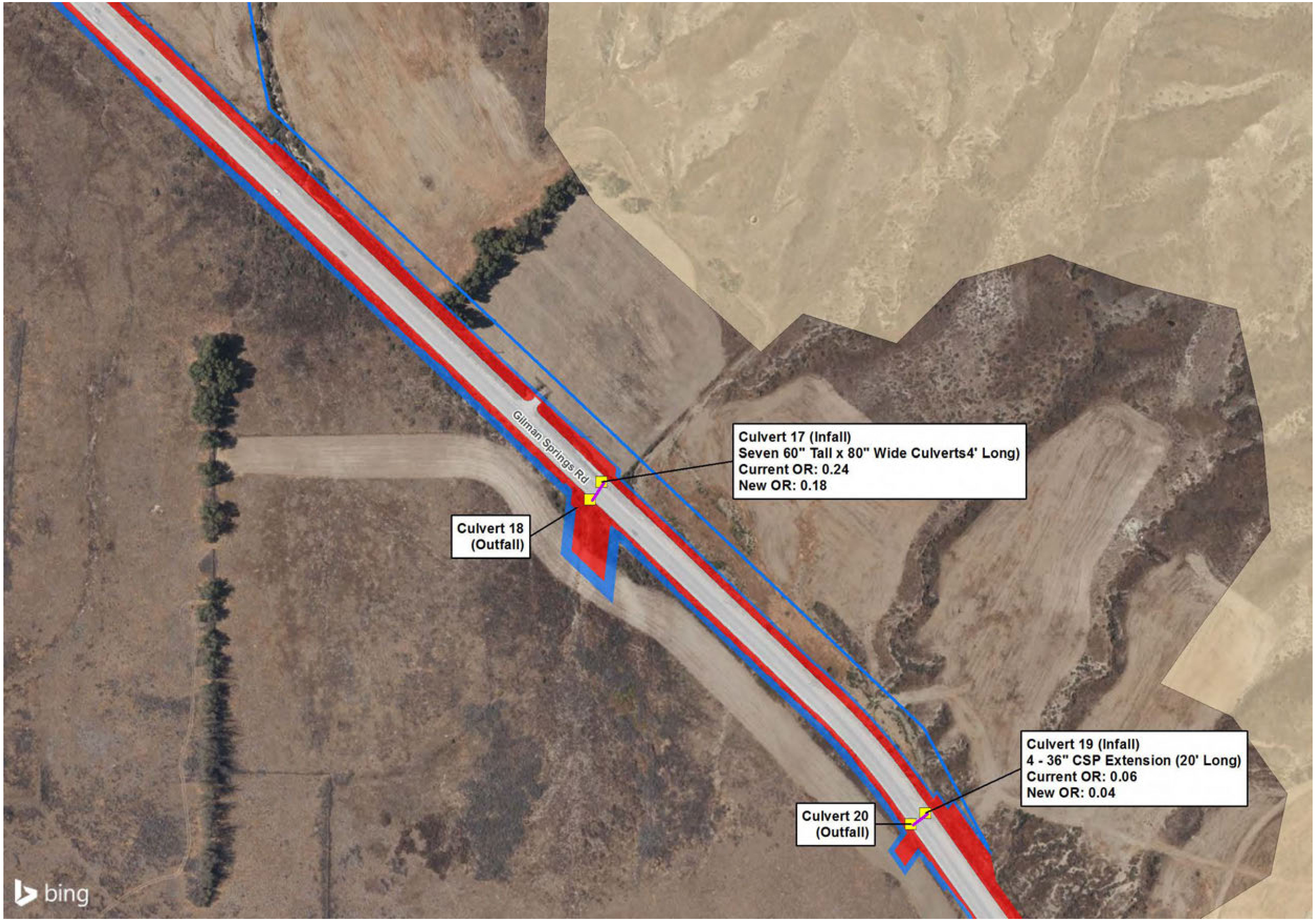
Appendix J- Sheet 3
Culverts and Core Linkages
Gilman Springs Road Improvement Project

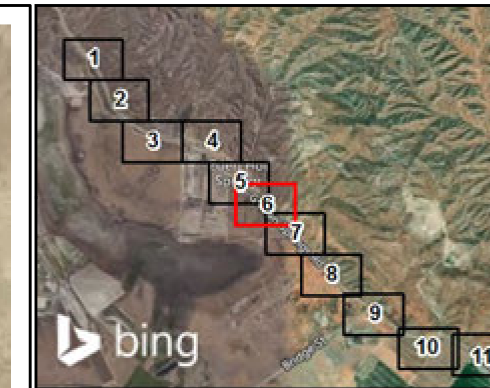


Appendix J- Sheet 4
Culverts and Core Linkages
Gilman Springs Road Improvement Project



Appendix J- Sheet 5
Culverts and Core Linkages
Gilman Springs Road Improvement Project





Legend

- Permanent Impacts
- Temporary Impacts
- Permanent, Roadway
- Culverts
- Culvert Alignment
- NHD Blue Line
- Core Linkage

Source: RCTD (2017); ESRI (2017); County of Riversidee

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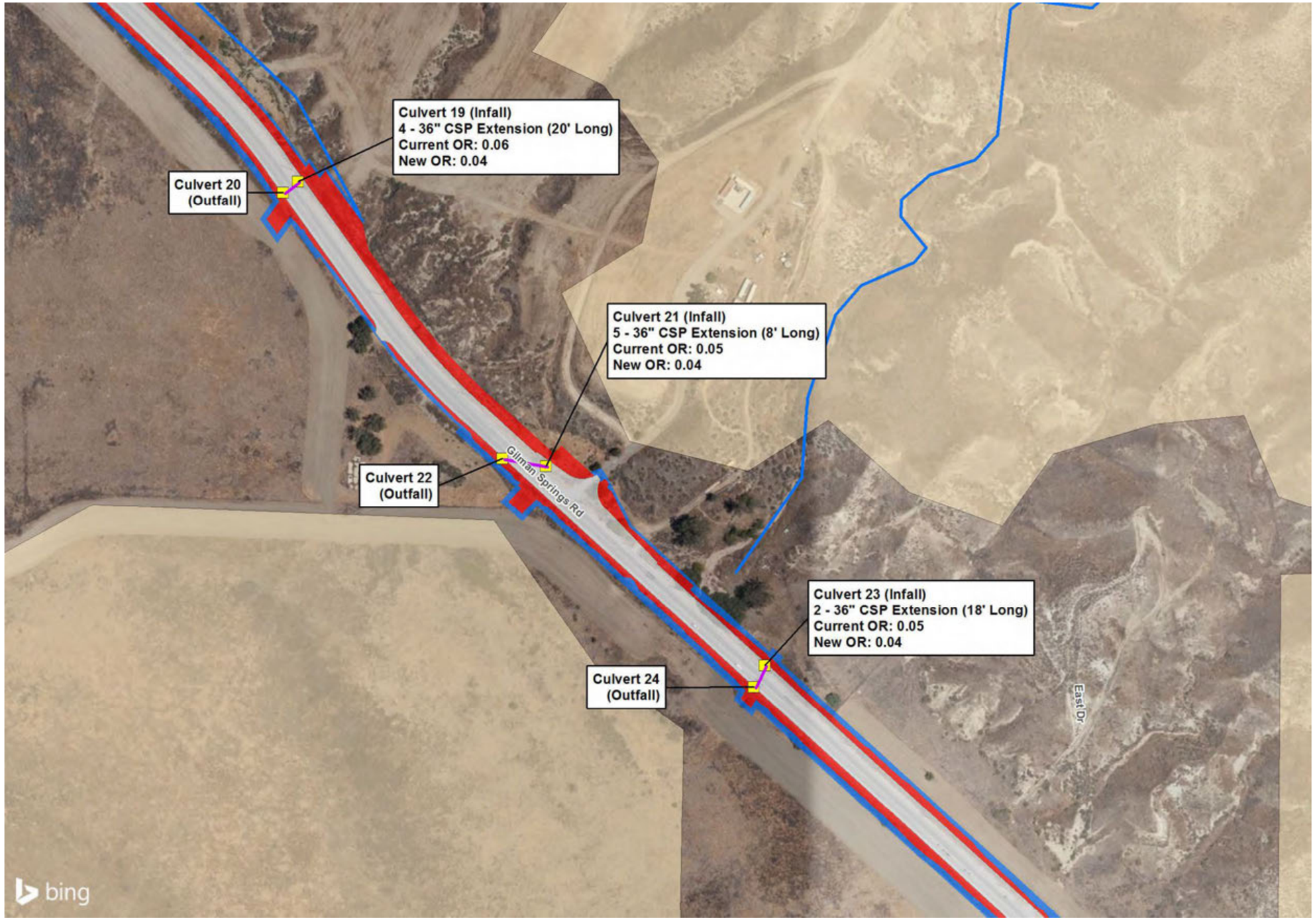
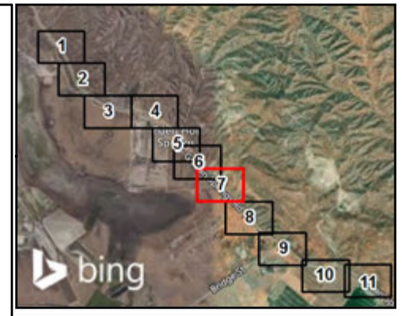
Appendix J- Sheet 6
Culverts and Core Linkages
Gilman Springs Road Improvement Project





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- Permanent Impacts
- Temporary Impacts
- Permanent, Roadway
- Culverts
- Culvert Alignment
- NHD Blue Line
- Core Linkage

Source: RCTD (2017); ESRI (2017); County of Riversidee

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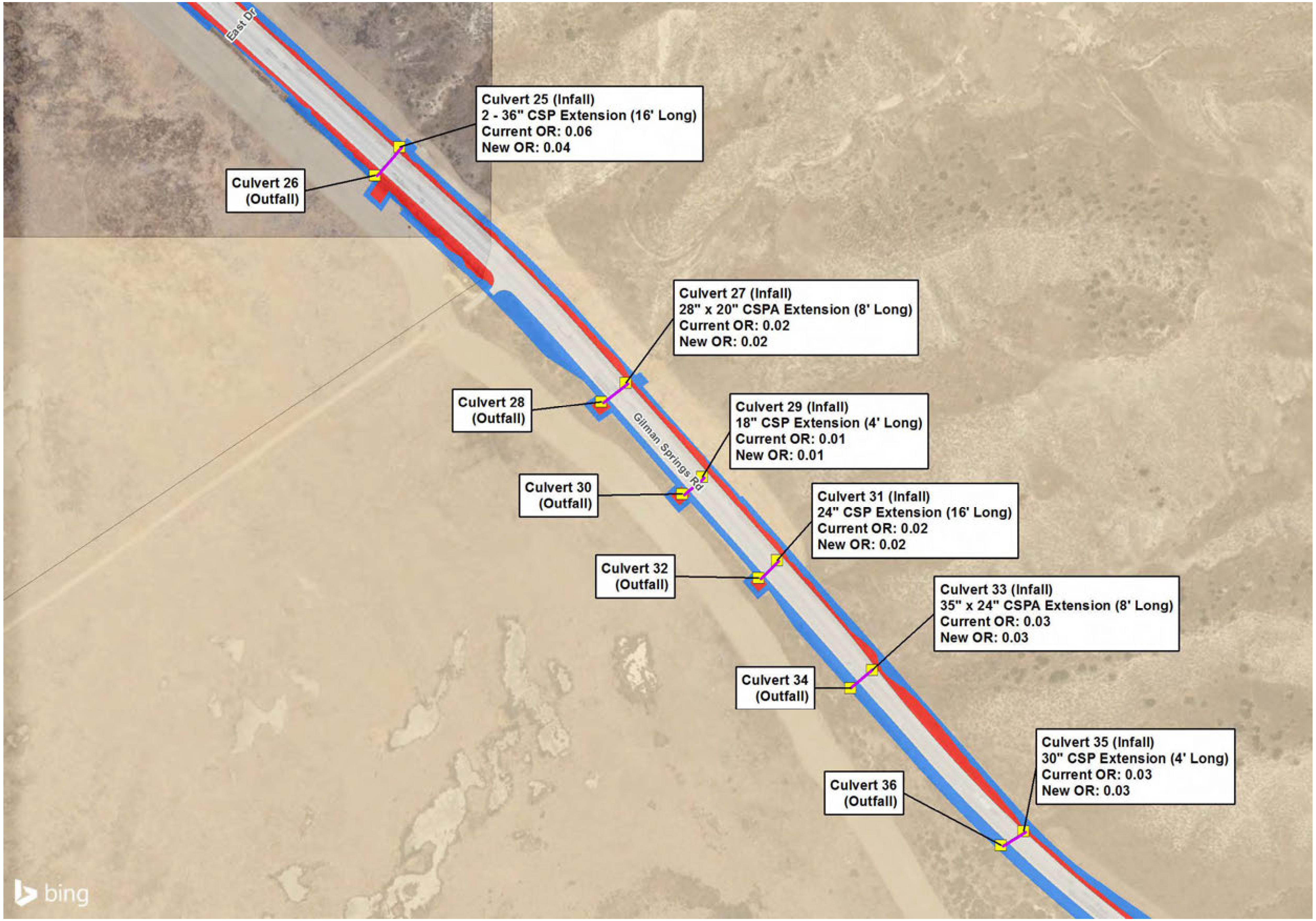
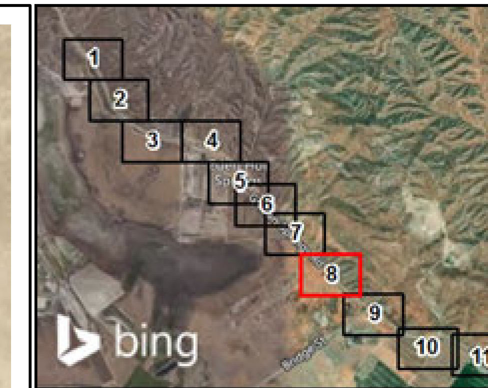
Appendix J- Sheet 7
Culverts and Core Linkages
Gilman Springs Road Improvement Project





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- Permanent Impacts
- Temporary Impacts
- Permanent, Roadway
- Culverts
- Culvert Alignment
- NHD Blue Line
- Core Linkage

Source: RCTD (2017); ESRI (2017); County of Riverside

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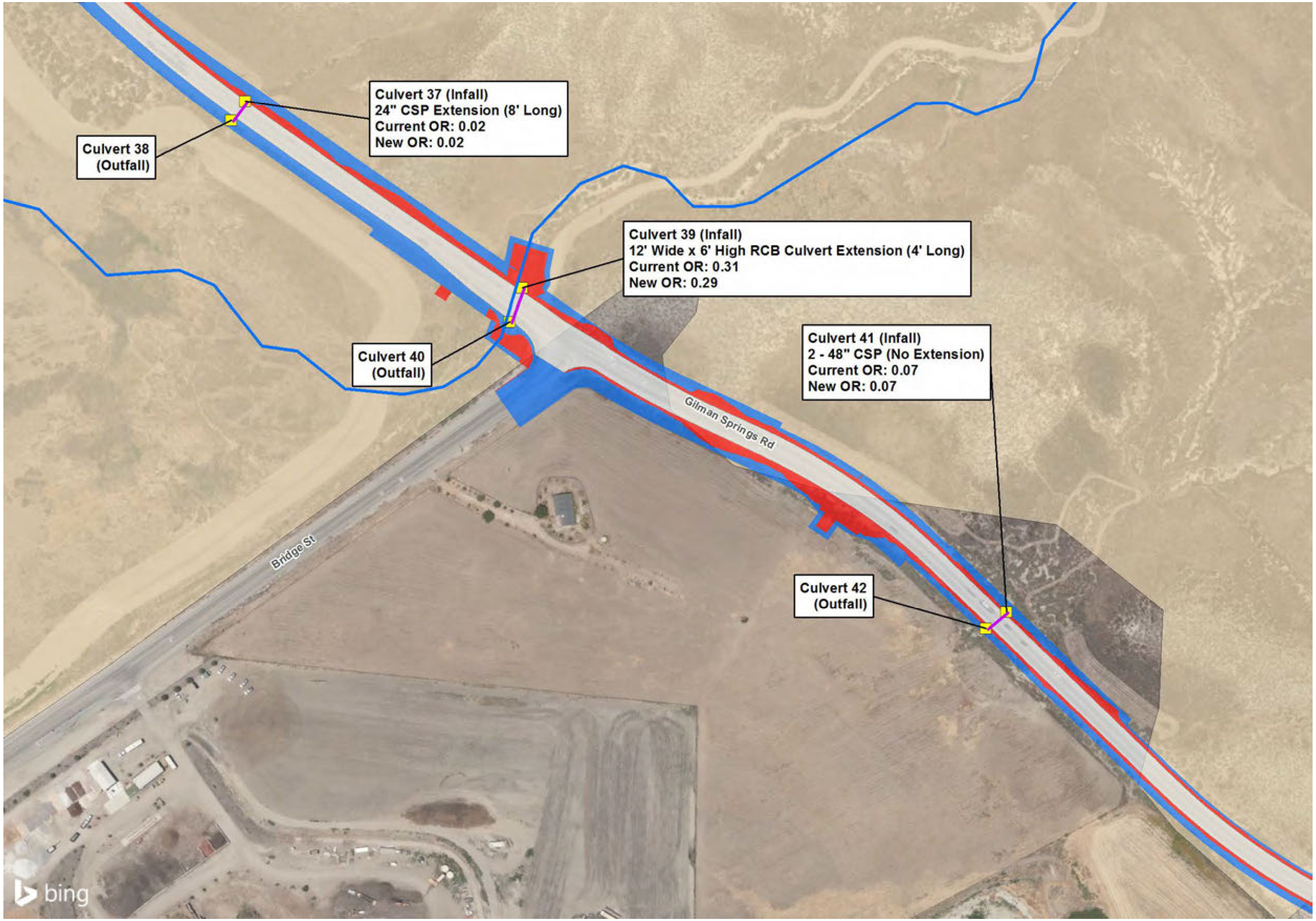
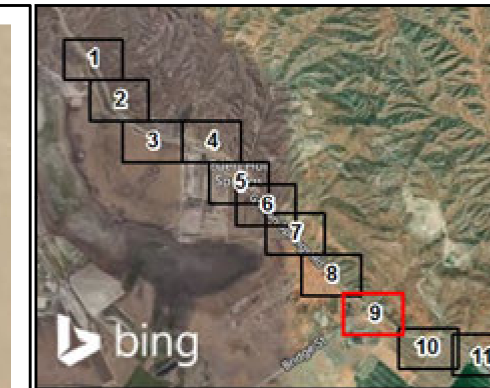
Appendix J- Sheet 8
Culverts and Core Linkages
Gilman Springs Road Improvement Project





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- Permanent Impacts
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- Permanent, Roadway
- Culverts
- Culvert Alignment
- NHD Blue Line
- Core Linkage

Source: RCTD (2017); ESRI (2017); County of Riversidee

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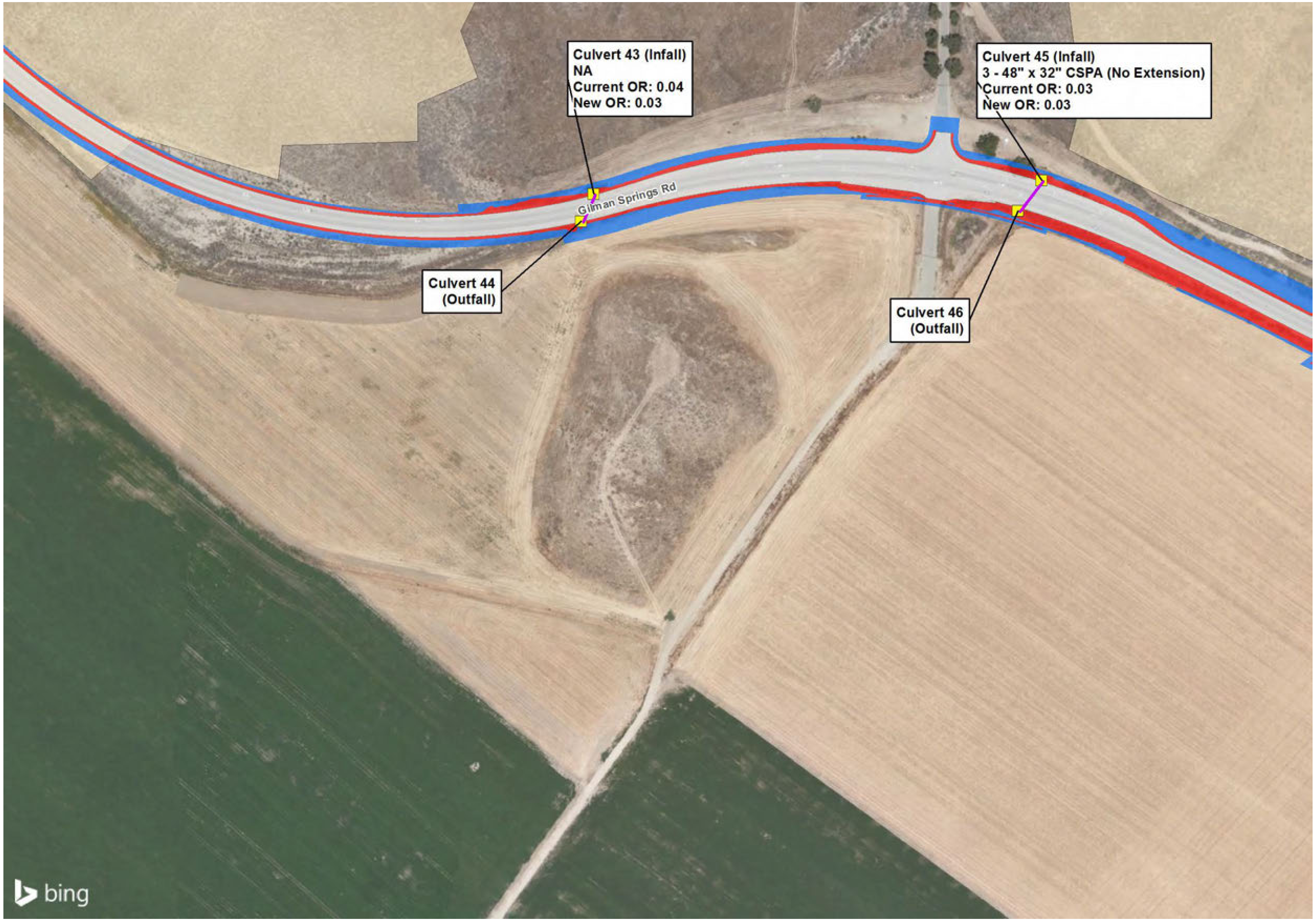
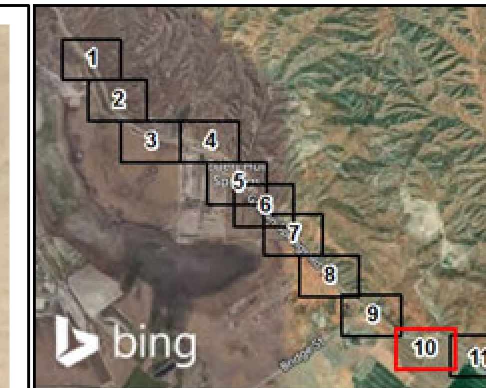
Appendix J- Sheet 9
Culverts and Core Linkages
Gilman Springs Road Improvement Project





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- Temporary Impacts
- Permanent, Roadway
- Culverts
- Culvert Alignment
- NHD Blue Line
- Core Linkage

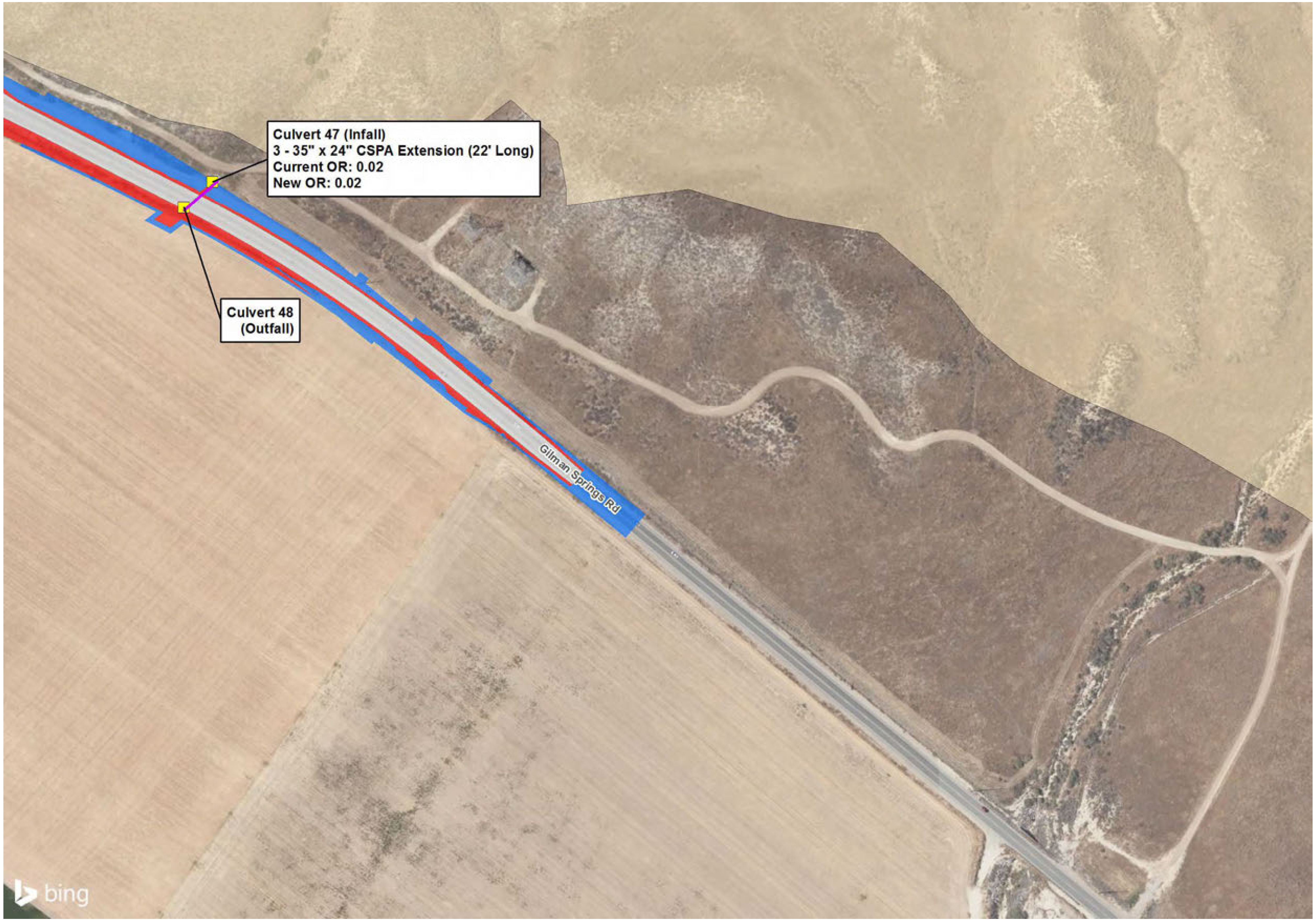
Source: RCTD (2017); ESRI (2017); County of Riversidee

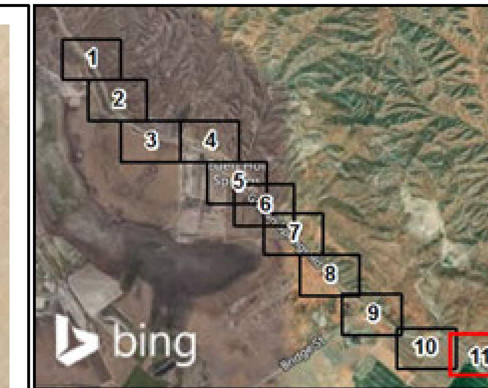
N

0 100 200 Feet

1:2,400

Appendix J- Sheet 10
Culverts and Core Linkages
Gilman Springs Road Improvement Project





Legend

- Permanent Impacts
- Temporary Impacts
- Permanent, Roadway
- Culverts
- Culvert Alignment
- NHD Blue Line
- Core Linkage

Source: RCTD (2017); ESRI (2017); County of Riversidee

N

0 100 200 Feet

1:2,400

Appendix J- Sheet 11
Culverts and Core Linkages
Gilman Springs Road Improvement Project