

# **APPENDIX A**

*List of Plant Species Observed*



# APPENDIX A

## List of Plant Species Observed

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### VASCULAR SPECIES

#### DICOTS

##### **ADOXACEAE—MUSKROOT FAMILY**

*Sambucus nigra*—black elderberry

##### **AGAVACEAE—AGAVE FAMILY**

*Yucca schidigera*—Mojave yucca

*Yucca whipplei*—chaparral yucca

##### **ANACARDIACEAE—SUMAC OR CASHEW FAMILY**

*Rhus ovata*—sugar sumac

*Rhus trilobata* var. *simplicifolia*—single-leaved skunkbrush

##### **APIACEAE—CARROT FAMILY**

*Apiastrum angustifolium*—mock parsley

*Bowlesia incana*—hoary bowlesia

*Lomatium dasycarpum*—woollyfruit desertparsley

*Sanicula tuberosa*—turkey pea

##### **APOCYNACEAE—DOGBANE FAMILY**

*Asclepias fascicularis*—Mexican whorled milkweed

##### **ASTERACEAE—SUNFLOWER FAMILY**

*Achillea millefolium*—common yarrow

*Acourtia microcephala*—sacapellote

*Ambrosia acanthicarpa*—flatspine bur ragweed

*Ambrosia confertiflora*—wealeaf bur ragweed

*Artemisia californica*—coastal sagebrush

*Artemisia tridentata*—big sagebrush

\* *Cirsium vulgare*—bull thistle

*Chaenactis glabriuscula*—yellow pincushion

\* *Conyza bonariensis*—asthmaweed

*Corethrogyne filaginifolia* var. *incana*—San Diego sand aster

*Deinandra floribunda*—Tecate tarplant

*Ericameria brachylepis*—chaparral goldenbush

*Ericameria cuneata* var. *spathulata*—cliff goldenbush

*Ericameria linearifolia*—narrowleaf goldenbush

*Eriophyllum confertiflorum*—golden-yarrow

*Eriophyllum wallacei*—woolly easterbonnets

## APPENDIX A (Continued)

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- Geraea viscida*—sticky geraea  
*Gutierrezia sarothrae*—broom snakeweed  
*Heterotheca grandiflora*—telegraphweed  
\* *Hedypnois cretica*—cretanweed  
*Laennecia coulteri*—Coulter's horseweed  
*Lasthenia californica* ssp. *californica*—California goldfields  
*Lasthenia gracilis*—needle goldfields  
*Layia glandulosa*—whitedaisy tidytips  
*Malacothrix californica*—California desertdandelion  
*Pseudognaphalium canescens*—Wright's cudweed  
*Senecio californicus*—California ragwort  
*Stephanomeria pauciflora*—brownplume wirelettuce  
*Stephanomeria virgata*—rod wirelettuce  
*Stylocline gnaphaloides*—mountain neststraw  
*Tetradymia comosa*—hairy horsebrush

### **BORAGINACEAE—BORAGE FAMILY**

- Amsinckia menziesii*—Menzies' fiddleneck  
*Cryptantha micrantha*—redroot cryptantha  
*Cryptantha microstachys*—Tejon cryptantha  
*Emmenanthe penduliflora* var. *penduliflora*—whisperingbells  
*Emmenanthe penduliflora*—whisperingbells  
*Eriodictyon trichocalyx*—hairy yerba santa  
*Eucrypta chrysanthemifolia*—spotted hideseed  
*Heliotropium curassavicum*—salt heliotrope  
*Nemophila menziesii*—baby blue eyes  
*Pectocarya peninsularis*—peninsular pectocarya  
*Phacelia brachyloba*—shortlobe phacelia  
*Phacelia distans*—distant phacelia  
*Plagiobothrys arizonicus*—Arizona popcornflower

### **BRASSICACEAE—MUSTARD FAMILY**

- Athysanus pusillus*—common sandweed  
*Boechera californica*—California rockcress  
*Caulanthus heterophyllus*—San Diego wild cabbage  
*Descuriana pinnata*—western tansymustard  
*Erysimum captitatum*—sanddune wallflower  
\* *Hirschfeldia incana*—shortpod mustard  
*Thysanocarpus curvipes*—sand fringe pod

## APPENDIX A (Continued)

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### **CACTACEAE—CACTUS FAMILY**

- Cylindropuntia californica* var. *parkeri*—brownspined pricklypear
- Mammillaria dioica*—strawberry cactus
- Opuntia basilaris*—beavertail pricklypear
- Opuntia phaeacantha*—tulip pricklypear

### **CAPRIFOLIACEAE—HONEYSUCKLE FAMILY**

- Lonicera subspicata*—southern honeysuckle

### **CHENOPODIACEAE—GOOSEFOOT FAMILY**

- Chenopodium californicum*—California goosefoot
- \* *Salsola tragus*—prickly Russian thistle

### **CONVOLVULACEAE—MORNING-GLORY FAMILY**

- Cuscuta californica*—chaparral dodder

### **CRASSULACEAE—STONECROP FAMILY**

- Crassula connata*—sand pygmyweed
- Dudleya pulverulenta*—chalk dudleya

### **CUCURBITACEAE—GOURD FAMILY**

- Marah macrocarpus*—Cucamonga manroot

### **ERICACEAE—HEATH FAMILY**

- Arctostaphylos glandulosa*—Eastwood's manzanita
- Arctostaphylos pungens*—pointleaf manzanita

### **EUPHORBIACEAE—SPURGE FAMILY**

- \* *Chamaesyce maculata*—spotted sandmat
- Croton californicus*—California croton
- Croton setigerus*—dove weed

### **FABACEAE—LEGUME FAMILY**

- Acmispon americanus* var. *americanus*—American bird's-foot trefoil
- Acmispon glaber* var. *glaber*—common deerweed
- Acmispon glaber*—common deerweed
- Astragalus douglasii* var. *perstrictus*—Jacumba milk-vetch
- Lathyrus splendens*—pride-of-California
- Lupinus argenteus*—silvery lupine
- Lupinus bicolor*—miniature lupine
- Lupinus concinnus*—bajada lupine

## APPENDIX A (Continued)

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*Lupinus succulentus*—hollowleaf annual lupine

*Pickeringia montana*—chaparral pea

### **FAGACEAE—OAK FAMILY**

*Quercus agrifolia*—California live oak

*Quercus berberidifolia*—scrub oak

*Quercus cornelius-mulleri*—Muller oak

*Quercus wislizeni*—interior live oak

### **GARRYACEAE—SILK TASSEL FAMILY**

*Garrya veatchii*—canyon silktassel

### **GERANIACEAE—GERANIUM FAMILY**

\* *Erodium cicutarium*—redstem stork's bill

### **GROSSULARIACEAE—GOOSEBERRY FAMILY**

*Ribes indecorum*—whiteflower currant

### **LAMIACEAE—MINT FAMILY**

\* *Lamium amplexicaule*—henbit deadnettle

\* *Marrubium vulgare*—horehound

*Salvia columbariae*—chia

*Stachys ajugoides*—bugle hednettle

*Trichostema lanceolatum*—vinegarweed

*Trichostema parishii*—Parish's bluecurls

### **LOSACEAE—LOASA FAMILY**

*Mentzelia veatchiana*—Veatch's blzaingstar

### **MONTIACEAE—MONTIA FAMILY**

*Calyptridium monandrum*—common pussypaws

*Claytonia parviflora*—streambank springbeauty

### **ONAGRACEAE—EVENING PRIMROSE FAMILY**

*Camissonia californica*—California suncup

*Camissonia strigulosa*—sandysoil suncup

### **OROBANCHACEAE—BROOM-RAPE FAMILY**

*Castilleja affinis*—coast Indian paintbrush

## APPENDIX A (Continued)

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### **PAEONIACEAE—PEONY FAMILY**

*Paeonia californica*—California peony

### **PAPAVERACEAE—POPPY FAMILY**

*Ehrendorferia chrysantha*—golden eardrops

*Eschscholzia californica*—California poppy

### **PHRYMACEAE—LOPSEED FAMILY**

*Mimulus bigelovii* var. *bigelovii*—Bigelow's monkeyflower

*Mimulus breviflorus*—shortflower monkeyflower

*Mimulus pilosus*—false monkeyflower

### **PLANTAGINACEAE—PLANTAIN FAMILY**

*Collinsia concolor*—Chinese houses

*Keckiella ternata*—scarlet keckiella

*Penstemon centranthifolius*—scarlet bugler

*Penstemon spectabilis*—showy penstemon

### **POLEMONIACEAE—PHLOX FAMILY**

*Eriastrum densifoium*—giant woollystar

*Eriastrum sapphrinum*—sapphire woollystar

*Gilia capitata*—bluehead gilia

*Linanthus bellus*—desert beauty

### **POLYGONACEAE—BUCKWHEAT FAMILY**

*Chorizanthe fimbriata* var. *fimbriata*—fringed spineflower

*Eriogonum davidsonii*—Davidson's buckwheat

*Eriogonum fasciculatum* var. *polifolium*—Eastern Mojave buckwheat

*Eriogonum gracile* var. *gracile*—slender woolly buckwheat

*Eriogonum thurberi*—Thurber's buckwheat

*Pterostegia drymarioides*—woodland pterostegia

*Rumex californicus*—toothed willow dock

### **RANUNCULACEAE—BUTTERCUP FAMILY**

*Clematis pauciflora*—ropevine clematis

*Delphinium cardinale*—scarlet larkspur

### **RHAMNACEAE—BUCKTHORN FAMILY**

*Ceanothus crassifolius*—hoaryleaf ceanothus

*Ceanothus cuneatus* var. *cuneatus*—buckbrush

*Ceanothus greggii* var. *perplexans*—desert ceanothus

*Rhamnus ilicifolia*—hollyleaf redberry

## APPENDIX A (Continued)

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### **ROSACEAE—ROSE FAMILY**

- Adenostoma fasciculatum*—chamise
- Adenostoma sparsifolium*—redshank
- Cercocarpus betuloides*—birchleaf mountain mahogany
- Heteromeles arbutifolia*—toyon
- Prunus ilicifolia*—hollyleaf cherry

### **RUBIACEAE—MADDER FAMILY**

- Galium andrewsii*—phloxleaf bedstraw

### **SALICACEAE—WILLOW FAMILY**

- Salix laevigata*—red willow
- Salix lasiolepis*—arroyo willow

### **SAURURACEAE—LIZARD’S-TAIL FAMILY**

- Anemopsis californica*—yerba mansa

### **SCROPHULARIACEAE—FIGWORT FAMILY**

- Castilleja affinis*—coast Indian paintbrush
- Castilleja minor* ssp. *spiralis*—lesser Indian paintbrush
- Cordylanthus rigidus*—stiffbranch bird’s beak

### **SIMAROUBACEAE—QUASSIA OR SIMAROUBA FAMILY**

- \* *Ailanthus altissima*—tree of heaven

### **SOLANACEAE—NIGHTSHADE FAMILY**

- Datura wrightii*—sacred thorn-apple
- Nicotiana quadrivalvis*—Indian tobacco
- Solanum parishii*—Parish’s nightshade

### **VISCACEAE—MISTLETOE FAMILY**

- Phoradendron serotinum*—oak mistletoe
- \* *Viscum album*—European mistletoe

## MONOCOTS

### **AGAVACEAE—AGAVE FAMILY**

- Hesperoyucca whipplei*—chaparral yucca
- Yucca schidigera*—Mojave yucca

## APPENDIX A (Continued)

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### **LILIACEAE—LILY FAMILY**

*Calochortus concolor*—goldenbowl mariposa lily

*Calochortus splendens*—splendid mariposa lily

### **POACEAE—GRASS FAMILY**

*Achnatherum speciosum*—desert needlegrass

\* *Avena barbata*—slender oat

\* *Bromus diandrus*—ripgut brome

\* *Bromus hordeaceus*—soft brome

\* *Bromus madritensis*—compact brome

\* *Bromus tectorum*—cheatgrass

\* *Festuca myuros*—rat-tail fescue

\* *Hordeum murinum*—mouse barley

*Muhlenbergia rigens*—deergress

\* *Polypogon monspeliensis*—annual rabbitsfoot grass

\* *Schismus barbatus*—common Mediterranean grass

\* *Vulpia myuros*—rat-tail fescue

### **THEMIDACEAE—BROIDEA FAMILY**

*Dichelostemma capitatum*—bluedicks

## FERNS AND FERN ALLIES

### **PTERIDACEAE—BRAKE FAMILY**

*Pellaea mucronata*—birdfoot cliffbrake

## GYMNOSPERMS AND GNETOPHYTES

### **CUPRESSACEAE—CYPRESS FAMILY**

*Hesperocyparis forbesii*—Tecate cypress

### **EPHEDRACEAE—EPHEDRA FAMILY**

*Ephedra californica*—California jointfir

### **PINACEAE—PINE FAMILY**

*Pinus* sp.—pine

\* signifies introduced (non-native) species

## APPENDIX A (Continued)

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# **APPENDIX B**

*List of Wildlife Species Observed*



**APPENDIX B**  
**List of Wildlife Species Observed**

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**WILDLIFE SPECIES – VERTEBRATES**

**AMPHIBIANS**

**HYLIDAE – TREEFROGS**

*Pseudacris hypochondriaca hypochondriaca* – Baja California Treefrog  
*Pseudacris regilla* – Northern Pacific treefrog

**REPTILES**

**COLUBRIDAE – COLUBRID SNAKES**

*Pituophis melanoleucus* – gopher snake

**IGUANIDAE – IGUANID LIZARDS**

*Elgaria multicarinata* – Southern alligator lizard  
*Phrynosoma blainvillii* – Blainville’s (coast) horned lizard  
*Sceloporus occidentalis* – western fence lizard  
*Sceloporus orcutti* – granite spiny lizard  
*Uta stansburiana* – side-blotched lizard

**VIPERIDAE – VIPERS**

*Crotalus atrox* – western diamondback rattlesnake

**BIRDS**

**ACCIPITRIDAE – HAWKS**

*Accipiter cooperii* – Cooper’s hawk  
*Buteo jamaicensis* – red-tailed hawk

**AEGITHALIDAE – BUSHTITS**

*Psaltriparus minimus* – bushtit

**CATHARTIDAE – NEW WORLD VULTURES**

*Cathartes aura* – turkey vulture

**COLUMBIDAE – PIGEONS AND DOVES**

*Zenaida macroura* – mourning dove

**CORVIDAE – JAYS AND CROWS**

*Apelocoma californica* – western scrub-jay  
*Corvus brachyrhynchos* – American crow  
*Corvus corax* – common raven

## APPENDIX B (Continued)

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### **CUCULIDAE – CUCKOOS AND ROADRUNNERS**

*Geococcyx californianus* – greater roadrunner

### **EMBERIZIDAE – BUNTINGS AND SPARROWS**

*Amphispiza belli* – sage sparrow

*Amphispiza belli belli* – Bell's sage sparrow

*Amphispiza bilineata* – black-throated sparrow

*Junco hyemalis* – dark-eyed junco

*Pipilo crissalis* – California towhee

*Pipilo maculatus* – spotted towhee

*Zonotrichia leucophrys* – white-crowned sparrow

### **FALCONIDAE – FALCONS**

*Falco sparverius* – American kestrel

### **FRINGILLIDAE – FINCHES**

*Carpodacus mexicanus* – house finch

*Carduelis psaltria* – lesser goldfinch

### **ICTERIDAE – BLACKBIRDS AND ORIOLES**

*Icterus parisorum* – Scott's oriole

*Sturnella neglecta* – western meadowlark

### **MIMIDAE – THRASHERS**

*Mimus polyglottos* – northern mockingbird

*Toxostoma redivivum* – California thrasher

### **PARIDAE – TITMICE**

*Baeolophus inornatus* – oak titmouse

### **PARULIDAE – WOOD WARBLERS**

*Dendroica coronata* – yellow-rumped warbler

*Wilsonia pusilla* – Wilson's warbler

### **PHASIANIDAE – PHEASANTS AND QUAILS**

*Callipepla californica* – California quail

### **PICIDAE – WOODPECKERS**

*Colaptes auratus* – northern flicker

*Melanerpes formicivorus* – acorn woodpecker

## APPENDIX B (Continued)

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### **PTILOGONATIDAE – SILKY-FLYCATCHERS**

*Phainopepla nitens* – phainopepla

### **STURNIDAE – STARLINGS**

\* *Sturnus vulgaris* – European starling

### **SYLVIIDAE – GNATCATCHERS**

*Polioptila caerulea* – blue-gray gnatcatcher

### **TIMALIIDAE – LAUGHINGTHRUSH AND WRENTIT**

*Chamaea fasciata* – wrentit

### **TROCHILIDAE – HUMMINGBIRDS**

*Archilochus alexandri* – black-chinned hummingbird

*Calypte anna* – Anna’s hummingbird

*Calypte costae* – Costa’s hummingbird

### **TROGLODYTIDAE – WRENS**

*Thryomanes bewickii* – Bewick’s wren

### **TURDIDAE – THRUSHES AND BABBLERS**

*Sialia mexicana* – western bluebird

### **TYRANNIDAE – TYRANT FLYCATCHERS**

*Myiarchus cinerascens* – ash-throated flycatcher

*Sayornis saya* – Say’s phoebe

*Tyrannus vociferans* – Cassin’s kingbird

## MAMMALS

### **CANIDAE – WOLVES AND FOXES**

*Canis latrans* – coyote

### **CERVIDAE – DEERS**

*Odocoileus hemionus* – mule deer

### **GEOMYIDAE – POCKET GOPHERS**

*Thomomys bottae* – Botta’s pocket gopher

### **LEPORIDAE – HARES AND RABBITS**

*Lepus californicus* – black-tailed jackrabbit

*Sylvilagus bachmani* – brush rabbit

*Sylvilagus audubonii* – desert cottontail

## APPENDIX B (Continued)

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### **MURIDAE – RATS AND MICE**

*Neotoma* sp. – woodrat sp.

### **SCIURIDAE – SQUIRRELS**

*Ammospermophilus leucurus* – white-tailed antelope squirrel

*Spermophilus beecheyi* – California ground squirrel

### **TALPIDAE – MOLES**

*Scapanus latimanus* – Broad-footed mole (sign)

## WILDLIFE SPECIES – INVERTEBRATES

### BUTTERFLIES AND MOTHS

#### **HESPERIIDAE – SKIPPERS**

*Erynnis funeralis* – funereal duskywing

*Hylephila phyleus* – fiery skipper

#### **LYCAENIDAE – BLUES, HAIRSTREAKS, AND COPPERS**

*Callophrys dumetorum* – bramble hairstreak

*Callophrys dumetorum perplexa* – perplexing (green) hairstreak

*Glaucopsyche lygdamus* – silvery blue

*Glaucopsyche lygdamus australis* – southern blue

*Icaria acmon acmon* – acmon blue

*Incisalia augustinus* – brown elfin

#### **NYMPHALIDAE – BRUSH-FOOTED BUTTERFLIES**

*Junonia coenia* – Common buckeye

*Vanessa annabella* – west coast lady

*Vanessa cardui* – painted lady

#### **PAPILIONIDAE – SWALLOWTAILS**

*Papilio eurymedon* – pale swallowtail

*Papilio rutulus* – western tiger swallowtail

*Papilio zelicaon lucas* – anise swallowtail

#### **PIERIDAE – WHITES AND SULFURS**

*Anthocharis sara* – Sara orangetip

*Colias Eurydice* – California dogface

*Colias harfordi* – Harford's Sulfur

*Euchloe lotta* – Desert marble

## APPENDIX B (Continued)

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*Pieris rapae* – European cabbage white

*Pontia protodice* – Common white

### **RIODINIDAE – METALMARKS**

*Apodemia mormo virgulti* – Behr's metalmark

\* signifies introduced (non-native) species

## APPENDIX B (Continued)

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# **APPENDIX C**

*Special-Status Plant Species Detected or  
Potentially Occurring on the Project Site*



## APPENDIX C

### Special-Status Plant Species Detected or Potentially Occurring on the Project Site

Scientific Name Common Name	Sensitivity Code and Status (Federal/State/ County/CRPR) <sup>1</sup>	Habitat Requirements/ Life Form/Blooming Period/ Elevational Range	Verified on TDS (direct/indirect evidence)	Potential to Occur On TDS and Factual Basis for Determination <sup>2</sup>	Verified on Gen-tie (direct/indirect evidence)	Potential to Occur On Gen-Tie and Factual Basis for Determination
<i>Astragalus douglasii</i> var. <i>perstrictus</i> Jacumba milk-vetch	None/None/List A, MSCP/1B.2	Chaparral, cismontane woodland, valley and foothill grassland; rocky/perennial herb/April– June/900–1,370 meters	Yes	Observed on site.	Yes	Observed on site.
<i>Deinandra</i> [= <i>Hemizonia</i> ] <i>floribunda</i> Tecate tarplant	None/None/List A, MSCP/1B.2	Chaparral, coastal scrub/annual herb/August–October/70–1,220 meters	Yes	Observed on site.	Yes	Observed on site.
<i>Geraea viscida</i> Sticky geraea	None/None/List B, MSCP/2.3	Chaparral (often disturbed)/perennial herb/ May–June/450–1,700 meters	Yes	Observed on site.	Yes	Observed on site.
<i>Hesperocyparis forbesii</i> Tecate cypress	None/None/List A, MSCP/1B.1	Closed-cone conifer forest, chaparral/evergreen tree/NA/255–1,500 meters	Yes	Observed on site in two separate areas.	No	Absent. Species is not known from the vicinity. This evergreen tree would have been observed during on-site surveys.
<i>Lathyrus splendens</i> Pride-of-California	None/None/List D, MSCP/4.3	Chaparral/perennial herb/March–June/ 200–1,525 meters	No	Observed on site.	Yes	Absent. Suitable habitat is present, but focused surveys for this species were negative.
<i>Linanthus bellus</i> Desert beauty	None/None/List B, MSCP/2.3	Chaparral/sandy/annual herb/April–May/1,000–1,400 meters	No	Observed on site.	Yes	Observed on site.

<sup>1</sup> FE: Federally listed as endangered  
 FT: Federally listed as threatened  
 MSCP: Proposed Covered Species under the Draft East County MSCP  
 SE: State-listed as endangered  
 ST: State-listed as threatened  
 SR: State-listed as rare

## APPENDIX C (Continued)

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### CRPR: California Rare Plant Rank

1A (formerly List 1A): Plants Presumed Extinct in California

1B (formerly List 1B): Plants Rare, Threatened, or Endangered in California and Elsewhere

2 (formerly List 2): Plants Rare, Threatened, or Endangered in California, But More Common Elsewhere

3 (formerly List 3): Plants About Which We Need More Information – A Review List

4 (formerly List 4): Plants of Limited Distribution – A Watch List

0.1–Seriously threatened in California (over 80% of occurrences threatened/high degree and immediacy of threat)

0.2–Fairly threatened in California (20–80% occurrences threatened/moderate degree and immediacy of threat)

0.3–Not very threatened in California (<20% of occurrences threatened /low degree and immediacy of threat or no current threats known)

<sup>2</sup> "Vicinity" is based on a search of the CNDDDB and CNPS databases for the Tierra Del Sol quad and the four surrounding quads conducted in October 2011 and Live Oak Springs quad and surrounding 5 quads conducted in March 2013.

<sup>3</sup> "Bioregion": Regions defined by the geographic subdivisions of California in the Jepson Flora Project (2012). The project site is located in the Peninsular Ranges within the California Floristic Province

# **APPENDIX D**

*Special-Status Plant Species Not Expected to  
Occur or Rarely Occur in the Project Area*



**APPENDIX D**  
**Special-Status Plant Species Not Expected to Occur or Rarely Occur in the Project Area**

Scientific Name Common Name	Sensitivity Code and Status (Federal/State/County/CRPR) <sup>1</sup>	Habitat Requirements/ Life Form/Blooming Period/ Elevational Range	Verified on TDS (direct/indirect evidence)	Potential to Occur On TDS and Factual Basis for Determination <sup>2</sup>	Verified on Gen-tie (direct/indirect evidence)	Potential to Occur On Gen-Tie and Factual Basis for Determination
<i>Acanthomintha ilicifolia</i> San Diego thorn-mint	FT/SE/List A/1B.1	Chaparral, coastal scrub, valley and foothill grassland, vernal pools; clay/annual herb/April–June/10–960 meters	No	Absent. Site elevation is above the species' known elevation range. Species would have been observed during on-site surveys.	No	Absent. Site elevation is above the species' known elevation range. Species would have been observed during on-site surveys.
<i>Acmispon</i> [= <i>Lotus</i> ] <i>haydonii</i> Pygmy lotus	None/None/List A, MSCP/1B.3	Pinyon and juniper woodland, Sonoran desert scrub/rocky/perennial herb/January–June/520–1,200 meters	No	Absent. No suitable vegetation present. Species would have been observed during on-site surveys.	No	Absent. No suitable vegetation present. Species would have been observed during on-site surveys.
<i>Arabis hirshbergiae</i> (= <i>Boechera h.</i> ) Hirshberg's rock-cress	None/None/List A, MSCP/2.3	Great Basin scrub, pinyon and juniper woodland/gravelly or rocky/perennial herb/April–June/3,050–3,050 meters	No	Absent. Site elevation is above the species' known elevation range. Species would have been observed during on-site surveys.	No	Absent. Site elevation is above the species' known elevation range. Species would have been observed during on-site surveys.
<i>Arctostaphylos otayensis</i> Otay manzanita	None/None/List A, MSCP/1B.2	Chaparral, cismontane woodland; metavolcanic/shrub/January–March/275–1,700 meters	No	Absent. Suitable habitat is present. The nearest CNDDDB record is approximately 20 miles from the site, but still occurs in the same bioregion <sup>3</sup> . Would have been observed during on-site surveys.	No	Absent. Although suitable chaparral vegetation is present, soils on site are derived/weathered from granite or granodiorite. Also, the nearest CNDDDB record is approximately 20 miles from the site. Would have been observed during on-site surveys.

## APPENDIX D (Continued)

Scientific Name Common Name	Sensitivity Code and Status (Federal/State/County/CRPR) <sup>1</sup>	Habitat Requirements/ Life Form/Blooming Period/ Elevational Range	Verified on TDS (direct/indirect evidence)	Potential to Occur On TDS and Factual Basis for Determination <sup>2</sup>	Verified on Gen-tie (direct/indirect evidence)	Potential to Occur On Gen-Tie and Factual Basis for Determination
<i>Astragalus crotalariae</i> Salton milk-vetch	None/None/List D, MSCP/4.3	Sonoran desert scrub/ sandy or gravelly/perennial herb/January–April/60–250 meters	No	Absent. No suitable vegetation present. Site elevation is above the species' known elevation range and species would have been observed during on-site surveys.	No	Absent. No suitable vegetation present. Site elevation is above the species' known elevation range and species would have been observed during on-site surveys.
<i>Astragalus deanei</i> Dean's milk-vetch	None/None/List A, MSCP/1B.1	Chaparral, coastal scrub, riparian forest/perennial herb/February–May/75–670 meters	No	Absent. Site elevation is above the species' known elevation range and species would have been observed during on-site surveys.	No	Absent. Site elevation is above the species' known elevation range and species would have been observed during on-site surveys.
<i>Astragalus insularis</i> var. <i>harwoodi</i> Harwood's milk-vetch	None/None/List B, MSCP/2.2	Desert dunes, Mojavean desert scrub/sandy or gravelly/annual herb/January–May/0–710 meters	No	Absent. No suitable vegetation present. Site elevation is above the species' known elevation range and species would have been observed during on-site surveys.	No	Absent. No suitable vegetation present. Site elevation is above the species' known elevation range and species would have been observed during on-site surveys.
<i>Astragalus lentiginosus</i> var. <i>borreganus</i> Borrego milk-vetch	None/None/List D, MSCP/4.3	Mojavean desert scrub, Sonoran desert scrub/sandy/annual herb/February–May/30–270 meters	No	Absent. No suitable vegetation present. Site elevation is above the species' known elevation range and species would have been observed during on-site surveys.	No	Absent. No suitable vegetation present. Site elevation is above the species' known elevation range and species would have been observed during on-site surveys.

## APPENDIX D (Continued)

Scientific Name Common Name	Sensitivity Code and Status (Federal/State/ County/CRPR) <sup>1</sup>	Habitat Requirements/ Life Form/Blooming Period/ Elevational Range	Verified on TDS (direct/indirect evidence)	Potential to Occur On TDS and Factual Basis for Determination <sup>2</sup>	Verified on Gen-tie (direct/indirect evidence)	Potential to Occur On Gen-Tie and Factual Basis for Determination
<i>Astragalus oocarpus</i> San Diego milk- vetch	None/None/List A, MSCP/1B.2	Chaparral (openings), cismontane woodland/perennial herb/May–August/ 305–1500 meters	No	Absent. Suitable habitat is present. The nearest CNDDDB record is approximately 18 miles from the site, but still occurs in the same bioregion <sup>3</sup> . Also, species would have been detected during on-site surveys.	No	Absent. Suitable habitat is present. The nearest CNDDDB record is approximately 18 miles from the site, but still occurs in the same bioregion <sup>3</sup> . Also, species would have been detected during on-site surveys.
<i>Ayenia compacta</i> California ayenia	None/None/List B/2.3	Mojavean desert scrub, Sonoran desert scrub/rocky/perennial herb/March–April/ 150–1095 meters	No	Absent. No suitable desert scrub vegetation present and species would have been observed during on-site surveys.	No	Absent. No suitable desert scrub vegetation present and species would have been observed during on-site surveys.
<i>Berberis fremontii</i> [= <i>B. higginsiae</i> ] Fremont barberry	None/None/List C, MSCP/3	Chaparral , Joshua tree “woodland,” pinyon and juniper woodland/rocky/evergreen shrub/April–June/840–1850 meters	No	Absent. Suitable habitat is present and the species is recorded within 5 miles of the site. However, this evergreen shrub would have been observed during on-site surveys.	N/A	Absent. Suitable habitat is present and historical record for this species exists within alignment. However, this evergreen shrub would have been observed during on-site surveys.
<i>Brodiaea orcuttii</i> Orcutt’s brodiaea	None/None/List A, MSCP/1B.1	Closed-cone conifer forest, chaparral, cismontane woodland, meadows and seeps, valley and foothill grassland, vernal pools; mesic, clay, sometimes serpentine/bulbiferous herb/May–July/30–1,692 meters	No	Absent. No appropriate clay soils occur on site and this species has not been recorded in the vicinity. Also, species would have been observed during on-site surveys.	No	Absent. No appropriate clay soils occur on site and this species has not been recorded in the vicinity. Also, species would have been observed during on-site surveys.

## APPENDIX D (Continued)

Scientific Name Common Name	Sensitivity Code and Status (Federal/State/ County/CRPR) <sup>1</sup>	Habitat Requirements/ Life Form/Blooming Period/ Elevational Range	Verified on TDS (direct/indirect evidence)	Potential to Occur On TDS and Factual Basis for Determination <sup>2</sup>	Verified on Gen-tie (direct/indirect evidence)	Potential to Occur On Gen-Tie and Factual Basis for Determination
<i>Bursera microphylla</i> Little-leaf elephant tree	None/None/List B, MSCP/2.3	Sonoran desert scrub/rocky/deciduous tree/June–July/200–700 meters	No	Absent. Site elevation is above the species' known elevation range. Also, tree would have been observed during on-site surveys.	No	Absent. Site elevation is above the species' known elevation range. Also, tree would have been observed during on- site surveys.
<i>Calliandra eriophylla</i> Pink fairy-Duster	None/None/List B, MSCP/2.3	Sonoran desert scrub/sandy or rocky/ deciduous shrub/January–March/120– 1,500 meters	No	Absent. No suitable desert scrub vegetation present. Also, shrub would have been observed during on-site surveys.	No	Absent. No suitable desert scrub vegetation present. Also, shrub would have been observed during on-site surveys.
<i>Calochortus dunnii</i> Dunn's mariposa-lily	None/SR/List A, MSCP/1B.2	Closed-cone conifer forest, chaparral; gabbroic or metavolcanic/bulbiferous herb/April–June/380–1,830 meters	No	Absent. Outside of species' geographic range. All CNDDDB records are over 10 miles west of the site and species would have been observed during on-site surveys.	No	Absent. Outside of species' geographic range. All CNDDDB records are over 10 miles west of the site and species would have been observed during on-site surveys. Also, soils on site are either derived/weathered from granodiorite or granite.
<i>Carex obispoensis</i> San Luis Obispo sedge	None/None/MSCP/ 1B.2	Closed-cone coniferous forest, chaparral, coastal prairie, coastal scrub, valley and foothill grassland/often serpentinite seeps, sometimes gabbro; often on clay soils/perennial rhizomatous herb/April–June/10–790 meters	No	Absent. Site elevation is above the species' known elevation range and species would have been observed during on-site surveys.	No	Absent. Site elevation is above the species' known elevation range and species would have been observed during on- site surveys.

## APPENDIX D (Continued)

Scientific Name Common Name	Sensitivity Code and Status (Federal/State/ County/CRPR) <sup>1</sup>	Habitat Requirements/ Life Form/Blooming Period/ Elevational Range	Verified on TDS (direct/indirect evidence)	Potential to Occur On TDS and Factual Basis for Determination <sup>2</sup>	Verified on Gen-tie (direct/indirect evidence)	Potential to Occur On Gen-Tie and Factual Basis for Determination
<i>Carlwrightia arizonica</i> Arizona carlowrightia	None/None/List B, MSCP/2.2	Sonoran desert scrub/sandy, granitic alluvium/deciduous shrub/March–May/ 285–430 meters	No	Absent. Site elevation is above the species' known elevation range. Also, shrub would have been observed during on-site surveys.	No	Absent. Site elevation is above the species' known elevation range. Also, shrub would have been observed during on- site surveys.
<i>Caulanthus simulans</i> Payson's jewel- flower	None/None/List D, MSCP/4.2	Chaparral, coastal scrub; sandy and granitic/ annual herb/March–May/90– 2,200 meters	No	Absent. Suitable vegetation and soils present; however, species would have been observed during on-site surveys. Nearest CNDDDB record is 10 miles away, but in the same bioregion <sup>3</sup> .	No	Absent. Suitable vegetation and soils present; however, species would have been observed during on-site surveys. There are CNDDDB records within 7 miles of the site.
<i>Ceanothus cyaneus</i> Lakeside ceanothus	None/None/List A, MSCP/1B.2	Closed-cone conifer forest, chaparral/shrub/April– June/235–755 meters	No	Absent. Site elevation is above the species' known elevation range. Also, shrub would have been observed during on-site surveys.	No	Absent. Site elevation is above the species' known elevation range. Also, shrub would have been observed during on- site surveys.
<i>Ceanothus verrucosus</i> Wart-stemmed ceanothus	None/None/List B/2.2	Chaparral/shrub/December– April/1–380 meters	No	Absent. Site elevation is above the species' known elevation range. Also, shrub would have been observed during on-site surveys.	No	Absent. Site elevation is above the species' known elevation range. Also, shrub would have been observed during on- site surveys.
<i>Chaenactis parishii</i> Parish's chaenactis	None/None/List A, MSCP/1B.3	Chaparral; rocky/perennial herb /May–July/ 1,300–2,500 meters	No	Absent. Site elevation is below the species' known elevation range and species would have been detected during on-site surveys.	No	Absent. Site elevation is below the species' known elevation range and species would have been detected during on-site surveys.

## APPENDIX D (Continued)

Scientific Name Common Name	Sensitivity Code and Status (Federal/State/ County/CRPR) <sup>1</sup>	Habitat Requirements/ Life Form/Blooming Period/ Elevational Range	Verified on TDS (direct/indirect evidence)	Potential to Occur On TDS and Factual Basis for Determination <sup>2</sup>	Verified on Gen-tie (direct/indirect evidence)	Potential to Occur On Gen-Tie and Factual Basis for Determination
<i>Chamaesyce abramsiana</i> Abrams' spurge	None/None/None/2 .2	Mojavean desert scrub, Sonoran desert scrub/sandy/ annual herb/ (Aug),Sep-Nov/ - 5-915 meters	No	Absent. Site elevation is below the species' known elevation range.	N/A	Not expected to occur. Site elevation is below the species' known elevation range.
<i>Chamaebatia australis</i> Southern mountain misery	None/None/List D, MSCP/4.2.	Chaparral; gabbroic or metavolcanic/evergreen shrub/November-May/300- 700 meters	No	Absent. Site elevation is above the species' known elevation range. Also, shrub would have been observed during on-site surveys.	No	Absent. Site elevation is above the species' known elevation range. Also, shrub would have been observed during on- site surveys.
<i>Chorizanthe polygonoides</i> var. <i>longispina</i> Long-spined spineflower	None/None/List A, MSCP/1B.2	Chaparral, coastal scrub, meadows and seeps, valley and foothill grassland; often clay/annual herb/April- July/30-1,530 meters	No	Absent. Suitable vegetation. There are no clay soils on site; however, the Jepson Flora Interchange (2011) includes sand as suitable substrate for this species. The nearest CNDDDB record is 18 miles away, but occurs in the same bioregion <sup>3</sup> as the project site. Species would have been observed during on-site surveys.	No	Absent. Suitable vegetation. There are no clay soils on site; however, the Jepson Flora Interchange (2011) includes sand as suitable substrate for this species. The nearest CNDDDB record is approximately 18 miles away, but occurs in the same bioregion <sup>3</sup> as the project site. Species would have been observed during on- site surveys.
<i>Clarkia delicata</i> Delicate clarkia	None/None/List A, MSCP/1B.2	Chaparral, cismontane woodland/annual herb/April- June/235-1,000 meters	No	Absent. Site elevation is above the species' known elevation range and species would have been observed during on-site surveys.	No	Absent. Site elevation is slightly above the species' known elevation range and species would have been observed during on-site surveys.

## APPENDIX D (Continued)

Scientific Name Common Name	Sensitivity Code and Status (Federal/State/ County/CRPR) <sup>1</sup>	Habitat Requirements/ Life Form/Blooming Period/ Elevational Range	Verified on TDS (direct/indirect evidence)	Potential to Occur On TDS and Factual Basis for Determination <sup>2</sup>	Verified on Gen-tie (direct/indirect evidence)	Potential to Occur On Gen-Tie and Factual Basis for Determination
<i>Cryptantha costata</i> Ribbed cryptantha	None/None/List D, MSCP/4.3	Desert dunes, Mojavean desert scrub, Sonoran desert scrub/sandy/annual herb/ February–May/60–500 meters	No	Absent. Site elevation is above the species' known elevation range and species would have been observed during on-site surveys.	No	Absent. Site elevation is above the species' known elevation range and species would have been observed during on- site surveys.
<i>Cryptantha ganderi</i> Gander's cryptantha	None/None/List A, MSCP/1B.1	Desert dunes, Sonoran desert scrub/sandy/annual herb/February–May/160–400 meters	No	Absent. Site elevation is above the species' known elevation range and species would have been observed during on-site surveys.	No	Absent. Site elevation is above the species' known elevation range and species would have been observed during on- site surveys.
<i>Cylindropuntia</i> (=Opuntia) <i>wolfii</i> Wolf's cholla	None/None/List D, MSCP/4.3	Sonoran desert scrub/stem succulent/ March–May/100–1,200 meters	No	Absent. No suitable desert scrub habitat on site. Also, conspicuous stem succulent would have been observed during on-site surveys.	No	Absent. No suitable desert scrub habitat on site. Also, conspicuous stem succulent would have been observed during on-site surveys.
<i>Cylindropuntia</i> <i>xfosbergii</i> Pink cholla	None/None/MSCP/3	Sonoran desert scrub/perennial stem succulent/March–May/85–850 meters	No	Absent. Site elevation is above the species' known elevation range. Also, conspicuous stem succulent would have been observed during on-site surveys.	No	Absent. Site elevation is above the species' known elevation range. Also, conspicuous stem succulent would have been observed during on- site surveys.
<i>Deinandra</i> [=Hemizonia] <i>mohavensis</i> Mojave tarplant	None/SE/List A, MSCP/1B.3	Chaparral, coastal scrub, riparian scrub/ mesic/annual herb/July– October/640–1,600 meters	No	Absent. The site is south of the species' known geographic range. Records for the species are over 50 miles north of the site. Species would have been observed during on-site surveys.	No	Not expected to occur. The site is south of the species' known geographic range.

## APPENDIX D (Continued)

Scientific Name Common Name	Sensitivity Code and Status (Federal/State/ County/CRPR) <sup>1</sup>	Habitat Requirements/ Life Form/Blooming Period/ Elevational Range	Verified on TDS (direct/indirect evidence)	Potential to Occur On TDS and Factual Basis for Determination <sup>2</sup>	Verified on Gen-tie (direct/indirect evidence)	Potential to Occur On Gen-Tie and Factual Basis for Determination
<i>Delphinium hesperium</i> ssp. <i>cuyamaca</i> Cuyamaca larkspur	None/SR/List A, MSCP/1B.2	Lower montane conifer forest, meadows and seeps, mesic areas/perennial herb/ June–July/1,220–1,631 meters	No	Absent. Site elevation is below the species' known elevation range and species would have been detected during on-site surveys.	No	Absent. Site elevation slightly below the species' known elevation range and the southernmost CNDDDB record is over 16 miles north of the site. Species would have been detected during on-site surveys.
<i>Dieteria asteroides</i> var. <i>lagunensis</i> Mount Laguna Aster	None/SR/List B, MSCP/2.1	Cismontane woodland, lower montane coniferous forest/perennial herb/July– August/800–2,400 meters	No	Absent. Limited suitable habitat on site and focused surveys for this species were negative.	No	Low potential to occur. Marginally suitable habitat on site and the majority of species records are from
<i>Downingia concolor</i> var. <i>brevior</i> Cuyamaca Lake downingia	None/SE/List A, MSCP/1B.1	Meadows and seeps (vernally mesic), vernal pools/annual herb/May–July/1,400–1,500 meters	No	Absent. Site elevation is below the species' known elevation range and species would have been detected during on-site surveys.	No	Absent. Site elevation is below the species' known elevation range and species would have been detected during on-site surveys.
<i>Ericameria cuneata</i> var. <i>macrocephala</i> Laguna Mountains goldenbush	None/None/List A, MSCP/1B.3	Chaparral/granitic/shrub/Septe mber–December/1,195–1,850 meters	No	Absent. Site elevation is below the species' known elevation range. Also, shrub would have been observed during on-site surveys.	No	Not expected to occur. Site elevation is slightly below the species' known elevation range and this variety is only known from the Laguna Mountains.
<i>Ericameria palmeri</i> ssp. <i>palmeri</i> Palmer's goldenbush	None/None/List B, MSCP/2.2	Chaparral, coastal scrub/shrub/September– November/30–600 meters	No	Absent. Site elevation is above the species' known elevation range. Also, shrub would have been observed during on-site surveys.	No	Not expected to occur. Site elevation is above the species' known elevation range.

**APPENDIX D (Continued)**

Scientific Name Common Name	Sensitivity Code and Status (Federal/State/ County/CRPR) <sup>1</sup>	Habitat Requirements/ Life Form/Blooming Period/ Elevational Range	Verified on TDS (direct/indirect evidence)	Potential to Occur On TDS and Factual Basis for Determination <sup>2</sup>	Verified on Gen-tie (direct/indirect evidence)	Potential to Occur On Gen-Tie and Factual Basis for Determination
<i>Eriogonum evanidum</i> [= <i>E. foliosum</i> ] Vanishing wild buckwheat	None/None/List A, MSCP/1B.1	Chaparral, cismontane woodland, lower montane coniferous forest, pinyon and juniper woodland/sandy/annual herb/July–October/1,100– 2,225 meters	No	Absent. Although there is suitable vegetation and appropriate sandy soils, the species is possibly extirpated (Jepson Flora Project 2013) and the nearest CNDDDB record is approximately 20 miles from the site. Species would have been observed during on-site surveys.	No	Not expected to occur. Although there is suitable vegetation and appropriate sandy soils, the species is possibly extirpated (Jepson Flora Project 2013) and the nearest CNDDDB record is approximately 19 miles from the site.
<i>Eucnide rupestris</i> Annual rock-nettle	None/None/List B/2.2	Sonoran desert scrub/ annual herb/ Dec-Apr/ 500–600 meters	No	Absent. There is no suitable Sonoran desert scrub on site and species would have been observed during on-site surveys.	No	Not expected to occur. No suitable Sonoran desert scrub vegetation.
<i>Galium angustifolium</i> ssp. <i>borregoense</i> Borrego bedstraw	None/SR/List A, MSCP/1B.3	Sonoran desert scrub/ rocky/perennial herb/March/350–1,250 meters	No	Absent. There is no suitable Sonoran desert scrub on site and species would have been observed during on-site surveys.	No	Absent. There is no suitable Sonoran desert scrub on site and species would have been observed during on-site surveys.
<i>Galium angustifolium</i> ssp. <i>jacinticum</i> San Jacinto Mountains bedstraw	None/None/List A/1B.3	Lower montane coniferous forest/perennial herb/June– August/1,350–2,100 meters	No	Absent. Site elevation is below the species' known elevation range and species would have been detected during on-site surveys.	No	Absent. Site elevation is below the species' known elevation range and species would have been detected during on-site surveys.
<i>Galium californicum</i> ssp. <i>flaccidum</i> California flaccidus	None/None/MSCP/ None	Open or dense non-coastal woodland/perennial herb/March–July/30–1,500 meters	No	Absent. Limited suitable habitat on site and species would have been observed during on-site surveys.	No	Absent. Suitable woodland habitat present and species would have been observed during on- site surveys.

## APPENDIX D (Continued)

Scientific Name Common Name	Sensitivity Code and Status (Federal/State/ County/CRPR) <sup>1</sup>	Habitat Requirements/ Life Form/Blooming Period/ Elevational Range	Verified on TDS (direct/indirect evidence)	Potential to Occur On TDS and Factual Basis for Determination <sup>2</sup>	Verified on Gen-tie (direct/indirect evidence)	Potential to Occur On Gen-Tie and Factual Basis for Determination
<i>Gentiana fremontii</i> Fremont's gentian	None/None/None/2 .3	Meadows and seeps (mesic), upper montane coniferous forest/annual herb/ June–August/2,400–2,700 meters	No	Absent. Site elevation is below the species' known elevation range and species would have been detected during on-site surveys.	No	Absent. Site elevation is below the species' known elevation range and species would have been detected during on-site surveys.
<i>Grindelia hallii</i> San Diego gumplant	None/ None/ List A/ 1B.2	Chaparral, Lower montane coniferous forest, Meadows and seeps, Valley and foothill grassland/ perennial herb/ Jul- Oct/ 185–1,745 meters	No	Absent. The nearest CNDDDB record is over 17 miles northwest of the site and species would have been detected during on-site surveys.	No	Not expected to occur. The nearest CNDDDB record is over 15 miles northwest of the site.
<i>Harpagonella palmeri</i> Palmer's grapplinghook	None/None/List D, MSCP/4.2	Chaparral, coastal scrub, valley and foothill grassland/clay/annual herb/March–May/ 20–955 meters	No	Absent. Site elevation is above the species' known elevation range and species would have been observed during on-site surveys.	No	Absent. Site elevation is above the species' known elevation range and species would have been observed during on- site surveys.
<i>Herissantia crispa</i> Curly herissantia	None/None/List B, MSCP/2.3	Sonoran desert scrub/annual- perennial herb/August– September/700–725 meters	No	Absent. Site elevation is above the species' known elevation range, no suitable Sonoran desert scrub present, and species would have been observed during on-site surveys.	No	Not expected to occur. Site elevation is above the species' known elevation range and there is no suitable Sonoran desert scrub present.

**APPENDIX D (Continued)**

Scientific Name Common Name	Sensitivity Code and Status (Federal/State/ County/CRPR) <sup>1</sup>	Habitat Requirements/ Life Form/Blooming Period/ Elevational Range	Verified on TDS (direct/indirect evidence)	Potential to Occur On TDS and Factual Basis for Determination <sup>2</sup>	Verified on Gen-tie (direct/indirect evidence)	Potential to Occur On Gen-Tie and Factual Basis for Determination
<i>Hesperocyparis stephensonii</i> Cuyamaca cypress	None/None/List A, MSCP/1B.1	Closed-cone conifer forest, chaparral, riparian forest/gabbroic/evergreen tree/ NA/1,035–1,705 meters	No	Absent. Known from only three extant occurrences that are over 20 miles northwest of site. Evergreen tree would have been observed during focused surveys if present.	No	Absent. Known from only three extant occurrences that are over 20 miles northwest of site. Also, soils may not be appropriate. Evergreen tree would have been observed during focused surveys if present.
<i>Heuchera brevistaminea</i> Laguna Mountains alumroot	None/None/List A, MSCP/1B.3	Broadleafed upland forest, chaparral, cismontane woodland, riparian forest/ rocky/rhizomatous herb/April– July/ 1,370–2,000 meters	No	Absent. Site elevation is below the species' known elevation range and species would have been observed during on-site surveys.	No	Absent. Site elevation is below the species' known elevation range and species would have been observed during on-site surveys.
<i>Holocarpha virgata</i> ssp. <i>elongata</i> Curving tarplant	None/None/List D, MSCP/4.2	Coastal scrub, cismontane woodland, chaparral, valley and foothill grassland/ annual herb/August– November/ 60–1,100 meters	No	Absent. Although there is suitable habitat present, this species would have been observed during fall focused surveys if present.	No	Low potential to occur. . Although there is suitable habitat present, the site is just above the species' known elevation range.
<i>Horkelia truncata</i> Ramona horkelia	None/None/List A, MSCP/1B.3	Chaparral/cismontane woodland/clay/ perennial herb/May– June/400–1,300 meters	No	Absent. No suitable clay soils on site; the nearest CNDDDB record is 23 miles northeast of the site. Also, species would have been detected during on- site surveys.	No	Absent. No suitable clay soils on site; the nearest CNDDDB record is 20 miles northeast of the site. Also, species would have been detected during on-site surveys.

## APPENDIX D (Continued)

Scientific Name Common Name	Sensitivity Code and Status (Federal/State/ County/CRPR) <sup>1</sup>	Habitat Requirements/ Life Form/Blooming Period/ Elevational Range	Verified on TDS (direct/indirect evidence)	Potential to Occur On TDS and Factual Basis for Determination <sup>2</sup>	Verified on Gen-tie (direct/indirect evidence)	Potential to Occur On Gen-Tie and Factual Basis for Determination
<i>Hulsea californica</i> San Diego hulsea	None/None/List A, MSCP/1B.3	Chaparral, lower montane coniferous forest, upper montane coniferous forest/openings and burned areas, perennial herb/April- June/915-2,915 meters	No	Absent. Suitable vegetation occurs on site. There is a CNDDDB record within 7 miles of the site; however, species would have been observed during on-site surveys.	No	Absent. Suitable burned chaparral vegetation on site. However, species would have been observed during on-site surveys.
<i>Hulsea mexicana</i> Mexican hulsea	None/None/List B, MSCP/2.3	Chaparral (volcanic, often on burns or disturbed areas)/annual-perennial herb/ April-June/1,200-1,200 meters	No	Absent. Site elevation is below the species' known elevation range and species would have been observed during on-site surveys.	No	Absent. Site elevation is below the species' known elevation range and species would have been observed during on-site surveys.
<i>Hulsea vestita</i> ssp. <i>callicarpa</i> Beautiful hulsea	None/None/List D, MSCP/4.2	Chaparral, lower montane coniferous forest/rocky or gravelly, granitic/perennial herb/May-October/915-3,050 meters	No	Absent. The site is outside of the geographic range of the species, which occurs in the northern Peninsular Ranges (Jepson 2011). Jepson (2011) also lists 1300 meters as the minimum elevation, which is higher than the project site. Species would have been observed during on-site surveys.	No	Absent. The site is outside of the geographic range of the species, which occurs in the northern Peninsular Ranges (Jepson 2011). Jepson (2011) also lists 1300 meters as the minimum elevation, which is higher than the project site. Species would have been observed during on- site surveys.
<i>Ipomopsis tenuifolia</i> Slender-leaved ipomopsis	None/None/List B/2.3	Chaparral, pinyon and juniper woodland, Sonoran desert scrub/gravelly or rocky/ perennial herb/March- May/100-1,200 meters	No	Absent. Although there is suitable habitat present, this species would have been observed during spring focused surveys if present.	No	Absent. Suitable chaparral vegetation on site, although soils may not be appropriate. This species would have been observed during spring focused surveys if present.

## APPENDIX D (Continued)

Scientific Name Common Name	Sensitivity Code and Status (Federal/State/ County/CRPR) <sup>1</sup>	Habitat Requirements/ Life Form/Blooming Period/ Elevational Range	Verified on TDS (direct/indirect evidence)	Potential to Occur On TDS and Factual Basis for Determination <sup>2</sup>	Verified on Gen-tie (direct/indirect evidence)	Potential to Occur On Gen-Tie and Factual Basis for Determination
<i>Lepidium flavum</i> var. <i>felipense</i> Borrego Valley pepper-grass	None/None/List A, MSCP/1B.2	Pinyon and juniper woodland, Sonoran desert scrub/sandy/annual herb/March–May/455–840 meters	No	Absent. Site elevation is above the species' known elevation range and species would have been observed during on-site surveys.	No	Absent. Site elevation is above the species' known elevation range and species would have been observed during on- site surveys.
<i>Lepidium virginicum</i> var. <i>robinsonii</i> Robinson's pepper- grass	None/None/List A/1B.2	Chaparral, coastal scrub/annual herb/ January–July/< 885 meters	No	Absent. Site elevation is above the species' known elevation range and species would have been observed during on-site surveys.	No	Absent. Site elevation is above the species' known elevation range and species would have been observed during on- site surveys.
<i>Lessingia</i> <i>glandulifera</i> var. <i>tomentosa</i> Warner Springs lessingia	None/None/List A, MSCP/1B.3	Chaparral/sandy/annual herb/August–October/870– 1,220 meters	No	Absent. Outside of geographic range of species; nearest CNDDDB record is over 40 miles from the site. Also, species would have been observed during on-site surveys.	No	Not expected to occur. Outside of geographic range of species.
<i>Lewisia brachycalyx</i> Short-sepaed lewisia	None/None/List B, MSCP/2.2	Lower montane coniferous forest, meadows and seeps/mesic/perennial herb/February–June/1,370– 2,300 meters	No	Absent. Site elevation is below the species' known elevation range and species would have been observed during on-site surveys.	No	Absent. Site elevation is below the species' known elevation range and species would have been observed during on-site surveys.
<i>Lilium humboldtii</i> ssp. <i>ocellatum</i> Ocellated humboldt lily	None/None/List D, MSCP/4.2	Chaparral, cismontane woodland, coastal scrub, lower montane coniferous forest, riparian woodland/openings/bulbiferou s herb/March–July/30–1,800 meters	No	Absent. Suitable habitat occurs on site, but species would have been observed during on-site surveys.	No	Absent. Suitable habitat occurs on site, but species would have been observed during on-site surveys.

## APPENDIX D (Continued)

Scientific Name Common Name	Sensitivity Code and Status (Federal/State/ County/CRPR) <sup>1</sup>	Habitat Requirements/ Life Form/Blooming Period/ Elevational Range	Verified on TDS (direct/indirect evidence)	Potential to Occur On TDS and Factual Basis for Determination <sup>2</sup>	Verified on Gen-tie (direct/indirect evidence)	Potential to Occur On Gen-Tie and Factual Basis for Determination
<i>Lilium parryi</i> Lemon Lily	None/None/List A, MSCP/1B.2	Lower montane coniferous forest, meadows and seeps, riparian forest, upper montane coniferous forest/mesic/bulbiferous herb/July–August/1,220–2,745 meters	No	Absent. Site elevation is below the species' known elevation range and species would have been detected during on-site surveys.	No	Low potential to occur. Although there is may be suitable meadows/seeps or riparian forest habitat present, the site elevation is below the species' known elevation range.
<i>Limnanthes gracilis</i> ssp. <i>parishii</i> Parish's meadowfoam	None/SE/List A, MSCP/1B.2	Lower montane coniferous forest, meadows and seeps, vernal pools/vernally mesic/ annual herb/April–June/600– 2,000 meters	No	Absent. There is no suitable vernally mesic habitat and species would have been observed during on-site surveys.	No	Absent. There is no suitable vernal mesic habitat and species would have been observed during on-site surveys.
<i>Lupinus excubitus</i> var. <i>medius</i> Mountain Springs bush lupine	None/None/List A, MSCP/1B.3	Pinyon and juniper woodland, Sonoran desert scrub/shrub/March–May/425– 1,370 meters	No	Absent. No suitable vegetation present. Also, shrub would have been observed during on-site surveys.	No	Absent. No suitable vegetation present. Also, shrubs would have been observed during on-site surveys.
<i>Lycium parishii</i> Parish's desert- thorn	None/None/List B, MSCP/2.3	Coastal scrub, Sonoran desert scrub/ shrub/March–April/305–1,000 meters	No	Absent. Site elevation is above the species' known elevation range. Also, shrub would have been observed during on-site surveys.	No	Absent. No suitable vegetation present. Also, the site elevation is slightly above the species' known elevation range. Also, shrub would have been observed during on-site surveys.
<i>Malacothamnus</i> <i>aboriginum</i> Indian Valley-bush mallow	None/None/List A, MSCP/1B.2	Chaparral, cismontane woodland/rocky, often in burned areas/deciduous shrub/ April–October/150–1,700 meters	No	Absent. Outside of the species' known geographic range. Also, shrub would have been observed during on-site surveys.	No	Absent. Outside of the species' known geographic range. Also, shrubs would have been observed during on-site surveys.

## APPENDIX D (Continued)

Scientific Name Common Name	Sensitivity Code and Status (Federal/State/ County/CRPR) <sup>1</sup>	Habitat Requirements/ Life Form/Blooming Period/ Elevational Range	Verified on TDS (direct/indirect evidence)	Potential to Occur On TDS and Factual Basis for Determination <sup>2</sup>	Verified on Gen-tie (direct/indirect evidence)	Potential to Occur On Gen-Tie and Factual Basis for Determination
<i>Malperia tenuis</i> brown turbans	None/ None/ List B/ 2.3	Sonoran desert scrub(sandy, gravelly)/ annual herb/ (Feb),Mar-Apr/ 15–335 meters	No	Absent. No suitable Sonoran desert scrub present and species would have been observed during on-site surveys.	No	Absent. No suitable Sonoran desert scrub present and species would have been observed during on-site surveys.
<i>Mentzelia hirsutissima</i> Hairy stickleaf	None/None/List B/2.3	Sonoran desert scrub/rocky/annual herb/ March–May/0–700 meters	No	Absent. No suitable desert scrub on site and species would have been observed during on-site surveys.	No	Absent. No suitable desert scrub on site and species would have been observed during on-site surveys.
<i>Mimulus aurantiacus</i> var. <i>aridus</i> Low bush monkeyflower	None/None/List D, MSCP/4.3	Chaparral/rocky/evergreen shrub/April–July/ 750–1,100 meters	No	Absent. Suitable rocky chaparral habitat present. However, this evergreen shrub was not detected during focused surveys.	N/A	Absent. Suitable rocky chaparral habitat present. However, this evergreen shrub was not detected during focused surveys. This variety was recorded within 800 feet of the gen-tie alignment in the San Diego plant atlas database.
<i>Mimulus clevelandii</i> Cleveland's bush monkeyflower	None/None/List D, MSCP/4.2	Chaparral, lower montane coniferous forest/often in disturbed areas, openings, rocky/ rhizomatous herb/April– July/ 815–2,000 meters	No	Absent. Suitable habitat is present; however, species would have been observed during on-site surveys.	No	Absent. Suitable disturbed/rocky chaparral habitat present; however, species would have been observed during on-site surveys.

## APPENDIX D (Continued)

Scientific Name Common Name	Sensitivity Code and Status (Federal/State/ County/CRPR) <sup>1</sup>	Habitat Requirements/ Life Form/Blooming Period/ Elevational Range	Verified on TDS (direct/indirect evidence)	Potential to Occur On TDS and Factual Basis for Determination <sup>2</sup>	Verified on Gen-tie (direct/indirect evidence)	Potential to Occur On Gen-Tie and Factual Basis for Determination
<i>Mimulus diffusus</i> Palomar monkeyflower	None/None/List D, MSCP/4.3	Chaparral, lower montane coniferous forest/sandy or gravelly/annual herb/ April–June/1,220–1,830 meters	No	Absent. Site elevation is below the species' known elevation range and species would have been observed during on-site surveys.	No	Absent. Suitable chaparral habitat present, but site elevation is just below the species' known elevation range. Species would have been observed during on-site surveys.
<i>Monardella hypoleuca</i> ssp. <i>lanata</i> Felt-leaved monardella	None/None/List A, MSCP/1B.2	Chaparral, cismontane woodland/perennial herb/May–July/300–1,095 meters	No	Absent. Outside of species' known geographic range, which occurs in the southwestern Peninsular Ranges (Jepson 2011) and species would have been detected during on-site surveys.	No	Absent. Outside of species' known geographic range, which occurs in the southwestern Peninsular Ranges (Jepson 2011) and species would have been detected during on- site surveys.
<i>Monardella nana</i> ssp. <i>leptosiphon</i> San Felipe monardella	None/None/List A, MSCP/1B.2	Chaparral, lower montane coniferous forest/rhizomatous herb/June–July/ 1,200–1,855 meters	No	Absent. Site elevation is below the species' known elevation range and species would have been detected during on-site surveys.	No	Absent. Site elevation is slightly below the species' known elevation range and this subspecies is known mostly from Hot Springs Mountain. Species would have been detected during on-site surveys
<i>Navarretia peninsularis</i> Baja navarretia	None/None/List A, MSCP/1B.2	Chaparral (openings). lower montane coniferous forest/mesic/annual herb/ June–August/1,500–23,00 meters	No	Absent. Site elevation is below the species' known elevation range and species would have been detected during on-site surveys.	No	Absent. Site elevation is below the species' known elevation range and species would have been detected during on-site surveys.

## APPENDIX D (Continued)

Scientific Name Common Name	Sensitivity Code and Status (Federal/State/ County/CRPR) <sup>1</sup>	Habitat Requirements/ Life Form/Blooming Period/ Elevational Range	Verified on TDS (direct/indirect evidence)	Potential to Occur On TDS and Factual Basis for Determination <sup>2</sup>	Verified on Gen-tie (direct/indirect evidence)	Potential to Occur On Gen-Tie and Factual Basis for Determination
<i>Nolina cismontana</i> Chaparral nolina	None/None/List A, MSCP/1B.2	Chaparral, coastal scrub/sandstone or gabbro/evergreen shrub/May- July/140- 1,275 meters	No	Absent. Outside of the species' known geographic range; CNDDDB records are narrowly distributed almost 30 miles northwest of the site. Also, shrub would have been observed during on-site surveys.	No	Absent. Outside of the species' known geographic range. Also, shrubs would have been observed during on-site surveys.
<i>Packera ganderi</i> Gander's ragwort	None/SR/List A, MSCP/1B.2	Chaparral (burned areas and gabbroic outcrops)/perennial herb/April-May/400-1,200 meters	No	Absent. Outside of the species' known geographic range; CNDDDB records are over 16 miles north of the site. Species would have been observed during on-site surveys.	No	Absent. Outside of the species' known geographic range. Species would have been observed during on- site surveys.
<i>Pentachaeta aurea</i> ssp. <i>aurea</i> Golden-rayed pentachaeta	None/None/List D/4.2	Chaparral, cismontane woodland, coastal scrub, lower montane coniferous forest, riparian woodland, valley and foothill grassland/ annual herb/March-July/80- 1,850 meters	No	Absent. Recorded within the vicinity and suitable vegetation occurs on site; however, species would have been observed during on-site surveys.	No	Absent. Suitable vegetation occurs on site; however, species would have been observed during on-site surveys.
<i>Pentagramma</i> <i>triangularis</i> ssp. <i>nova</i>	None/None/MSCP/ None	Undescribed taxon from south central San Diego County currently being studied by A. Winner	No	Absent. The site may be too far east since the species is known from south central San Diego County. Also, no <i>Pentagramma</i> species were observed during on-site surveys.	No	Absent. The site may be too far east since the species is known from south central San Diego County. Also, no <i>Pentagramma</i> species were observed during on- site surveys.

## APPENDIX D (Continued)

Scientific Name Common Name	Sensitivity Code and Status (Federal/State/ County/CRPR) <sup>1</sup>	Habitat Requirements/ Life Form/Blooming Period/ Elevational Range	Verified on TDS (direct/indirect evidence)	Potential to Occur On TDS and Factual Basis for Determination <sup>2</sup>	Verified on Gen-tie (direct/indirect evidence)	Potential to Occur On Gen-Tie and Factual Basis for Determination
<i>Phacelia nashiana</i> Charlotte's phacelia	None/None/MSCP/ 1B.1	Joshua tree "woodland," Mojavean desert scrub, Pinyon and juniper woodland/usually granitic, sandy/annual herb/March– June/ 600–2,200 meters	No	Absent. No suitable vegetation present and species would have been observed during on-site surveys.	No	Absent. No suitable vegetation present and species would have been observed during on-site surveys.
<i>Pholistoma auritum</i> var. <i>arizonicum</i> Arizona pholistoma	None/None/MSCP/ 2.3	Mojavean desert scrub/annual herb/March/ 275–835 meters	No	Absent. Site elevation is above the species' known elevation range and species would have been observed during on-site surveys.	No	Absent. Site elevation is above the species' known elevation range and species would have been observed during on- site surveys.
<i>Piperia cooperi</i> Chaparral rein orchid	None/None/List D, MSCP/4.2	Chaparral, cismontane woodland, valley and foothill grassland/ perennial herb/ March–June/15–1,585 meters	No	Absent. Suitable habitat present; however, species would have been observed during on-site surveys.	No	Absent. Suitable habitat present; however, species would have been observed during on-site surveys.
<i>Piperia leptopetala</i> Narrow-petaled rein orchid	None/None/List D, MSCP/4.3	Cismontane woodland, lower montane coniferous forest, upper montane coniferous forest/perennial herb/May– July/380–2,225 meters	No	Moderate. Suitable habitat present. Occurs in the Peninsular Ranges.	No	Moderate. Suitable habitat present. Occurs in the Peninsular Ranges.
<i>Poa atropurpurea</i> San Bernardino bluegrass	FE/None/List A, MSCP/1B.2	Meadows and seeps/ mesic/ rhizomatous herb/ May– July/1,360–2,455 meters	No	Absent. Site elevation is below the species' known elevation range and species would have been detected during on-site surveys.	No	Absent. Site elevation is below the species' known elevation range and species would have been detected during on-site surveys.

## APPENDIX D (Continued)

Scientific Name Common Name	Sensitivity Code and Status (Federal/State/ County/CRPR) <sup>1</sup>	Habitat Requirements/ Life Form/Blooming Period/ Elevational Range	Verified on TDS (direct/indirect evidence)	Potential to Occur On TDS and Factual Basis for Determination <sup>2</sup>	Verified on Gen-tie (direct/indirect evidence)	Potential to Occur On Gen-Tie and Factual Basis for Determination
<i>Pilostyles thurberi</i> Thurber's pilostyles	None/ None/ List D/ 4.3	Sonoran desert scrub/ perennial herb parasitic/ Jan/ 0–365 meters	No	Absent. Site elevation is above the species' known elevation range and species would have been detected during on-site surveys.	No	Absent. Site elevation is above the species' known elevation range and species would have been detected during on- site surveys.
<i>Quercus engelmannii</i> Engelmann oak	None/None/List D, MSCP/4.2	Chaparral, cismontane woodland, riparian woodland, valley and foothill grassland/ deciduous tree/March– June/120–1,300 meters	No	Absent. Suitable habitat present. Occurs in the Peninsular Ranges. However, this conspicuous deciduous tree was not observed during focused surveys.	No	Absent. Suitable habitat present. Occurs in the Peninsular Ranges. However, this conspicuous deciduous tree was not observed during focused surveys.
<i>Ribes canthariforme</i> Moreno currant	None/None/List A, MSCP/1B.3	Chaparral/deciduous shrub/February–April/ 340–1,200 meters	No	Absent. Outside of the species' known geographic range, which occurs farther west. Also, shrub would have been observed during on-site surveys.	No	Absent. Outside of the species' known geographic range, which occurs farther west. Also, shrubs would have been observed during on-site surveys.
<i>Ribes viburnifolium</i> Santa Catalina Island currant	None/None/List A/1B.2	Chaparral, cismontane woodland/evergreen shrub/February–April/30–305 meters	No	Absent. Site elevation is above the species' known elevation range. Also, shrub would have been observed during on-site surveys.	No	Absent. Site elevation is above the species' known elevation range. Also, shrub would have been observed during on- site surveys.
<i>Rubus glaucifolius</i> var. <i>ganderi</i> Cuyamaca raspberry	None/None/List A, MSCP/1B.3	Lower montane coniferous forest/gabbroic/ evergreen shrub/May– June/1,200–1,675 meters	No	Absent. No suitable coniferous forest vegetation. Also, shrub would have been observed during on-site surveys.	No	Absent. No suitable coniferous forest vegetation. Also, shrub would have been observed during on-site surveys.

**APPENDIX D (Continued)**

Scientific Name Common Name	Sensitivity Code and Status (Federal/State/ County/CRPR) <sup>1</sup>	Habitat Requirements/ Life Form/Blooming Period/ Elevational Range	Verified on TDS (direct/indirect evidence)	Potential to Occur On TDS and Factual Basis for Determination <sup>2</sup>	Verified on Gen-tie (direct/indirect evidence)	Potential to Occur On Gen-Tie and Factual Basis for Determination
<i>Rupertia rigida</i> Parish's rupertia	None/None/List D, MSCP/4.3	Chaparral, cismontane woodland, lower montane coniferous forest, valley and foothill grassland/perennial herb/June–August/700–2,500 meters	No	Moderate. Suitable habitat present. Occurs in the Peninsular Ranges.	No	Moderate. Suitable habitat present. Occurs in the Peninsular Ranges.
<i>Saltugilia</i> [= <i>Gilia</i> ] <i>caruifolia</i> Caraway-leaved woodland-gilia	None/None/None/4 .3	Chaparral, lower montane coniferous forest/annual herb/May–August/840–2,300 meters	No	Moderate. Suitable habitat is present. Occurs in the Peninsular Ranges. However, Jepson (2011) lists minimum elevation as 1,400 meters.	No	Moderate. Suitable habitat is present. Occurs in the Peninsular Ranges. However, Jepson (2011) lists minimum elevation as 1,400 meters.
<i>Scutellaria bolanderi</i> ssp. <i>austromontana</i> Southern mountains skullcap	None/None/List A/1B.2	Chaparral, cismontane woodland, lower montane coniferous forest/mesic/ rhizomatous herb/June– August/600–2,000 meters	No	Absent. No suitable mesic vegetation and species would have been detected during on- site surveys.	No	Absent. No suitable mesic vegetation and all occurrences are recorded west of the project site; species would have been detected during on-site surveys.
<i>Selaginella</i> <i>eremophila</i> Desert spike-moss	None/None/List B/2.2	Sonoran desert scrub/gravelly or rocky/ rhizomatous herb/June/200– 900 meters	No	Absent. No suitable desert scrub habitat and species would have been detected during on-site surveys.	No	Absent. No suitable desert scrub habitat and species would have been detected during on-site surveys.
<i>Senecio aphanactis</i> Chaparral ragwort	None/None/List B/2.2	Chaparral, cismontane woodland, coastal scrub/sometimes alkaline/annual herb/ January–April/15–800 meters	No	Absent. Site elevation is above the species' known elevation range. Suitable vegetation is present; however, species would have been observed during on-site surveys.	No	Absent. Site elevation is above the species' known elevation range. Suitable vegetation is present; however, species would have been observed during on-site surveys.

**APPENDIX D (Continued)**

Scientific Name Common Name	Sensitivity Code and Status (Federal/State/ County/CRPR) <sup>1</sup>	Habitat Requirements/ Life Form/Blooming Period/ Elevational Range	Verified on TDS (direct/indirect evidence)	Potential to Occur On TDS and Factual Basis for Determination <sup>2</sup>	Verified on Gen-tie (direct/indirect evidence)	Potential to Occur On Gen-Tie and Factual Basis for Determination
<i>Sibaropsis hammittii</i> Hamitt's clay-cress	None/None/List A, MSCP/1B.2	Chaparral (openings), valley and foothill grassland; clay/annual herb/March–April/ 720–1,065 meters	No	Absent. No suitable clay soils on site. Species not recorded in the vicinity and species would have been observed during on-site surveys.	No	Absent. No suitable clay soils on site and species not recorded in the vicinity; species would have been observed during on-site surveys.
<i>Streptanthus berardinus</i> Laguna Mountains jewel-flower	None/ None/ List D/ 4.3	Chaparral, Lower montane coniferous forest/ perennial herb/ May-Aug/ 670–2,500 meters	No	Absent. Species would have been observed during on-site surveys.	No	Absent. Suitable chaparral habitat is present, but the nearest CNDDB record is over 16 miles from the site. Species would have been observed during on-site surveys.
<i>Streptanthus campestris</i> Southern jewel- flower	None/None/List A/1B.3	Chaparral, lower montane coniferous forest, pinyon and juniper woodland/rocky/ perennial herb/May–July/900– 2,300 meters	No	Absent. Suitable vegetation is present; however, species would have been observed during on-site surveys.	No	Absent. Recorded in the vicinity. Suitable vegetation present; however, species would have been observed during on-site surveys.
<i>Symphotrichum defoliatum</i> San Bernardino aster	None/None/None/1 B.2	Cismontane woodland, coastal scrub, lower montane coniferous forest, meadows and seeps, marshes and swamps, Valley and foothill grassland (vernally mesic); near ditches, streams, springs/perennial rhizomatous herb/July–November/2–2,040 meters	No	Absent. Suitable habitat is present, but focused surveys for this species were negative.		Absent. Suitable habitat is present, but focused surveys for this species were negative.

## APPENDIX D (Continued)

Scientific Name Common Name	Sensitivity Code and Status (Federal/State/ County/CRPR) <sup>1</sup>	Habitat Requirements/ Life Form/Blooming Period/ Elevational Range	Verified on TDS (direct/indirect evidence)	Potential to Occur On TDS and Factual Basis for Determination <sup>2</sup>	Verified on Gen-tie (direct/indirect evidence)	Potential to Occur On Gen-Tie and Factual Basis for Determination
<i>Tetracoccus dioicus</i> Parry's tetracoccus	None/None/List A/1B.2	Chaparral, coastal sage scrub/shrub/April–May/165– 1,000 meters	No	Absent. Recorded in the vicinity, although site is just above the species' known elevation range. Suitable habitat is present. However, shrub would have been observed during on-site surveys.	No	Absent. The site is just above the species' known elevation range, but the species is recorded within 5 miles of the site and there is suitable chaparral present. However, shrub would have been observed during on-site surveys.
<i>Thermopsis californica</i> var. <i>semota</i> Velvety false lupine	None/None/List A, MSCP/1B.2	Cismontane woodland, lower montane coniferous forest, meadows and seeps, valley and foothill grassland/rhizomatous herb/March–June/1,000–1,870 meters	No	Absent. The nearest CNDDDB record is approximately 17 miles from the site, but occurs within the same bioregion <sup>3</sup> . Species would have been observed during on-site surveys.	No	Absent. The nearest CNDDDB record is approximately 15 miles from the site, but occurs within the same bioregion <sup>3</sup> . Species would have been observed during on-site surveys.
<i>Thysanocarpus rigidus</i> rigid fringedpod	None/ None/ None/ 1B.2	Pinyon and juniper woodland/Dry rocky slopes/ annual herb/ Feb-May/ 600– 2,200 meters	No	Absent. No suitable pinyon and juniper woodland present and the species would have been observed during on-site surveys.	No	Not expected to occur. No suitable pinyon and juniper woodland present and the species would have been observed during on-site surveys.
<i>Xanthisma</i> (= <i>Machaeranthera</i> ) <i>junceum</i> Rush-like bristleweed	None/None/List D, MSCP/4.3	Chaparral, coastal scrub/perennial herb/June– January/240–1,000 meters	No	Absent. Site elevation is above the species' known elevation range and species would have been observed during on-site surveys.	No	Absent. Site elevation is slightly above the species' known elevation range, but there is suitable chaparral vegetation present. However, species would have been observed during on-site surveys.

## APPENDIX D (Continued)

Scientific Name Common Name	Sensitivity Code and Status (Federal/State/ County/CRPR) <sup>1</sup>	Habitat Requirements/ Life Form/Blooming Period/ Elevational Range	Verified on TDS (direct/indirect evidence)	Potential to Occur On TDS and Factual Basis for Determination <sup>2</sup>	Verified on Gen-tie (direct/indirect evidence)	Potential to Occur On Gen-Tie and Factual Basis for Determination
<i>Xylorhiza orcuttii</i> Orcutt's woody aster	None/None/List A, MSCP/1B.2	Sonoran desert scrub/perennial herb/March- April/20-365 meters	No	Absent. Site elevation is above the species' known elevation range and species would have been observed during on-site surveys.	No	Absent. Site elevation is above the species' known elevation range and species would have been observed during on- site surveys.

<sup>1</sup> **Legend**

FE: Federally listed as endangered

FT: Federally listed as threatened

MSCP: Proposed Covered Species under the Draft East County MSCP

SE: State-listed as endangered

ST: State-listed as threatened

SR: State-listed as rare

**CRPR: California Rare Plant Rank**

1A (formerly List 1A): Plants Presumed Extinct in California

1B (formerly List 1B): Plants Rare, Threatened, or Endangered in California and Elsewhere

2 (formerly List 2): Plants Rare, Threatened, or Endangered in California, But More Common Elsewhere

3 (formerly List 3): Plants About Which We Need More Information – A Review List

4 (formerly List 4): Plants of Limited Distribution – A Watch List

- 0.1–Seriously threatened in California (over 80% of occurrences threatened/high degree and immediacy of threat)
- 0.2–Fairly threatened in California (20–80% occurrences threatened/moderate degree and immediacy of threat)
- 0.3–Not very threatened in California (<20% of occurrences threatened /low degree and immediacy of threat or no current threats known)

<sup>2</sup> "Vicinity" is based on a search of the CNDDDB and CNPS databases for the Tierra Del Sol quad and the four surrounding quads conducted in October 2011 and Live Oak Springs quad and surrounding 5 quads conducted in March 2013.

<sup>3</sup> "Bioregion": Regions defined by the geographic subdivisions of California in the Jepson Flora Project (2012). The project site is located in the Peninsular Ranges within the California Floristic Province.

## APPENDIX D (Continued)

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# **APPENDIX E**

*Special-Status Wildlife Species Detected or  
Potentially Occurring in the Project Area*



## APPENDIX E

### Special-Status Wildlife Species Detected or Potentially Occurring in the Project Area

Scientific Name/ Common Name	Status (Federal/ State/ County) <sup>1</sup>	Habitat Preferences/Requirements	Verified on Site (Direct/ Indirect Evidence)	Potential to Occur On Site	Factual Basis for Determination
<i>Reptiles</i>					
<i>Anniella pulchra pulchra</i> Silvery legless lizard	None/SSC/ Group 2	Loose soils (sand, loam, humus) in coastal dune, coastal sage scrub, woodlands, and riparian habitats (1).	No	Moderate	Suitable habitat is present within the project area. Not recorded in the CNDDDB 8-quad search <sup>2</sup>
<i>Aspidoscelis hyperythrus beldingi</i> Belding's orange-throated whiptail	None/SSC/ Group 2, MSCP	Coastal sage scrub, chamise-redshank chaparral, mixed chaparral, valley-foothill hardwood especially in area with summer fog. Found from Santa Ana River and near Colton in San Bernardino County, west of Peninsular Ranges, south throughout Baja California, 0 to 2,001 feet (1, 2).	No	Moderate	Suitable habitat is present within the project area. Project site is above the species' recorded elevation range. Species is recorded in the CNDDDB 8-quad search <sup>2</sup>
<i>Aspidoscelis tigris stejnegeri</i> Coastal whiptail	None/None/ Group 2	Hot and dry open area with sparse foliage, chaparral, woodland, riparian area. Found in coastal Southern California, west of Peninsular Ranges and south of Transverse Ranges, north to Ventura County, 0 to 6,988 feet (1, 2).	No	High	Suitable scrub habitat with rock outcroppings present on site. Species is documented in the Live Oak Springs quadrangle (CDFG 2012a).
<i>Charina trivirgata</i> Rosy boa	None/None/ Group 2	Rocky chaparral hillsides and canyons, scrub flats with good cover, common in riparian area but does not require permanent water. Found in extreme Southern California within Tijuana River and Otay watersheds (1, 2).	No	High	Suitable scrub habitat with rock outcroppings present on site. Species is documented in the Live Oak Springs quadrangle (CDFG 2012a).
<i>Coleonyx variegatus abbotti</i> San Diego banded gecko	None/ None/ Group 1	Cismontane chaparral, coastal sage scrub, desert scrub; granite outcrops	No	Moderate	Suitable habitat is present the project area. Not recorded in the CNDDDB 8-quad search <sup>2</sup>
<i>Crotalus ruber</i> Northern red-diamond rattlesnake	None/SSC/ Group 2, MSCP	Chaparral, oak and pine woodland, arid desert, rocky grassland habitats in rocky area and dense vegetation; rocky desert flats on desert slopes of mountains; Morongo Valley (1).	No	High	Suitable habitat is present within the rocky outcrops observed within the semi-desert chaparral habitat. Also, any area with dense vegetation provides suitable habitat, including chaparral, scrub, and woodland habitats. Species is recorded in the CNDDDB 8-quad search <sup>2</sup>

## APPENDIX E (Continued)

Scientific Name/ Common Name	Status (Federal/ State/ County) <sup>1</sup>	Habitat Preferences/Requirements	Verified on Site (Direct/ Indirect Evidence)	Potential to Occur On Site	Factual Basis for Determination
<i>Gambelia copeii</i> Cope's leopard lizard	None/None/ MSCP	Coastal sage scrub, chaparral, oak woodland. Prefers flat areas with open space and avoids densely vegetated areas.	No	Moderate	Suitable habitat is present the project area. Not recorded in the CNDDDB 8-quad search <sup>2</sup>
<i>Phrynosoma blainvillii</i> Blaineville's (coast) horned lizard	None /SSC/ Group 2, MSCP	Area of sandy soil and low vegetation in valleys, foothills, and semiarid mountains. Annual grassland, chaparral, woodland, coniferous forest, sandy area, frequently near ant hills. Foothills and coastal plains from Los Angeles to northern Baja California (1, 3).	Observed	N/A	One species observed in the southern portion of the project area during 214 person-hours of wildlife surveys, as well as vegetation mapping, rare plant surveys, and jurisdictional delineation. Species is recorded in the CNDDDB 8-quad search <sup>2</sup>
<i>Salvadora hexalepis virgulata</i> Coast patch-nosed snake	None/SSC/ Group 2, MSCP	Semi-arid, brushy area and chaparral in canyons, rocky hillsides, plains from northern Carrizo Plains south through coastal zone, south and west of the deserts into coastal northern Baja California, at elevations below sea level to 6,988 feet (1).	No	Moderate	Suitable habitat is present within the project area. Not recorded in the CNDDDB 8-quad search <sup>2</sup>
<i>Birds</i>					
<i>Accipiter cooperii</i> Cooper's hawk (nesting)	None/WL/ Group 1, MSCP	Dense stands of live oak, riparian deciduous, forest habitats near water. Breeds in southern Sierra Nevada foothills, New York Mountains., Owens Valley, and other local area in Southern California, 0 to 8,858 feet (2).	Observed	N/A	One observed within the project area within chaparral habitat (Dudek 2012) during 214 person-hours of wildlife surveys, as well as vegetation mapping, rare plant surveys, and jurisdictional delineation. Species is documented in the Live Oak Springs quadrangle (CDFG 2012a).
<i>Aimophila ruficeps canescens</i> Southern California rufous-crowned sparrow	None/WL/ Group 1, MSCP	Sparse mixed chaparral and coastal scrub habitats (especially coastal sage) in Southern California on slopes of Transverse and Coastal Ranges, north to Los Angeles County, and northwestern Baja California. Found on steep, rocky hillsides with grass and forb patches, and grassy slopes without shrubs, if rock outcrops are present (2, 4).	No	Moderate	Suitable chaparral and boulder habitat is present within the project area. Not recorded in the CNDDDB 8-quad search <sup>2</sup>

## APPENDIX E (Continued)

Scientific Name/ Common Name	Status (Federal/ State/ County) <sup>1</sup>	Habitat Preferences/Requirements	Verified on Site (Direct/ Indirect Evidence)	Potential to Occur On Site	Factual Basis for Determination
<i>Amphispiza belli belli</i> Bell's sage sparrow	BCC / WL/ Group 1, MSCP	Low, dense stands of shrubs; chaparral dominated by chamise; coastal scrub dominated by sage. Coast Ranges from northern California to northwestern Baja California, western slope of Sierra Nevada (2, 4).	Observed	N/A	Observed within the project area on four occasions during 214 person-hours of wildlife surveys, as well as vegetation mapping, rare plant surveys, and jurisdictional delineation (Dudek 2012). The project area contains suitable chaparral. Not recorded in the CNDDDB 8-quad search <sup>2</sup>
<i>Asio otus</i> Long-eared owl (Nesting)	None/SSC/ Group 1, MSCP	Riparian, live oak thickets; other dense stands of tree. Uncommon winter visitor in Southern California deserts and Central Valley; uncommon resident throughout the rest of the state (2).	No	Moderate	Suitable habitat is present within all of the project area. May use the project area for nesting, foraging and/or wintering. Not recorded in the CNDDDB 8-quad search <sup>2</sup>
<i>Buteo lineatus</i> Red-shouldered hawk	None/None/ Group 1	Riparian and woodland habitats interspersed with swamps and wetlands found along coast, southern deserts, and in Central Valley, 0 to 4,921 feet (2).	No	Moderate	Suitable habitat is present within the project area. May use the project area for nesting and foraging. Not recorded in the CNDDDB 8-quad search <sup>2</sup>
<i>Buteo regalis</i> Ferruginous hawk (Wintering)	BCC/WL/ Group 1, MSCP	Open, grasslands, sagebrush flats, desert scrub, low foothills surrounding valleys, fringes of pinyon-juniper habitats. Uncommon winter resident at low elevations and open grasslands of Modoc Plateau, Central Valley, Coast Ranges. Common winter resident in southwestern California (2).	No	Moderate	Suitable habitat is present within the project area. May use the project area to forage during the winter. Project area is outside the recorded breeding range for this species. Not recorded in the CNDDDB 8-quad search <sup>2</sup>
<i>Carduelis lawrencei</i> Lawrence's Goldfinch (nesting)	BCC/None/ None	Breeds in open oak or other arid woodland and chaparral, near water. Typical habitats include valley foothill hardwood, valley foothill hardwood-conifer, and in Southern California, as well as desert riparian, palm oasis, pinyon-juniper, and lower montane habitats.	No	Moderate	There is some suitable nesting habitat in oak woodland and chaparral; however, the project area lacks perennial water sources. Not recorded in the CNDDDB 8-quad search <sup>2</sup>

## APPENDIX E (Continued)

Scientific Name/ Common Name	Status (Federal/ State/ County) <sup>1</sup>	Habitat Preferences/Requirements	Verified on Site (Direct/ Indirect Evidence)	Potential to Occur On Site	Factual Basis for Determination
<i>Cathartes aura</i> Turkey vulture	None/ None/ Group 1, MSCP	Rangeland, agriculture, grassland; uses cliffs and large trees for roosting, nesting, and resting throughout most of California during breeding season (2).	Observed	N/A	This species was observed, but its location was not mapped (Dudek 2012). Suitable open foraging habitat present on site. Suitable nesting habitat not available on site. Not recorded in the CNDDDB 8-quad search <sup>2</sup>
<i>Falco columbarius</i> Merlin (Wintering)	None/ WL/ Group 2	Coastlines, open grasslands, savannahs, woodlands, lakes, wetlands, montane hardwood-conifer habitats, ponderosa pine. Found throughout western half of state below 4,921 feet (1).	No	Moderate potential to occur during the winter	Suitable foraging habitat is present within the project area. However, the project area is outside the breeding range for this species (i.e., does not nest in California). Not recorded in the CNDDDB 8-quad search <sup>2</sup>
<i>Lanius ludovicianus</i> Loggerhead shrike (Nesting)	BCC/SSC/ Group 1, MSCP	Open habitats with scattered shrubs, trees, or other perches; highest density in open-canopied valley foothill hardwood, valley foothill hardwood-conifer, valley foothill riparian, pinyon-juniper, juniper, desert riparian, and Joshua tree habitats. Found in foothills and lowlands throughout California (2).	Observed	N/A	One individual observed in the northeastern portion of the project site during 214 person-hours of wildlife surveys, as well as vegetation mapping, rare plant surveys, and jurisdictional delineation. Not recorded in the CNDDDB 8-quad search <sup>2</sup>
<i>Melanerpes lewis</i> Lewis' woodpecker (Nesting)	BCC/None/ Group 1	Open oak savannahs, broken deciduous, and coniferous habitats. Eastern slopes of Coast Ranges south to San Luis Obispo County; winters in Central Valley, Modoc Plateau, and Transverse and other ranges in Southern California. Breeds eastern slopes of Coast Ranges, Sierra Nevada, and Cascade Range (2).	No	Moderate	Potentially suitable foraging and roosting habitats present. Breeding is not expected as this species is only found in San Diego County during migration and winter. Not recorded in the CNDDDB 8-quad search <sup>2</sup>
<i>Siala mexicana</i> Western bluebird	None/None/ Group 2	Open forests of deciduous, coniferous, or mixed trees; savanna, edges of riparian woodland. Common throughout California excluding higher mountains and eastern deserts (2).	Observed	N/A	Multiple observations recorded within the project area (Dudek 2012). Mixed chaparral and woodlands found within the project area provides suitable nesting and foraging habitat. Species' is not tracked by CNDDDB.

## APPENDIX E (Continued)

Scientific Name/ Common Name	Status (Federal/ State/ County) <sup>1</sup>	Habitat Preferences/Requirements	Verified on Site (Direct/ Indirect Evidence)	Potential to Occur On Site	Factual Basis for Determination
<i>Tyto alba</i> Barn owl	None/None/ Group 2	Open habitats including grassland, chaparral, riparian, and other wetlands throughout the state, 0 to 5,512 feet (2).	No	Moderate	Suitable habitat is present within the project area. Not recorded in the CNDDDB 8-quad search <sup>2</sup>
<i>Vireo vicinior</i> Gray vireo (Nesting)	BCC/SSC/ Group 1, MSCP	Summer resident in arid pinyon-juniper, juniper, and chamise-redshank chaparral habitats in mountains of Southern California, 1,969 to 6,562 feet (2).	No	Moderate	Suitable nesting habitat is present within the project area. Not recorded in the CNDDDB 8-quad search <sup>2</sup>
<i>Mammals</i>					
<i>Chaetodipus fallax pallidus</i> Pallid San Diego pocket mouse	None/SSC/ Group 2	Coastal scrub, mixed chaparral, sagebrush, desert wash, desert scrub, desert succulent shrub, pinyon-juniper, and annual grassland. Along southern margins of Mojave Desert, along northern slopes of San Bernardino Mountains, western edge of Colorado Desert, and south to Baja California (5).	No	Moderate	Suitable chaparral habitat found with the project area. Not recorded in the CNDDDB 8-quad search <sup>2</sup>
<i>Dipodomys merriami trinidadensis</i> Merriam's kangaroo rat	None/ None/ MSCP	Occurs in the Jacumba and Mountain Springs area	No	Moderate	Suitable arid habitat and sandy soils found within the project area. Not recorded in the CNDDDB 8-quad search <sup>2</sup>
<b><i>Lepus californicus bennettii</i></b> <b>San Diego black-tailed jackrabbit</b>	<b>None/SSC/ Group 2, MSCP</b>	<b>Arid habitats with open ground; grasslands, coastal sage scrub, agriculture, disturbed area, and rangelands in Southern California (2, 4).</b>	<b>Observed</b>	<b>N/A</b>	<b>Fourteen species locations were recorded within the project area during 214 person-hours of wildlife surveys, as well as vegetation mapping, rare plant surveys, and jurisdictional delineation (Dudek 2012). Suitable chaparral and scrub habitat found within the project area. Species is documented in the Live Oak Springs quadrangle (CDFG 2012a).</b>
<i>Neotoma lepida intermedia</i> San Diego desert woodrat	None/SSC/ Group 2	Joshua tree, pinyon-juniper, mixed and chamise-redshank chaparral, sagebrush, and most desert habitats. Found south of San Luis Obispo County to San Diego County and San Bernardino and Riverside Counties, 0 to 8,530 feet (2, 4).	Observed	N/A	Suitable middens detected sporadically through the site (Dudek 2012). <b>Species is documented in the Live Oak Springs quadrangle (CDFG 2012a).</b>

## APPENDIX E (Continued)

Scientific Name/ Common Name	Status (Federal/ State/ County) <sup>1</sup>	Habitat Preferences/Requirements	Verified on Site (Direct/ Indirect Evidence)	Potential to Occur On Site	Factual Basis for Determination
<i>Odocoileus hemionus</i> Mule deer	None/None/ Group 2	Coastal sage scrub, chaparral, riparian, woodlands, forest; often browses in open area adjacent to cover throughout California, except deserts and intensely farmed area (2).	Observed	N/A	Multiple observations recorded within the project area, but the locations were not mapped (Dudek 2012). Suitable chaparral and scrub habitat found within the project area. Species is not tracked by CNDDDB.
<i>Puma [=Felis] concolor</i> Mountain lion	None/ None/ Group 2	Coastal sage scrub, chaparral, riparian, woodlands, forest; rests in rocky area, and on cliffs and ledges that provide cover. Most abundant in riparian area and brushy stages of most habitats throughout California except deserts (2).	No	Moderate	Appropriate habitat present but site has relatively poor connectivity to other large openspace areas. The border wall, residences in vicinity, and regular patrols reduce suitability. Not recorded in the CNDDDB 8-quad search <sup>2</sup>
<i>Invertebrates</i>					
<i>Apodemia mormo peninsularis</i> Peninsular metalmark	None/ None/ Group 1	Various arid lands. Host plant: Various wild buckwheats (Eriogonum)	No	Moderate	Not observed during butterfly surveys. Suitable buckwheat habitat within the project area. Not recorded in the CNDDDB 8-quad search <sup>2</sup>
<i>Callophrys (=Mitoura) thornei</i> Thorne's hairstreak butterfly	None/ None/ Group 1	Tecate cypress (6)	No	Moderate	Not observed during butterfly surveys. Limited suitable habitat within the project area. Not recorded in the CNDDDB 8-quad search <sup>2</sup>

<sup>1</sup> Status Designations:

**Federal**

BCC	U.S. Fish and Wildlife Service: Birds of Conservation Concern
FC	Candidate for federal listing as threatened or endangered
(FD)	Federally delisted; monitored for 5 years
FE	Federally listed Endangered
FT	Federally listed as Threatened
WBWG:	H Western Bat Working Group: High Priority
WBWG:	LM Western Bat Working Group: Low-Medium Priority
WBWG:	M Western Bat Working Group: Medium Priority

## APPENDIX E (Continued)

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WBWG: MH Western Bat Working Group: Medium-High Priority

### State Designations:

SSC California Special Concern Species  
FP California Department of Fish and Game Fully Protected Species  
WL California Department of Fish and Game Watch List Species  
SE State listed as Endangered  
ST State listed as Threatened

### County Designations:

MSCP Draft East County MSCP covered species  
Group 1 County of San Diego Sensitive Animal List  
Group 2 County of San Diego Sensitive Animal List

### References

- 1 Nafis 2012
- 2 Zeiner et al. 1988, 1990a-b
- 3 SDNHM 2012c
- 4 NatureServe 2012
- 5 CDFG 2012d
- 6 CSU (California State University Stanislaus). 2006. Endangered Species Recovery Program. Accessed April 2012. <http://esrp.csustan.edu>.

### Notes:

<sup>2</sup> The 8-quad search includes species recorded in CNDDDB or USFWS databases for the Tierra Del Sol and Live Oak Springs and six surrounding quads (Campo, Cameron Corners, Mount Laguna, Sombrero Peak, Sweeny Pass, and Jacumba).

**Bold** species indicate species that were identified in the County's Pre-Application Summary Letter (County 2012)

## APPENDIX E (Continued)

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# **APPENDIX F**

*Special-Status Wildlife Species Not Expected or  
Rarely Occurring in the Project Area*



## APPENDIX F

### Special-Status Wildlife Species Not Expected or Rarely Occurring in the Project Area

Scientific Name/ Common Name	Status (Federal/ State/ County) <sup>1</sup>	Habitat Preferences/Requirements	Verified on Site (Direct/ Indirect Evidence)	Potential to Occur On Site	Factual Basis for Determination
<i>Amphibians</i>					
<i>Batrachoseps major aridus</i> Desert slender salamander	FE/ SE/ MSCP, Group 1	Known only from hidden palm canyon and Gaudalupe Cr., Riverside Co., in barren, palm oasis, desert wash, and desert scrub. Occurs under limestone sheets, rocks, and talus, usually at the base of damp, shaded, north and west-facing walls.	No	Low	The project area lacks suitable habitat for this species. Not recorded in the CNDDDB 8-quad search <sup>2</sup>
<i>Anaxyrus californicus</i> Arroyo toad	FE/SSC/ Group 1, MSCP	Washes, arroyos, sandy riverbanks, and riparian area with willows, sycamores, oaks, cottonwoods. Requires exposed sandy streambanks with stable terraces to burrow with scattered vegetation and calm pools with sandy/gravel bottoms for breeding. Found west of desert in coastal area from upper Salinas River in San Luis Obispo County to northwestern Baja California, sea level to 2,653 feet (1).	No	Not expected	The project area lacks suitable stream habitat for this species. Arroyo toads are not known from this area and have not been documented in the Tierra del Sol or Live Oak Springs quadrangles (CDFG 2012a).
<i>Bufo punctatus</i> Red spotted toad	None/None/ MSCP	Rocky desert streams, oases, pools in rocky arroyos, cattle tanks, grassland, oak woodland, scrubland, river floodplains.	No	Low	The project area has limited stream habitat for this species. Not recorded in the CNDDDB 8-quad search <sup>2</sup>
<i>Ensatina klauberi</i> Large-blotched salamander	None/SSC/ Group 1, MSCP	Moist, shaded evergreen and deciduous forests; oak woodlands, under rocks, logs, debris, especially peeled off bark. Found in peninsular ranges of Southern California and eastern San Bernardino Mountains, approx. 5,003 feet (1).	No	Low	Some suitable habitat is present within the project area in the chaparral habitat and rocky area; however, the site lacks large shaded areas. Not recorded in the CNDDDB 8-quad search <sup>2</sup>
<i>Rana draytonii</i> California red-legged frog	FT/ SSC/ Group 1, MSCP	Lowland streams, wetlands, riparian woodlands, livestock ponds; dense, shrubby or emergent vegetation associated with deep, still or slow-moving water; uses adjacent uplands	No	Not expected	The project area lacks suitable wetland or stream habitat for this highly aquatic species. Not recorded in the CNDDDB 8-quad search <sup>2</sup>
<i>Rana muscosa</i> Sierra Madre yellow-legged frog	FE / SC and SSC/ Group 1, MSCP	Meadow streams, isolated pools, lake borders, rocky stream courses within ponderosa pine, montane hardwood-conifer and montane riparian habitat types	No	Not expected	The project area lacks suitable wetland habitat for this species. Not recorded in the CNDDDB 8-quad search <sup>2</sup>

## APPENDIX F (Continued)

Scientific Name/ Common Name	Status (Federal/ State/ County)1	Habitat Preferences/Requirements	Verified on Site (Direct/ Indirect Evidence)	Potential to Occur On Site	Factual Basis for Determination
<i>Spea hammondi</i> Western spadefoot	None/SSC/ Group 2, MSCP	Sandy/gravelly soils within mixed woodlands, grasslands, coastal sage scrub, chaparral, sandy washes, foothills, mountains, and other habitats. Breed in rainpools that do not have bullfrogs, fish, or crayfish. Found throughout Great Valley and foothills south of Redding, throughout South Coast Ranges in Southern California south of Transverse Mountains and west of Peninsular Mountains, 0 to 4,478 feet (1).	No	Low	The project area has limited breeding resources. Not recorded in the CNDDDB 8-quad search <sup>2</sup>
<i>Taricha torosa</i> Coast Range newt (Monterey Co. south only)	None/SSC/ Group 2, MSCP	Valley-foothill hardwood, valley-foothill hardwood-conifer, coastal scrub, mixed chaparral, annual grassland, mixed conifer; in Southern California inhabits drier chaparral, oak woodland, and grasslands. Found along Coast Ranges south of Monterey County to northern San Diego County, Peninsular Ranges south to Boulder Creek, Sierra Nevada foothills, Shasta Reservoir, Central Valley floor, 0 to 6,006 feet (1, 2).	No	Low	Although there is minimal suitable habitat is present within the project area, its known range is west of the project area (Nafis 2012). Not recorded in the CNDDDB 8-quad search <sup>2</sup>
<i>Reptiles</i>					
<i>Coleonyx switaki</i> Barefoot gecko	None/ST/ Group 2, MSCP	Arid rocky area at the heads of canyons with large boulders and rock outcrops, sparse vegetation. Found on arid desert slopes of eastern side of Peninsular Ranges near Borrego Springs, south to Baja California. Isolated population found in Coyote Mountains of Imperial County. Elevations 0 to 2,297 feet (1, 2).	No	Low	The project area lacks suitable habitat and is above the recorded elevation range for this species. Not recorded in the CNDDDB 8-quad search <sup>2</sup>
<i>Diadophis punctatus similis</i> San Diego ringneck snake	None/None/ Group 2	<b>Moist habitats, wet meadows; rocky hillsides; open habitats such as farmland, grassland, chaparral; and mixed coniferous forests and woodlands. San Diego County, along coast and Peninsular Range, southwestern San Bernardino County (1).</b>	No	Low	<b>The project area lacks suitable wetland habitat and limited moist situations for this species. Not recorded in the CNDDDB 8-quad search<sup>2</sup></b>
<i>Emys marmorata</i> Western pond turtle	None/ SSC/ Group 1, MSCP	Slow-moving permanent or intermittent streams, ponds, small lakes, reservoirs with emergent basking sites; adjacent uplands used during winter	No	Not expected	The project area lacks suitable wetland habitat for this species. Not recorded in the CNDDDB 8-quad search <sup>2</sup>

## APPENDIX F (Continued)

Scientific Name/ Common Name	Status (Federal/ State/ County)1	Habitat Preferences/Requirements	Verified on Site (Direct/ Indirect Evidence)	Potential to Occur On Site	Factual Basis for Determination
<i>Plestiodon skiltonianus interparietalis</i> Coronado skink	None/SSC/ Group 2, MSCP	Grassland, woodlands, pine forests, chaparral, especially open sunny areas, such as clearings and edges of creeks, and rocky areas near streams with lots of vegetation; in litter, rotting logs, under flat stones. Found in coastal ranges and Sierra Nevada and foothills, 0 to 8,300 feet (1, 2).	No	Low	The project area lacks suitable moist habitat for this species. Not recorded in the CNDDDB 8-quad search <sup>2</sup>
<i>Lampropeltis zonata</i> (Pulchra) (San Diego population) San Diego mountain kingsnake	FSS/SSC/ Group 2, MSCP	Valley-foothill hardwood, hardwood-conifer, mixed and montane chaparral, valley-foothill riparian, coniferous forests, wet meadows in central San Diego County Peninsular Ranges: Laguna, Palomar, Volcan, and Hot Springs Mountains, Santa Ana Mountains, and in Hollywood Hills and Santa Monica Mountains, 0 to 6,499 feet (1).	No	Not expected	The project area lacks suitable habitat for this species. Not recorded in the Tierra del Sol or Live Oak Springs quadrangles (CDFG 2012a).
<i>Phrynosoma mcallii</i> Flat-tailed horned lizard	BLMS/SSC/ Group 1, MSCP	Fine sand and sparse vegetation in desert washes and desert flats. It is probably most abundant in area of creosote bush and is found in desert scrub, wash, succulent shrub, and alkali scrub habitats. Common in area with high density of harvester ants and fine windblown sand; rarely occurs on dunes. Found in central Riverside, eastern San Diego and Imperial Counties, 0 to 590 feet (1, 2).	No	Not expected	This species is found in desert habitats and the project area is above the recorded elevation range for this species. Not recorded in the CNDDDB 8-quad search <sup>2</sup>
<i>Sauromalus obesus</i> Chuckwalla	None/ None/ Group 2, MSCP	Rock-dwelling, sheltering in rock crevices or under rocks. Inhabits rocky flats and hillsides in the Mojave and Colorado deserts; found in creosote bush habitats. Sea level to 1800 meters.	No	Not expected	The project area lacks suitable desert habitat. Not recorded in the CNDDDB 8-quad search <sup>2</sup>
<i>Sceloporus graciosus vanderburgianus</i> Southern sagebrush lizard	None/ None/ Group 2	<b>Montane chaparral, manzanita, ceanothus; open pine and Douglas fir forests in mountains; found in area with scattered low bushes, abundant sun. Transverse and Peninsular Ranges of Southern California, Sierra San Pedro Mártir of northern Baja California, 4,498 to 9,599 feet (1).</b>	No	Not expected	<b>Species typically found at higher elevations (4,500–9,600 ft.). Not recorded in the CNDDDB 8-quad search<sup>2</sup></b>

## APPENDIX F (Continued)

Scientific Name/ Common Name	Status (Federal/ State/ County) <sup>1</sup>	Habitat Preferences/Requirements	Verified on Site (Direct/ Indirect Evidence)	Potential to Occur On Site	Factual Basis for Determination
<i>Taricha torosa</i> Coast Range newt (Monterey Co. south only)	None/SSC/ Group 2, MSCP	Valley-foothill hardwood, valley-foothill hardwood-conifer, coastal scrub, mixed chaparral, annual grassland, mixed conifer; in Southern California inhabits drier chaparral, oak woodland, and grasslands. Found along Coast Ranges south of Monterey County to northern San Diego County, Peninsular Ranges south to Boulder Creek, Sierra Nevada foothills, Shasta Reservoir, Central Valley floor, 0 to 6,006 feet (1, 2).	No	Low	The project area lacks suitable habitat for this species. Not recorded in the CNDDDB 8-quad search <sup>2</sup>
<i>Thamnophis hammondi</i> Two-striped garter snake	None/SSC/ Group 1, MSCP	Permanent or semipermanent bodies of water bordered by dense vegetation in rocky area, oak woodland, chaparral, brushland, coniferous forest. Found on Diablo Range, South Coast and Transverse Ranges, and Santa Catalina Island (1, 2).	No	Low	The project area lacks suitable wetland habitat for this species. Not recorded in the Tierra del Sol or Live Oak Springs quadrangles (CDFG 2012a).
<i>Thamnophis sirtalis</i> ssp. South Coast garter snake	None/SSC/ Group 2	Streams, creeks, pools, streams with rocky beds, ponds, lakes, vernal pools. Coastal plain from Ventura to San Diego Counties, 0 to 2,789 feet (2).	No	Not expected	The project area lacks suitable wetland habitat for this species. Not recorded in the CNDDDB 8-quad search <sup>2</sup>
<i>Uma notata</i> Colorado Desert fringe-toed lizard	None/ SSC/ Group 1, MSCP	Fine, loose, wind-blown sand dunes, dry lakebeds, sandy beaches or riverbanks, desert washes, and sparse desert scrub	No	Not expected	The project area lacks suitable desert habitat. Not recorded in the CNDDDB 8-quad search <sup>2</sup>
<i>Birds</i>					
<i>Accipiter striatus</i> (nesting) Sharp-shinned hawk	None/WL/ Group 1	<b>Nests in coniferous forests, ponderosa pine, black oak, riparian deciduous, mixed conifer, Jeffrey pine; winters in lowland woodlands and other habitats. Common migrant and winter resident throughout California. Probably breeds south in Coast Ranges and at scattered locations in Transverse and Peninsular Ranges (2).</b>	No	<b>Not expected to nest; High potential to occur during the winter</b>	<b>Potentially suitable foraging habitat present. Species does not breed in San Diego County; considered an uncommon winter visitor. Not recorded in the CNDDDB 8-quad search<sup>2</sup></b>

## APPENDIX F (Continued)

Scientific Name/ Common Name	Status (Federal/ State/ County)1	Habitat Preferences/Requirements	Verified on Site (Direct/ Indirect Evidence)	Potential to Occur On Site	Factual Basis for Determination
<i>Aechmophorus occidentalis</i> Western grebe	None/ None/ Group 1	Along coast in marine subtidal and estuarine waters. Uncommon to fairly common on large lakes near coast and inland at low elevations. Breed on large, marshy lakes, normally deeper than required by eared grebe.	No	Not expected	The project area lacks perennial water sources. This species may inhabit the project area as stopover or during the winter. Not recorded in the CNDDDB 8-quad search <sup>2</sup>
<i>Agelaius tricolor</i> Tricolored blackbird (Nesting colony)	None/ SSC/ Group 1, MSCP	Nests near fresh water, emergent wetland with cattails or tules; forages in grasslands, woodland, agriculture	No	Not expected to nest	The project area lacks suitable wetland habitat. Not recorded in the Tierra del Sol or Live Oak Springs quadrangles (CDFG 2012a).
<i>Ammodramus savannarum</i> Grasshopper sparrow (Nesting)	None/SSC/ Group 1, MSCP	Dry, dense grasslands, especially with a variety of grasses and tall forbs, scattered shrubs for singing perches. Summer resident and breeder in foothills and lowlands west of Cascade–Sierra Nevada Crest from Mendocino and Trinity Counties south to San Diego County. In Southern California, occurs on hillsides and mesas in coastal area, breeds up to 4,921 feet (2).	No	Low	The breeding and winter records for grasshopper sparrow are concentrated along the coastal ranges. Winter records are very rare in eastern San Diego County (Unitt 2004). Not recorded in the CNDDDB 8-quad search <sup>2</sup>
<i>Anas strepera</i> Gadwall	None/None/ Group 2	Interior valleys, wetlands, ponds, and streams. Feeds and rests in freshwater lacustrine and emergent habitats, and to a lesser extent, estuarine and saline emergent habitats, and nests in nearby herbaceous and cropland habitats. Common in Central Valley and less common in Coast Range foothills of Central and Southern California. Locally common in Imperial Valley and along Colorado River, October to March. Breeds on northeastern plateau and east of Sierra Nevada (2).	No	Not expected	The project area lacks perennial water sources. This species may inhabit the project area as stopover or during the winter. Not recorded in the CNDDDB 8-quad search <sup>2</sup>
<i>Anser albifrons</i> Greater white-fronted goose		Open habitats, agriculture fields, marshes, prairies and shallow waters	No	Not expected	The project area lacks perennial water sources. This species may inhabit the project area as stopover or during the winter. Not recorded in the CNDDDB 8-quad search <sup>2</sup>

## APPENDIX F (Continued)

Scientific Name/ Common Name	Status (Federal/ State/ County)1	Habitat Preferences/Requirements	Verified on Site (Direct/ Indirect Evidence)	Potential to Occur On Site	Factual Basis for Determination
<i>Anser caerulescens</i> Snow goose	None/ None/ Group 2	Fresh emergent wetlands, adjacent lacustrine waters, and nearby wet croplands, pastures, meadows, and grasslands. Occasionally found in saline (brackish) emergent wetlands and adjacent estuarine waters.	No	Not expected	The project area lacks perennial water sources. This species may inhabit the project area as stopover or during the winter. Not recorded in the CNDDDB 8-quad search <sup>2</sup>
<i>Aquila chrysaetos</i> Golden eagle (nesting and wintering)	BCC/FP, WL/ Group 1, MSCP	Rolling foothills, mountain area, sage-juniper flats, and desert throughout California (2).	No	High potential to forage on site; Not expected to nest on site.	Suitable foraging habitat is present within most of the project area; however, low potential for nesting due to lack of rocky cliffs and large stands of mature trees. Not recorded in the CNDDDB 8-quad search <sup>2</sup>
<i>Ardea Herodias</i> Great blue heron (Nesting Colony)	None/ None/ Group 2	Variety of habitats, but primarily wetlands; lakes, rivers, marshes, mudflats, estuaries, saltmarsh, riparian habitats	No	Not expected	The project area lacks perennial water sources. This species may inhabit the project area as stopover or during the winter. Not recorded in the CNDDDB 8-quad search <sup>2</sup>
<i>Asio flammeus</i> Short-eared owl (Nesting)	None/SSC/ Group 2	Open area with few trees, such as grasslands, prairies, dunes, meadows, irrigated lands, and saline and fresh emergent wetlands. Breeds in coastal area in Del Norte and Humboldt Counties, San Francisco Bay Delta, northeastern Modoc plateau, east side of Sierra from Lake Tahoe south to Inyo County, and San Joaquin Valley. Uncommon winter migrant in Southern California, and widespread during winter in Central Valley and coastline (2).	No	Low	Although there is some suitable habitat is present within the project area, the project area is outside of the typical winter range for this species, where it occurs near the coastline (Zeiner et al. 1990). Not recorded in the CNDDDB 8-quad search <sup>2</sup>
<i>Athene cunicularia</i> Burrowing owl (Burrow Sites and some Wintering sites)	None/SSC/ Group 1, MSCP	Grassland, lowland scrub, agriculture, coastal dunes and other artificial open areas	No	Low	Minimal open suitable habitat. Burrows would be visible and were not detected during surveys. Not recorded in the CNDDDB 8-quad search <sup>2</sup>

## APPENDIX F (Continued)

Scientific Name/ Common Name	Status (Federal/ State/ County)1	Habitat Preferences/Requirements	Verified on Site (Direct/ Indirect Evidence)	Potential to Occur On Site	Factual Basis for Determination
<i>Aythya Americana</i> Redhead (Nesting)	None/ SSC/ Group 2	Lacustrine waters, foothills and coastal lowlands, and along the coast and Colorado river. Nests in fresh emergent wetland bordering open water.	No	Not expected	The project area lacks open perennial water sources. Not recorded in the CNDDDB 8-quad search <sup>2</sup>
<i>Branta Canadensis</i> Canada goose	None/None/ Group 2	Lakes, fresh emergent wetlands' moist grasslands, croplands, pastures, and meadows. Winter migrant throughout Central Valley, Salton Sea, northeastern California, also along Colorado River (2).	No	Low	The project area lacks perennial water sources. This species may inhabit the project area as stopover or during the winter. Not recorded in the CNDDDB 8-quad search <sup>2</sup>
<i>Bucephala islandica</i> Barrow's goldeneye (None)	None/ SSC/ Group 2	Estuarine (lagoons and bays) and brackish lacustrine waters.	No	Not expected	The project area lacks perennial water sources. Not recorded in the CNDDDB 8-quad search <sup>2</sup>
<i>Buteo swainsoni</i> Swainson's hawk (Nesting)	BCC/ST/ Group 1, MSCP	Forages in grasslands or suitable grain or alfalfa fields or livestock pastures; breeds in stands with few trees in juniper-sage flats, riparian area, and in oak savannah in Central Valley (2).	No	Not expected	Expected only as occasional, temporary visitor during migration. Species not known to nest or winter in San Diego County. Not recorded in the CNDDDB 8-quad search <sup>2</sup>
<i>Butorides virescens</i> Green heron	None/None/ Group 2	Nests and roosts in valley foothill and desert riparian habitats; feeds in fresh emergent wetland, lacustrine, slow-moving riverine habitats. Resident in foothills and lowlands throughout California; common August to March in southern coastal ranges, in summer along Colorado River, and found all year at Salton Sea (2).	No	Not expected	Lack of suitable freshwater habitat. May use the marginal habitat within portions of the project area as stopover or during the winter. Not recorded in the CNDDDB 8-quad search <sup>2</sup>
<i>Campylorhynchus brunneicapillus sandiegensis</i> Coastal cactus wren (San Diego & Orange Counties Only)	None / SSC/ Group 1, MSCP	Southern cactus scrub, maritime succulent scrub, cactus thickets in coastal sage scrub	No	Not expected	Lack of suitable cactus thickets on site. Not recorded in the CNDDDB 8-quad search <sup>2</sup>
<i>Cerorhinca monocerata</i> Rhinoceros auklet (Nesting Colony)	None/ WL/ Group 2	Marine pelagic waters. Nests in a burrow on undisturbed, forested or unforested islands, and probably in cliff caves	No	Not expected	The project area lacks large bodies of water and suitable nesting habitat for this species. Not recorded in the CNDDDB 8-quad search <sup>2</sup>

## APPENDIX F (Continued)

Scientific Name/ Common Name	Status (Federal/ State/ County) <sup>1</sup>	Habitat Preferences/Requirements	Verified on Site (Direct/ Indirect Evidence)	Potential to Occur On Site	Factual Basis for Determination
<i>Chaetura vauxi</i> Vaux's swift	None/ SSC	Old growth coniferous forests	No	Not expected	The project area lacks suitable nesting habitat for this species. Not recorded in the CNDDDB 8-quad search <sup>2</sup>
<i>Charadrius alexandrinus nivosus</i> Western snowy plover (Nesting)	FT, / SSC/ Group 1	Nests primarily on coastal beaches, in flat open areas, with sandy or saline substrates; less commonly in salt pans, dredged spoil disposal sites, dry salt ponds and levees	No	Not expected	The project area lacks suitable nesting habitat for this species. Not recorded in the CNDDDB 8-quad search <sup>2</sup>
<i>Charadrius montanus</i> Mountain plover (Wintering)	FPT/ SSC/ Group 2	Nests in open, shortgrass prairies or grasslands; winters in shortgrass plains, plowed fields, open sagebrush, and sandy deserts	No	Not expected	The project area lacks suitable grassland nesting habitat for this species. Not recorded in the CNDDDB 8-quad search <sup>2</sup>
<i>Chlidonias niger</i> Black tern (Nesting Colony)	None/ SSC/ Group 2	Freshwater lakes, marshes, ponds, coastal lagoons	No	Not expected	The project area lacks suitable freshwater habitats for this species. Not recorded in the CNDDDB 8-quad search <sup>2</sup>
<i>Circus cyaneus</i> Northern harrier (Nesting)	None/ SSC/ Group 1, MSCP	Open wetlands (nesting), pasture, old fields, dry uplands, grasslands, rangelands, coastal sage scrub. Resident of northeastern plateau and coastal area; less common resident in Central Valley. Breeds at marsh edge in shrubby vegetation in Central Valley and Sierra Nevada (0 to 5,577 feet), and northeastern California (up to 2,625 feet (2).	No	Not expected	The species is only expected as a winter visitor in the more open area of scrub and chaparral communities on site. The project area lacks suitable wetlands for breeding. Not recorded in the CNDDDB 8-quad search <sup>2</sup>
<i>Coccyzus americanus occidentalis</i> Western yellow-billed cuckoo (Nesting)	FC/ SE/ Group 1	Dense, wide riparian woodlands and forest with well-developed understories	No	Not expected	The project area lacks suitable riparian habitat for this species. Not recorded in the CNDDDB 8-quad search <sup>2</sup>
<i>Contopus cooperi</i> Olive-sided flycatcher (Nesting)	None/ SSC/ Group 2	Summer resident in a wide variety of forest and woodland habitats. Preferred nesting habitats include mixed conifer, montane hardwood-conifer, Douglas-fir, redwood, red fir, and lodgepole pine	No	Not expected	The project area lacks suitable woodland habitat for this species. Not recorded in the CNDDDB 8-quad search <sup>2</sup>

## APPENDIX F (Continued)

Scientific Name/ Common Name	Status (Federal/ State/ County)1	Habitat Preferences/Requirements	Verified on Site (Direct/ Indirect Evidence)	Potential to Occur On Site	Factual Basis for Determination
<i>Cypseloides niger</i> Black swift (Nesting)	None/ SSC/ Group 2	Nests in moist crevices or caves on sea cliffs or near waterfalls in deep canyons; forages over many habitats	No	Not expected	The project area lacks suitable cliffs for nesting. Not recorded in the CNDDDB 8-quad search <sup>2</sup>
<i>Dendrocygna bicolor</i> Fulvous whistling-duck (Nesting)	None/ SSC/ Group 2	Fresh emergent wetlands, shallow lacustrine and quiet riverine waters; feeds in wet croplands and pastures. Nests in dense wetlands of cattails.	No	Not expected	Not recorded in the CNDDDB 8-quad search <sup>2</sup>
<i>Dendroica petechia brewsteri</i> Yellow warbler (Nesting)	None/ SSC/ Group 2, MSCP	Nests in lowland and foothill riparian woodlands dominated by cottonwoods, alders and willows; winters in a variety of habitats	No	Low	The project area lacks suitable riparian habitat for this species. Not recorded in the CNDDDB 8-quad search <sup>2</sup>
<i>Egretta rufescens</i> Reddish egret	None/ None/ Group 2	Saltmarsh, mudflats, coastal lagoons	No	Not expected	The project area lacks suitable saltmarsh habitat for this species. Not recorded in the CNDDDB 8-quad search <sup>2</sup>
<i>Elanus leucurus</i> White-tailed kite (Nesting)	None/FP/ Group 1, MSCP	Open grasslands, savanna-like habitats, agriculture, wetlands, oak woodlands, riparian, herbaceous and open stages of most habitats in cismontane California, near agricultural area. Found in coastal and valley lowlands of California (2).	No	Not expected	Project location is generally too high and nesting habitat marginal. Not recorded in the CNDDDB 8-quad search <sup>2</sup>
<i>Empidonax traillii extimus</i> Southwestern willow flycatcher (Nesting)	FE/ SE/ Group 1, MSCP	Riparian woodlands along streams and rivers with mature, dense stands of willows or alders; may nest in thickets dominated by tamarisk	No	Not expected	The project area lacks suitable riparian habitat for this species Not recorded in the CNDDDB 8-quad search <sup>2</sup>
<i>Synthliboramphus hypoleucus</i> Xantus' murrelet	FC/ ST/ Group 2, ABC	At sea in daylight hours. May light on offshore rocks and roost in cliff crevices at night.	No	Not expected	The project area lacks large bodies of water for this species Not recorded in the CNDDDB 8-quad search <sup>2</sup>
<i>Eremophila alpestris actia</i> California horned lark	None/WL/ Group 2, MSCP	Open habitats, grassland, rangeland, shortgrass prairie, montane meadows, coastal plains, fallow grain fields south of Humboldt County in Coast Ranges, in San Joaquin Valley, except extreme southern end (2, 4).	No	Low	The project area lacks suitable grassland habitat for this species Not recorded in the CNDDDB 8-quad search <sup>2</sup>

## APPENDIX F (Continued)

Scientific Name/ Common Name	Status (Federal/ State/ County)1	Habitat Preferences/Requirements	Verified on Site (Direct/ Indirect Evidence)	Potential to Occur On Site	Factual Basis for Determination
<i>Falco mexicanus</i> Prairie falcon (Nesting)	BCC/ WL/ Group 1	Grassland, savannas, rangeland, agriculture, desert scrub, alpine meadows; nest on cliffs or bluffs. Southeastern deserts northwest through Central Valley and along inner Coast Ranges and Sierra Nevada (2).	No	Not expected to nest on site; High potential to forage on site	There is no suitable nesting habitat (i.e., cliffs or bluffs) in the project area; however, there is suitable foraging habitat. Not recorded in the Tierra del Sol or Live Oak Springs quadrangles (CDFG 2012a).
<i>Falco peregrinus anatum</i> American peregrine falcon (Nesting)	FD, BCC/SD, FP/Group 1	Nests in woodland, forest, coastal habitats along coast north of Santa Barbara and in Sierra Nevada, and other mountains of Northern California. Winters in Central Valley, and is found in other riparian area and coastal/inland wetlands (2).	No	Not expected to nest on site; Moderate potential to forage on site.	Suitable foraging habitat is present within all of the project area. However, there is no suitable nesting cliffs present in the project area. Not recorded in the CNDDDB 8-quad search <sup>2</sup>
<i>Fratercula cirrhata</i> Tufted puffin (Nesting colony)	None/ SSC/ Group 2	Rocky outcroppings on islands, not necessarily near the nest, and on the ocean. Common at nesting colonies, and on nearby marine pelagic and subtidal waters. Nests on islands and, less commonly, on coastal cliffs.	No	Not expected	No suitable coastal cliffs to support nesting, found within the project area. Not recorded in the CNDDDB 8-quad search <sup>2</sup>
<i>Gavia immer</i> Common loon (Nesting)	None/ SSC/ Group 2	Estuarine and subtidal marine habitats along entire coast (Sept-May). Uncommon on large, deep lakes in valleys and foothills; common migrant along coast, including offshore, in November and May.	No	Not expected	The project area lacks suitable wetland habitat for this species. Not recorded in the CNDDDB 8-quad search <sup>2</sup>
<i>Grus canadensis canadensis</i> Lesser sandhill crane	None/ SSC/ Group 2	Wet meadow, shallow lacustrine, and fresh emergent wetland habitats during summer; annual and perennial grassland habitats, moist croplands, and open, emergent wetlands during winter. Winters in San Joaquin, Imperial valleys; Carrizo Plain, Brawley, and Blythe.	No	Not expected	The project area lacks suitable wetland habitat for this species. Not recorded in the CNDDDB 8-quad search <sup>2</sup>

## APPENDIX F (Continued)

Scientific Name/ Common Name	Status (Federal/ State/ County)1	Habitat Preferences/Requirements	Verified on Site (Direct/ Indirect Evidence)	Potential to Occur On Site	Factual Basis for Determination
<i>Grus canadensis tabida</i> Greater sandhill crane	None/ ST, P/ None	Wet meadow, shallow lacustrine, and fresh emergent wetland habitats during summer; annual and perennial grassland habitats, moist croplands, and open, emergent wetlands during winter. Breeds in Siskiyou, Modoc, Lassen Cos., and Sierra Valley. Winters in Sacramento and San Joaquin valleys. Was more common in southern California.	No	Not expected	The project area lacks suitable wetland habitat for this species. Not recorded in the CNDDDB 8-quad search <sup>2</sup>
<i>Haliaeetus leucocephalus</i> Bald eagle (Nesting and Wintering)	FD, BCC/SE, FP/Group 1	Large bodies of water and flowing rivers with abundant fish, with adjacent snags or other perches; breeds in Northern California and is found during winter at few locations throughout Southern California (2).	No	Not expected	There are very few winter records for this species in the vicinity (Unitt 2004) and there are no lakes in the project area. Not recorded in the CNDDDB 8-quad search <sup>2</sup>
<i>Icteria virens</i> Yellow-breasted chat (Nesting)	None/ SSC/ Group 1	Dense, relatively wide riparian woodlands and thickets of willows, vine tangles and dense brush.	No	Not expected	The project area lacks suitable wetland habitat for this species. Not recorded in the CNDDDB 8-quad search <sup>2</sup>
<i>Ixobrychus exilis</i> Least bittern (Nesting)	BCC/ SSC/ Group 2, MSCP	Dense emergent wetland vegetation, sometimes interspersed with woody vegetation and open water	No	Not expected	The project area lacks suitable wetland habitat for this species. Not recorded in the CNDDDB 8-quad search <sup>2</sup>
<i>Junco hyemalis caniceps</i> Gray-headed junco (Nesting)	None/ WL/ Group 2	Summer resident of Clark Mountain (Eastern San Bernardino Co.) and Grape Vine Mtns. (Inyo Co.). Inhabits white fir association at 7300 ft (Clark Mtn.). Also, from dense pinyons above 6700 ft (Grapevine Mtns)	No	Not expected	The project area lacks suitable nesting habitat for this species. Not recorded in the CNDDDB 8-quad search <sup>2</sup>
<i>Leucophaeus atricilla</i> Laughing gull (Nesting colony)	None/ WL/ Group 2	Once a regular nester at the south end of the Salton Sea.	No	Not expected	Habitat typical for supporting this species is not present on-site. Individuals could be detected during migration, but there is low potential for that. Not recorded in the CNDDDB 8-quad search <sup>2</sup>

## APPENDIX F (Continued)

Scientific Name/ Common Name	Status (Federal/ State/ County) <sup>1</sup>	Habitat Preferences/Requirements	Verified on Site (Direct/ Indirect Evidence)	Potential to Occur On Site	Factual Basis for Determination
<i>Larus californicus</i> California gull (Nesting Colony)	None/ WL/ Group 2	Along the coast: sandy beaches, mudflats, rocky intertidal and pelagic area of marine and estuarine habitats, fresh and saline emergent wetlands. Inland: lacustrine, riverine, and cropland habitats; landfill dumps; and open lawns in cities. Nests in alkali and freshwater lacustrine habitats; adults roost along shorelines, landfills, pastures, and on islands. Nest along northeastern plateau region and at Mono Lake (2).	No	Not expected	There are no bodies of water or landfills to host this species on-site. A migrant could pass over the site, but it is unlikely that it would stop. Not recorded in the CNDDDB 8-quad search <sup>2</sup>
<i>Laterallus jamaicensis coturniculus</i> California black rail	BCC/ST, P/ Group 2	Saline, brackish, and fresh emergent wetlands	No	Not expected	Habitat typical for supporting this species is not present on-site. Individuals could be detected during migration, but there is low potential for that. Not recorded in the CNDDDB 8-quad search <sup>2</sup>
<i>Mycteria americana</i> Wood stork	None/ SSC/ Group 2	Shallow, relatively warm waters with fish for prey. Nests colonially.	No	Not expected	Habitat typical for supporting this species is not present on-site. Individuals could be detected during migration, but there is low potential for that. Not recorded in the CNDDDB 8-quad search <sup>2</sup>
<i>Numenius americanus</i> Long-billed curlew (Nesting)	BCC/WL/ Group 2	Nests in upland shortgrass prairies and wet meadows in northeast California; winters in coastal estuaries, open grasslands and croplands along California coast, and in Central and Imperial Valleys (2).	No	Not expected	Habitat typical for supporting this species is not present on-site. Not recorded in the CNDDDB 8-quad search <sup>2</sup>
<i>Oceanodroma furcata</i> Fork-tailed storm petrel (Nesting colony)	None/ SSC/ Group 2	Occasionally in bays and harbors, particularly after storms; Tied to land only to nest; otherwise remains over open sea. Nests in burrows and rock cavities.	No	Not expected	Habitat typical for supporting this species is not present on-site. Individuals could be detected during migration, but there is low potential for that. Not recorded in the CNDDDB 8-quad search <sup>2</sup>

## APPENDIX F (Continued)

Scientific Name/ Common Name	Status (Federal/ State/ County)1	Habitat Preferences/Requirements	Verified on Site (Direct/ Indirect Evidence)	Potential to Occur On Site	Factual Basis for Determination
<i>Oceanodroma homochroa</i> Ashy storm petrel (Nesting Colony)	BCC/ SSC/ Group 2	Open sea. Nests in natural cavities and sea caves, mainly talus but also larger rock.	No	Not expected	Habitat typical for supporting this species is not present on-site. Individuals could be detected during migration, but there is low potential for that. Not recorded in the CNDDDB 8-quad search <sup>2</sup>
<i>Oceanodroma melania</i> Black storm-petrel (Nesting colony)	None/ SSC/ Group 2	Open sea. Nests in burrows and rock cavities.	No	Not expected	Habitat typical for supporting this species is not present on-site. Individuals could be detected during migration, but there is low potential for that. Not recorded in the CNDDDB 8-quad search <sup>2</sup>
<b><i>Oreotyx pictus eremophila</i></b> <b>Mountain quail</b>	<b>None/None/ Group 2</b>	<b>Dense montane chaparral and brushy area within coniferous forest, pinyon-juniper-yucca associations; uses shrubs, brush stands, and trees on steep slopes for cover in most major montane habitats of the state (2).</b>	<b>No</b>	<b>Low</b>	<b>Habitat typically used by this species is not present. Not recorded in the CNDDDB 8-quad search<sup>2</sup></b>
<i>Pandion haliaetus</i> Osprey (Nesting)	None/ WL/ Group 1	Large waters (lakes, reservoirs, rivers) supporting fish; usually near forest habitats, but widely observed along the coast	No	Not expected	Habitat typical for supporting this species is not present on-site. Individuals could be detected during migration, but there is low potential for that. Not recorded in the CNDDDB 8-quad search <sup>2</sup>
<i>Parabuteo unicinctus</i> Harris' hawk (Nesting)	None/ WL	River woods, mesquite, brush, and cactus deserts. Small disjunct breeding population at the south end of the Salton Sea extirpated in the 1960's. Now a rare yearlong resident of southern Salton Sea and Imperial valley.	No	Low	Habitat typical for supporting this species is not present on-site. Individuals could be detected during migration, but there is low potential for that. Not recorded in the CNDDDB 8-quad search <sup>2</sup>

## APPENDIX F (Continued)

Scientific Name/ Common Name	Status (Federal/ State/ County)1	Habitat Preferences/Requirements	Verified on Site (Direct/ Indirect Evidence)	Potential to Occur On Site	Factual Basis for Determination
<i>Passerculus sandwichensis beldingi</i> Belding's savannah sparrow	None/ SE/ Group 1	Saltmarsh, pickleweed	No	Not expected	The project area lacks suitable saltmarsh habitat for this species. Not recorded in the CNDDDB 8-quad search <sup>2</sup>
<i>Passerculus sandwichensis rostratus</i> Large-billed savannah sparrow (Wintering)	None/ SSC/ Group 2	Saltmarsh, pickleweed	No	Not expected	The project area lacks suitable saltmarsh habitat for this species. Not recorded in the CNDDDB 8-quad search <sup>2</sup>
<i>Pelecanus erythrorhynchos</i> American white pelican (Nesting colony)	None/ SSC/ Group 2	Open water, coastal bays, large inland lakes	No	Not expected	Habitat typical for supporting this species is not present on-site. Individuals could be detected during migration, but there is low potential for that. Not recorded in the CNDDDB 8-quad search <sup>2</sup>
<i>Pelecanus occidentalis californicus</i> California brown pelican (Nesting colony & communal roosts)	None (FD)/ P (SD)/ Group 2	Open sea, large water bodies, coastal bays and harbors	No	Not expected	Habitat typical for supporting this species is not present on-site. Individuals could be detected during migration, but there is low potential for that. Not recorded in the CNDDDB 8-quad search <sup>2</sup>
<i>Phalacrocorax auritus</i> Double-crested cormorant (Nesting Colony)	None/ WL/ Group 2	Lakes, rivers, reservoirs, estuaries, ocean; nests in tall trees, rock ledges on cliffs, rugged slopes	No	Not expected	Habitat typical for supporting this species is not present on-site. Individuals could be detected during migration, but there is low potential for that. Not recorded in the CNDDDB 8-quad search <sup>2</sup>

## APPENDIX F (Continued)

Scientific Name/ Common Name	Status (Federal/ State/ County)1	Habitat Preferences/Requirements	Verified on Site (Direct/ Indirect Evidence)	Potential to Occur On Site	Factual Basis for Determination
<i>Piranga rubra</i> (nesting) Summer tanager	None/SSC/ Group 2	Nests in desert riparian woodland dominated by cottonwoods and willows; winter habitats include parks and residential area. Found along lower Colorado River and locally in Southern California deserts (2).	No	Not expected	Lack of suitable habitat within the project area and outside of the recorded breeding range for this species. Not recorded in the CNDDDB 8-quad search <sup>2</sup>
<i>Plegadis chihi</i> White-faced ibis (Nesting colony)	None/ WL/ Group 1	Nests in marsh; winter foraging in shallow lacustrine waters, muddy ground of wet meadows, marshes, ponds, lakes, rivers, flooded fields, and estuaries. Uncommon summer resident in areas of Southern California (esp. Salton Sea area); rare visitor to Central Valley (2).	No	Not expected	Habitat typical for supporting this species is not present on-site. Not recorded in the CNDDDB 8-quad search <sup>2</sup>
<i>Poliopitila californica californica</i> Coastal California gnatcatcher	FT/ SSC/ Group 1, MSCP	Coastal sage scrub, coastal sage scrub-chaparral mix, coastal sage scrub-grassland ecotone, riparian in late summer	No	Not expected	Lack of suitable habitat within the project area and outside of the recorded breeding range for this species. Not recorded in the CNDDDB 8-quad search <sup>2</sup>
<i>Progne subis</i> (nesting) Purple martin	None/SSC/ Group 1, MSCP	Nests in tall sycamores, pines, oak woodlands, and coniferous forest; forages over riparian, forest, and woodland. Found throughout the state in wooded, low-elevation habitats. Rare and local breeder in the south in mountain ranges and along the coast (2).	No	Not expected	Habitat typical for supporting this species is not present on-site. Individuals could be detected during migration, but there is low potential for that. Not recorded in the CNDDDB 8-quad search <sup>2</sup>
<i>Pyrocephalus rubinus</i> Vermillion flycatcher (Nesting)	None/SSC/ Group 1, MSCP	Nesters inhabit cottonwood, willow, mesquite, and other vegetation in desert riparian habitat adjacent to irrigated fields, irrigation ditches, pastures, and other open, mesic areas in isolated patches. Found along Colorado River, especially near Blythe, Riverside County (2).	No	Not expected	There is limited riparian habitat in the project area and no confirmed breeding in the area (Unitt 2004). Not recorded in the CNDDDB 8-quad search <sup>2</sup>
<i>Rallus longirostris levipes</i> Light-footed clapper rail	FE / SE, P/ Group 1	Coastal saltmarsh	No	Not expected	The project area lacks suitable nesting habitat. Not recorded in the CNDDDB 8-quad search <sup>2</sup>

## APPENDIX F (Continued)

Scientific Name/ Common Name	Status (Federal/ State/ County)1	Habitat Preferences/Requirements	Verified on Site (Direct/ Indirect Evidence)	Potential to Occur On Site	Factual Basis for Determination
<i>Riparia riparia</i> Bank swallow (Nesting)	None/ ST/ Group 1	Nests in lowland country with soft banks or bluffs; open country and water during migration	No	Not expected	The project area lacks suitable nesting habitat. Not recorded in the CNDDDB 8-quad search <sup>2</sup>
<i>Rynchops niger</i> (nesting colony) Black skimmer	BCC / SSC/ Group 1	Roosting takes place on sandy beaches or gravel bars. Rarely alights on water. Visitor to coastal estuaries and river mouths	No	Not expected	The project area lacks suitable nesting habitat. Not recorded in the CNDDDB 8-quad search <sup>2</sup>
<i>Selasphorus sasin</i> Allen's hummingbird	BCC/None/ None	Breeds most commonly in coastal scrub, valley foothill hardwood, and valley foothill riparian habitats, but also common in closed-cone pine-cypress, urban, and redwood habitats. Occurs in a variety of woodland and scrub habitats as a migrant.	No	Low	Potential to occur during migration. Not known to breed in project area. Not recorded in the CNDDDB 8-quad search <sup>2</sup>
<i>Stemula antillarum browni</i> California least tern (nesting colony)	FE / SE, P/ Group 1	Nests along the coast from San Francisco Bay south to northern Baja California	No	Not expected	The project area lacks suitable nesting habitat. Not recorded in the CNDDDB 8-quad search <sup>2</sup>
<i>Thalasseus elegans</i> Elegant tern (nesting colony)	None / WL/ Group 1	Coastal waters, estuaries, large bays and harbors, mudflats	No	Not expected	The project area lacks suitable nesting habitat. Not recorded in the CNDDDB 8-quad search <sup>2</sup>
<i>Strix occidentalis occidentalis</i> California spotted owl	BCC / SSC/ Group 1, MSCP	Dense, old-growth, multi-layered mixed conifer, redwood and Douglas-fir habitats in northern California; oak and oak-conifer habitats in southern California; 0 to 7,546 feet (2).	No	Not expected	No suitable habitat and species is recorded nesting at higher elevations (Unitt 2004). Not recorded in the CNDDDB 8-quad search <sup>2</sup>
<i>Toxostoma bendirei</i> Bendire's thrasher	BCC / SSC/ Group 2	Flat areas of desert succulent shrub and Joshua tree habitats.	No	Not expected	The project area lacks suitable desert scrub habitat for this species. Not recorded in the CNDDDB 8-quad search <sup>2</sup>
<i>Toxostoma crissale</i> Crissal thrasher	None/ SSC/ Group 1, MSCP	Dense thickets of shrubs or low trees in desert riparian and desert wash habitats. Also, dense sagebrush and other shrubs in washes within juniper and pinyon-juniper habitats.	No	Not expected	The project area lacks suitable desert riparian habitat for this species. Not recorded in the CNDDDB 8-quad search <sup>2</sup>

## APPENDIX F (Continued)

Scientific Name/ Common Name	Status (Federal/ State/ County)1	Habitat Preferences/Requirements	Verified on Site (Direct/ Indirect Evidence)	Potential to Occur On Site	Factual Basis for Determination
<i>Toxostoma lecontei</i> Le Conte's thrasher	BCC/SSC/ Group 2, MSCP	Open desert wash, creosote scrub, alkali desert scrub, desert succulent scrub.	No	Not expected	No suitable habitat. Occurs in desert habitats at lower elevations. Not recorded in the CNDDDB 8-quad search <sup>2</sup>
<i>Oreohlypis luciae</i> (nesting) Lucy's warbler	BCC/ SSC/ MSCP	Mesquite thickets, riparian scrub, and even stands of tamarisk in lower Colorado River Valley and washes and arroyos that empty into it.	No	Low	The project area lacks suitable riparian habitat. Not recorded in the CNDDDB 8-quad search <sup>2</sup>
<i>Vireo bellii pusillus</i> Least Bell's vireo (nesting)	FE, WLBCB/ SE/ Group 1, MSCP	Willows and low, dense valley foothill riparian habitat and lower portions of canyons; along western edge of deserts in desert riparian habitat, 0 to 1,969 feet. Found in San Benito and Monterey Counties, and coastal Southern California from Santa Barbara County south (2).	No	Not expected	The project area lacks suitable riparian habitat for this species. Least Bell's vireo have not been recorded in the Tierra del Sol or Live Oak Springs quadrangles (CDFG 2012a).
<i>Xanthocephalus xanthocephalus</i> (nesting) Yellow-headed blackbird	None/ SSC/ MSCP	Nests in freshwater emergent wetlands with dense vegetation and deep water; often along the borders of lakes or ponds.	No	Not expected	The project area doesn't flood enough to support nesting habitat. Not recorded in the CNDDDB 8-quad search <sup>2</sup>
<i>Mammals</i>					
<i>Antrozous pallidus</i> Pallid bat	None/SSC/ Group 2, WBWG:H	Grasslands, shrublands, woodlands, forests; most common in open dry habitats with rocky outcrops for roosting. Found throughout low elevations of California, except for high Sierra Nevada and northwestern corner of the state south to Mendocino County (2).	No	Low	No suitable rocky outcrops within the project area. Not recorded in the Tierra del Sol or Live Oak Springs quadrangles (CDFG 2012a).
<i>Bassariscus astulus</i> Ringtail	None/FP/ Group 2, MSCP	Mixed forests and shrublands near rocky area or riparian habitats. Forages near water and is seldom found more than .62 mile from a water source; it is widely distributed throughout California (2).	No	Not expected	No suitable forest and riparian habitat found on site. Not recorded in the CNDDDB 8-quad search <sup>2</sup>

## APPENDIX F (Continued)

Scientific Name/ Common Name	Status (Federal/ State/ County)1	Habitat Preferences/Requirements	Verified on Site (Direct/ Indirect Evidence)	Potential to Occur On Site	Factual Basis for Determination
<i>Chaetodipus californicus femoralis</i> Dulzura (California) pocket mouse	None/SSC/ Group 2	Open habitat, coastal sage scrub, chaparral, oak woodland, chamise chaparral, mixed conifer habitats; disturbance specialist; 0 to 3,000 feet (6).	No	Low	Project area has dry climate and no suitable riparian habitat. Species' is recorded in the Live Oak Springs quadrangle (CDFG 2012a).
<b><i>Chaetodipus fallax fallax</i></b> <b>Northwestern San Diego pocket mouse</b>	<b>None/SSC/ Group 2</b>	<b>Coastal sage scrub, grassland, sage scrub-grassland ecotones, sparse mixed and chamise chaparral; rocky and gravelly area with yucca overstory, 500 to 3,000 feet (3).</b>	<b>No</b>	<b>Not expected</b>	<b>No suitable grassland habitat. Not recorded in the CNDDB 8-quad search<sup>2</sup></b>
<i>Choeronycteris mexicana</i> Mexican long-tongued bat	None/SSC/ Group 2, WBWG: H	Desert and montane riparian, desert succulent scrub, desert scrub, and pinyon-juniper woodland. Roosts in caves, mines, and buildings. Summer resident in San Diego County (2).	No	Not expected	No suitable roosting habitat found within the project area. Not recorded in the CNDDB 8-quad search <sup>2</sup>
<b><i>Corynorhinus townsendii</i></b> <b>Townsend's big-eared bat</b>	<b>None/SSC/ Group 2, MSCP, WBWG:H</b>	<b>Mesic habitats; gleans from brush or trees, or feeds along habitat edges. Found in all habitats but subalpine and alpine throughout California (2).</b>	<b>No</b>	<b>Low</b>	<b>Project area is dry climate with limited suitable forage habitat. Not recorded in the Tierra del Sol or Live Oak Springs quadrangles (CDFG 2012a).</b>
<i>Dipodomys merriami collinus</i> <i>Earthquake Merriam's kangaroo rat</i>	None/ None/ MSCP	Riversidean alluvial fan sage scrub, flood plains, sandy and sandy loam soils	No	Not expected	Suitable soils found within the project area. No suitable habitat present. Outside of range. Not recorded in the CNDDB 8-quad search <sup>2</sup>
<i>Dipodomys stephensi</i> Stephens' kangaroo rat	FE/ ST/ Group 1, MSCP	Open habitat, grassland, sparse coastal sage scrub, sandy loam and loamy soils with low clay content; gentle slopes (<30%)	No	Not expected	No suitable grassland habitat found within the project area. Project area outside of range for species. Not recorded in the CNDDB 8-quad search <sup>2</sup>
<i>Euderma maculatum</i> Spotted bat	None/SSC/ Group 2, WBWG:H	Foothills, mountains, desert regions of Southern California, including arid deserts, grasslands, and mixed conifer forests. Roosts in rock crevices and cliffs. Feeds over water and along washes (2).	No	Not expected	No suitable roosting habitat found within the project area. Not recorded in the CNDDB 8-quad search <sup>2</sup>

## APPENDIX F (Continued)

Scientific Name/ Common Name	Status (Federal/ State/ County) <sup>1</sup>	Habitat Preferences/Requirements	Verified on Site (Direct/ Indirect Evidence)	Potential to Occur On Site	Factual Basis for Determination
<i>Eumops perotis californicus</i> Greater western mastiff bat	None/SSC/ Group 2, MSCP, WBWG:H	Roosts in small colonies in cracks and small holes, seeming to prefer man-made structures. All subalpine and alpine habitats; 50 to 10,000 feet (3).	No	Low	Minimal roosting habitat found within the project area. Not recorded in the Tierra del Sol or Live Oak Springs quadrangles (CDFG 2012a).
<i>Lasiurus blossevillii</i> Western red bat	None/SSC/ Group 2, WBWG:H	Prefers edges with trees for roosting and open areas for foraging. Roosts in woodlands and forests. Forages over grasslands, shrublands, woodlands, forests, and croplands. Found south of Shasta County to Mexican border, and west of the Sierra Nevada/Cascade Crest. In winter, occupies coastal regions and lowlands south of San Francisco Bay (2).	No	Not expected	No suitable roosting habitat found within the project area. Not recorded in the Tierra del Sol or Live Oak Springs quadrangles (CDFG 2012a).
<i>Macrotus californicus</i> California leaf-nosed bat	None/SSC/ Group 2, WBWG:H	Desert riparian, desert wash, desert scrub, desert succulent shrub, alkali desert scrub, and palm oasis. Found from Riverside, Imperial, San Diego, and San Bernardino Counties, south to Mexican border; fairly common along parts of Colorado River, elevation approximately 1,969 feet (2).	No	Not expected	No suitable rugged terrain or caves for roosting on site. Not recorded in the Tierra del Sol or Live Oak Springs quadrangles (CDFG 2012a).
<i>Myotis ciliolabrum</i> Small-footed myotis	None/None/ Group 2, WBWG:M	Deserts, chaparral, riparian zones, western coniferous forest; most common above pinyon-juniper forest. Roost in caves, old mines, abandoned buildings (3).	No	Not expected	No suitable roosting habitat found within the project area. Not recorded in the Tierra del Sol or Live Oak Springs quadrangles (CDFG 2012a).
<i>Myotis evotis</i> Long-eared myotis	None/None/ Group 2, WBWG:M	Roosts in buildings, crevices, under bark, and snags. Caves are used as night roosts. Feeds along habitat edges, in open habitats, and over water. Occurs primarily along entire coast and in Sierra Nevada, Cascades, Great Basin, and 0 to 8,858 feet (2).	No	Low	Minimal suitable roosting habitat found within the project area. Not recorded in the Tierra del Sol or Live Oak Springs quadrangles (CDFG 2012a).

## APPENDIX F (Continued)

Scientific Name/ Common Name	Status (Federal/ State/ County) <sup>1</sup>	Habitat Preferences/Requirements	Verified on Site (Direct/ Indirect Evidence)	Potential to Occur On Site	Factual Basis for Determination
<i>Myotis thysanodes</i> Fringed myotis	None/None/ Group 2, WBWG:H	Pinyon-juniper, valley foothill hardwood, hardwood-conifer habitats. Roosts in caves, mines, buildings, or crevices. Forages over open habitats, early successional stages, streams, lakes, and ponds. Found throughout California except Central Valley and Colorado and Mojave Deserts (2).	No	Not expected	No suitable roosting or foraging habitat found within the project area. Not recorded in the Tierra del Sol or Live Oak Springs quadrangles (CDFG 2012a).
<i>Myotis volans</i> Long-legged myotis	None/None/ Group 2, WBWG:H	Occupies woodland and forest habitats over 3,937 feet. Feeds over open water and over open habitats such as chaparral and coastal scrub, using denser woodlands and forests for cover and reproduction. Roosts in rock crevices, buildings, under tree bark, in snags, mines, caves. Found in coastal ranges, Cascade/Sierra Nevada ranges, Great Basin, and ranges in Mojave Desert (2).	No	Not expected	No suitable foraging habitat found within the project area. Not recorded in the Tierra del Sol or Live Oak Springs quadrangles (CDFG 2012a).
<i>Myotis yumanensis</i> Yuma myotis	None/None/ Group 2, WBWG:LM	Closely tied to open water, which is used for foraging; open forests and woodlands are optimal habitat throughout California, 0 to 10,827 feet (2).	No	Not expected	No suitable foraging habitat found within the project area. Not recorded in the Tierra del Sol or Live Oak Springs quadrangles (CDFG 2012a).
<i>Neotoma albigula venusta</i> Colorado Valley woodrat	None/ SA/ None	Desert scrub with cacti or mesquite, with or without rocky outcrops. Feeds on cacti, mesquite, and yucca	No	Not expected	Limited suitable habitat. Project area contains cacti and yucca. Outside on range. Not recorded in the CNDDDB 8-quad search <sup>2</sup>
<i>Nyctinomops femorosaccus</i> Pocketed free-tailed bat	None/SSC/ Group 2, WBWG:M	Rocky desert area with high cliffs or rock outcrops. Pinyon-juniper woodlands, desert scrub, desert succulent shrub, desert riparian, desert wash, alkali desert scrub, Joshua tree, palm oasis in Riverside, San Diego, and Imperial Counties (2).	No	Low	No suitable roosting habitat found within the project area. <b>Not recorded in the Tierra del Sol or Live Oak Springs quadrangles (CDFG 2012a).</b>
<i>Nyctinomops macrotis</i> Big free-tailed bat	None/SSC/ WBWG:MH, Group 2	Rugged, rocky canyons in Riverside, Los Angeles, and San Diego Counties, but scattered records across California to Oakland (2, 5).	No	Not expected	No suitable roosting habitat found within the project area. Not recorded in the Tierra del Sol or Live Oak Springs quadrangles (CDFG 2012a).

## APPENDIX F (Continued)

Scientific Name/ Common Name	Status (Federal/ State/ County) <sup>1</sup>	Habitat Preferences/Requirements	Verified on Site (Direct/ Indirect Evidence)	Potential to Occur On Site	Factual Basis for Determination
<i>Onychomys torridus</i> Ramona Southern grasshopper mouse	None/SSC/ Group 2, MSCP	Alkali desert scrub and other desert scrub habitats, sparse coastal scrub, especially with friable soils for digging in Mojave Desert and southern Central Valley (2).	No	Low	No suitable grassland habitat found within the project area. Species is recorded in the Tierra del Sol and Live Oak Springs quadrangles (CDFG 2012a).
<i>Ovis canadensis nelsoni</i> DPS Peninsular bighorn sheep	FE/ST, FP/ Group 1, MSCP	Alpine dwarf-shrub, low sage, sagebrush, bitterbrush, pinyon-juniper, palm oasis, desert riparian, desert succulent shrub, desert scrub, subalpine conifer, perennial grassland, montane chaparral, and montane riparian from San Jacinto and Santa Rosa Ranges south to Mexico (2).	No	Not expected	No suitable rocky, steep terrain used by species for escape. Outside of known range. <b>Not recorded in the Tierra del Sol or Live Oak Springs quadrangles (CDFG 2012a).</b>
<i>Perognathus longimembris bangsi</i> Palm Springs pocket mouse	None/ SSC/ MSCP	Desert riparian, desert scrub, desert wash and sagebrush. Most common in creosote-dominated desert scrub; rarely on rocky sites.	No	Not expected	Limited suitable habitat. Outside of range. Not recorded in the CNDDDB 8-quad search <sup>2</sup>
<i>Perognathus longimembris brevinasus</i> Los Angeles pocket mouse	None/ SSC/ Group 2, MSCP	Grassland, coastal sage scrub, disturbed habitats; fine, sandy soils	No	Not expected	No suitable grassland habitat within the project area. Outside of range. Not recorded in the CNDDDB 8-quad search <sup>2</sup>
<i>Perognathus longimembris internationalis</i> Jacumba pocket mouse	None/SSC/ Group 2, MSCP	Desert riparian, desert scrub, desert wash, coastal scrub, and sagebrush in San Diego and Riverside Counties (2, 5).	No	Low	Limited suitable habitat within the project area. Not recorded in the CNDDDB 8-quad search <sup>2</sup>
<i>Perognathus longimembris pacificus</i> Pacific pocket mouse	FE/ SSC/ Group 1	Grassland, coastal sage scrub with sandy soils; along immediate coast	No	Not expected	No suitable grassland onsite and project area is not along coast. Outside of range. Not recorded in the CNDDDB 8-quad search <sup>2</sup>

## APPENDIX F (Continued)

Scientific Name/ Common Name	Status (Federal/ State/ County)1	Habitat Preferences/Requirements	Verified on Site (Direct/ Indirect Evidence)	Potential to Occur On Site	Factual Basis for Determination
<i>Spermophilus tereticaudus chlorus</i> Palm Springs round-tailed ground squirrel	None/ SSC/ MSCP	Desert succulent shrub, desert wash, desert scrub, alkali desert scrub, and levees in cropland habitat. Also found in urban habitat. Found from -60 to 900m (-180 to 2900 ft) elevation.	No	Not expected	No suitable desert scrub habitat found within the project area. Project area is higher than the species' recorded elevation range. Not recorded in the CNDDDB 8-quad search <sup>2</sup>
<i>Taxidea taxus</i> American badger	None/SSC/ Group 2, MSCP	<b>Dry, open, treeless area; grasslands and coastal sage scrub, especially with friable soils, throughout California (2).</b>	No	<b>Not expected</b>	<b>No burrows or digging sign was observed. Poor connectivity. Not recorded in the CNDDDB 8-quad search<sup>2</sup></b>
<i>Invertebrates</i>					
<i>Ariolimax columbianus stramineus</i> Palomar banana slug	None/ None/ Group 2, MSCP	Coastal California south and west of Salinas Valley from Monterey Peninsula to at least Ventura County, Santa Cruz Island, and Santa Rosa Island	No	Not expected	Project area not near coast. Outside of range. Not recorded in the CNDDDB 8-quad search <sup>2</sup>
<i>Branchinecta sandiegonensis</i> San Diego fairy shrimp	FE/None/ Group 1	Small, shallow vernal pools, occasionally ditches and road ruts.	No	Not expected	No vernal pools within the project area. Not recorded in the CNDDDB 8-quad search <sup>2</sup>
<i>Brennania belkini</i> Belkin's dune tabanid fly	None/ None/ Group 2	Coastal sand dunes of Sothern California.	No	Not expected	No sand dunes within the project area. Outside of range. Not recorded in the CNDDDB 8-quad search <sup>2</sup>
<i>Cicindela gabbii</i> western tidal-flat tiger beetle	None/ None/ Group 2	Estuaries and mudflats; generally on dark-colored mud; occasional on dry saline flats of estuaries.	No	Not expected	No suitable estuaries within the project area. Not recorded in the CNDDDB 8-quad search <sup>2</sup>
<i>Cicindela hirticollis gravida</i> Sandy beach tiger beetle	None/ None/ Group 2	Sandy areas adjacent to non-brackish water along California coast; found in dry sand in upper zone	No	Not expected	Project area not near coast. Not recorded in the CNDDDB 8-quad search <sup>2</sup>
<i>Cicindela latesignata latesignata</i> western beach tiger beetle	None/ None/ Group 2	Mudflats and beaches in coastal Southern California.	No	Not expected	Project area not near coast and no mudflats or beaches on site. Not recorded in the CNDDDB 8-quad search <sup>2</sup>

## APPENDIX F (Continued)

Scientific Name/ Common Name	Status (Federal/ State/ County)1	Habitat Preferences/Requirements	Verified on Site (Direct/ Indirect Evidence)	Potential to Occur On Site	Factual Basis for Determination
<i>Cicindela latesignata</i> <i>obliviosa</i> Oblivious tiger beetle	None/ None/ Group 2	Inhabited the Southern California coastline, from La Jolla north to the Orange Co. line. Occupied mudflats in the lower zone.	No	Not expected	Project area not near coast and no mudflats or beaches on site. Not recorded in the CNDDDB 8-quad search <sup>2</sup>
<i>Cicindela senilis frosti</i> Senile Tiger beetle	None/ None/ Group 2	Salt marshes	No	Not expected	No salt marshes within the project area. Not recorded in the CNDDDB 8-quad search <sup>2</sup>
<i>Cicindela trifasciata</i> <i>sigmoidia</i> Mudflat tiger beetle	None/ None/ Group 2	Has been identified along the fringe of a mudflat and low marsh habitat ( <a href="http://www.fws.gov/sandiegorefuges/new/ccp/final/Volume%20I/Volume%20I%20Chapter%203.pdf">www.fws.gov/sandiegorefuges/new/ccp/final/Volume%20I/Volume%20I%20Chapter%203.pdf</a> ).	No	Not expected	No suitable mudflats or marshes within the project area. Not recorded in the CNDDDB 8-quad search <sup>2</sup>
<i>Coelus globosus</i> Globose dune beetle	None/ None/ Group 1	Coastal dunes	No	Not expected	No coastal dunes on site. Not recorded in the CNDDDB 8-quad search <sup>2</sup>
<b><i>Danaus plexippus</i></b> <b>Monarch butterfly</b> <b>(wintering sites)</b>	<b>None/None/ Group 2</b>	<b>Overwinters in eucalyptus groves from San Francisco south to northern Baja California (4).</b>	<b>No</b>	<b>Low potential for wintering</b>	<b>Not observed during butterfly surveys. No eucalyptus groves within the project area. Not recorded in the CNDDDB 8-quad search<sup>2</sup></b>
<b><i>Euphydryas editha quino</i></b> <b>Quino checkerspot butterfly</b>	<b>FE/None/ Group 1, MSCP</b>	<b>Sparsely vegetated hilltops, ridgelines, occasionally rocky outcrops; host plant <i>Plantago erecta</i> and nectar plants must be present, San Diego and Riverside Counties (4).</b>	<b>No</b>	<b>Low</b>	<b>Not observed during butterfly surveys. Host plants not found within the project area. Not recorded in the Tierra del Sol or Live Oak Springs quadrangles (CDFG 2012a).</b>
<i>Euphyes vestris</i> <i>harbisoni</i> dun skipper	None/ None/ Group 1, MSCP	Restricted to wetland, riparian, oak woodlands, and chaparral habitats supporting host plant <i>Carex spissa</i>	No	Not expected	Not observed during butterfly surveys. No suitable wetlands found within the project area. Not recorded in the CNDDDB 8-quad search <sup>2</sup>
<i>Helminthoglypta coelata</i> Mesa shoulderband	None/ None/ Group 2	Coastal San Diego County: found in rock slides, beneath bark, and among coastal vegetation.	No	Not expected	Project area not near coast. Not recorded in the CNDDDB 8-quad search <sup>2</sup>

## APPENDIX F (Continued)

Scientific Name/ Common Name	Status (Federal/ State/ County)1	Habitat Preferences/Requirements	Verified on Site (Direct/ Indirect Evidence)	Potential to Occur On Site	Factual Basis for Determination
<i>Helminthoglypta traski</i> <i>coelata</i> Peninsular Range shoulderband snail	None/None/ MSCP	Wet habitats	No	Not expected	No suitable wetlands within the project area. Not recorded in the CNDDDB 8-quad search <sup>2</sup>
<i>Linderiella occidentalis</i> California linderiella	None/ None/ Group 1	Seasonal pools in unplowed grasslands with old alluvial soils underlain by hardpan or in sandstone depressions. Water in the pools has very low alkalinity, conductivity and TDS.	No	Not expected	No suitable pools within the project site. Not recorded in the CNDDDB 8-quad search <sup>2</sup>
<i>Lycaena hermes</i> Hermes copper butterfly	None/None/ Group 1, MSCP	Coastal sage scrub, southern mixed chaparral supporting at least 5% cover of host plant <i>Rhamnus crocea</i> . Adults visit <i>Eriogonum fasciculatum</i> and <i>Helianthus gracilentus</i> . On well-drained hillsides and canyon bottoms, coastal San Diego Co. south to Santo Tomas, Baja California (4).	No	Not expected	Not observed during butterfly surveys. Host plant not found on site. Not recorded in the CNDDDB 8-quad search <sup>2</sup>
<i>Megathymus yuccae</i> <i>harbisoni</i> Coastal giant skipper	None/ None/ Group 2	Coastal dunes, open yucca flats, desert canyons, open woodland, grassland, and old fields.	No	Not expected	Not observed during butterfly surveys. Outside of range. No suitable habitat within the project area. Not recorded in the CNDDDB 8-quad search <sup>2</sup>
<i>Panoquina errans</i> Wandering (= saltmarsh) skipper	None/None/ Group 1	Salt marsh from Los Angeles to Baja, Mexico	No	Not expected	Not observed during butterfly surveys. No suitable salt marsh habitat on site. Not recorded in the CNDDDB 8-quad search <sup>2</sup>
<i>Papilio multicaldata</i> Two-tailed swallowtail	None/ None/ Group 1	Semi-arid canyon land, mid-level mountains, canyon bottoms; groves, parks, roadsides (4).	No	Not expected	Not observed during butterfly surveys. No suitable habitat within the project area. Not recorded in the CNDDDB 8-quad search <sup>2</sup>
<i>Phobetus robinsoni</i> Robinson's rain beetle	None/ None/ Group 2	Riparian and desert washes	No	Not expected	No riparian or desert washes within the project area. Not recorded in the CNDDDB 8-quad search <sup>2</sup>
<i>Plebejus saepiolis</i> <i>Hilda</i> Hilda blue	None/ None/ Group 1	Bogs, roadsides, stream edges, open fields, meadows, open forests	No	Not expected	No suitable habitat found on site. Not recorded in the CNDDDB 8-quad search <sup>2</sup>

## APPENDIX F (Continued)

Scientific Name/ Common Name	Status (Federal/ State/ County)1	Habitat Preferences/Requirements	Verified on Site (Direct/ Indirect Evidence)	Potential to Occur On Site	Factual Basis for Determination
<i>Pseudocopaedes eunus eunus</i> Alkali skipper	None/ None/ Group 1, MSCP	Alkali river bottoms of Kern River, near Bakersfeld, Kern Co. Hostplant grass: <i>Distichils spicata</i> var . <i>stricta</i> .	No	Not expected	Not observed during butterfly surveys. No suitable habitat found on site. Not recorded in the CNDDDB 8-quad search <sup>2</sup>
<i>Pyrgus ruralis lagunae</i> Laguna Mountains skipper	FE/ None/ Group 1, MSCP	Only in a few open meadows in yellow pine forest between 5,000 and 6,000 ft in the vicinity of Mt. Laguna and Palomar Mtn. Eggs laid on leaves of <i>Horkelia bolanderi clevelandi</i> . Larvae feed on leaves and overwinter on the host plant.	No	Not expected	Not observed during butterfly surveys. Project area is lower than the species' recorded elevation range. Not recorded in the CNDDDB 8-quad search <sup>2</sup>
<i>Streptocephalus woottoni</i> Riverside fairy shrimp	FE/ None/ Group 1	Deep, long-lived vernal pools, vernal pool-like seasonal ponds, stock ponds; warm water pools that have low to moderate dissolved solids	No	Not expected	No vernal pools within the project area. Not recorded in the CNDDDB 8-quad search <sup>2</sup>
<i>Trigonoscuta blaisdelli</i> Blaisdell trigonoscuta weevil	None/ None/ Group 2	(for <i>tigonoscuta</i> sp.) Restricted to one dune in the Los Medanos area, south of Kettleman Station in Kings Co. Found on an open slip-face covering about 200 square meters of a modified, vegetated relict dune.	No	Not expected	No dunes within the project area. Not recorded in the CNDDDB 8-quad search <sup>2</sup>
<i>Tryonia imitator</i> <i>Mimic tryonia</i> , (=California brackishwater snail)	None/ None/ Group 2	Coastal lagoons, estuaries and salt marshes	No	Not expected	No lagoons or salt marshes within the project area. Not recorded in the CNDDDB 8-quad search <sup>2</sup>
<i>Fish</i>					
<i>Cyprinodon macularius</i> Desert pupfish	FE/ SE/ Group 2	Desert ponds, springs, marshes and streams in Southern California. Can live in salinities from fresh water to 68 ppt., can withstand temperatures from 9-45 C and DO levels down to 0.1 ppm.	No	Not expected	No suitable streams or wetlands within the project area. Not recorded in the CNDDDB 8-quad search <sup>2</sup>
<i>Eucyclogobius newberryi</i> Tidewater goby	FE/ SSC/ Group 1	Low-salinity waters in coastal wetlands	No	Not expected	No suitable streams or wetlands within the project area. Not recorded in the CNDDDB 8-quad search <sup>2</sup>
<i>Gasterosteus aculeatus williamsoni</i> Unarmored threespine stickleback	FE/ SE, P/ Group 2	Weedy pools, backwaters, and among emergent vegetation at the stream edge in small Southern California streams. Cool (<24 C), clear water with abundant vegetation.	No	Not expected	No suitable streams or wetlands within the project area. Not recorded in the CNDDDB 8-quad search <sup>2</sup>

## APPENDIX F (Continued)

Scientific Name/ Common Name	Status (Federal/ State/ County) <sup>1</sup>	Habitat Preferences/Requirements	Verified on Site (Direct/ Indirect Evidence)	Potential to Occur On Site	Factual Basis for Determination
<i>Gila orcutti</i> Arroyo chub	None/ SSC/ Group 1	Warm, fluctuating streams with slow-moving or backwater sections of warm to cool streams at depths > 40 centimeters; substrates of sand or mud	No	Not expected	No suitable streams or wetlands within the project area. Not recorded in the CNDDDB 8-quad search <sup>2</sup>
<i>Oncorhynchus mykiss irideus</i> southern steelhead – Southern California DPS (Rainbow trout)	FE/ SSC/ Group 1	(for ssp. <i>irideus</i> ) Fed listing refers to pops. from Santa Maria River south to southern extent of range (San Mateo Creek in San Diego Co.); Southern steelhead likely have greater physiological tolerances to warmer water and more variable conditions.	No	Not expected	No suitable streams or wetlands within the project area. Not recorded in the CNDDDB 8-quad search <sup>2</sup>

<sup>1</sup> **Status Designations:**

**Federal**

BCC	U.S. Fish and Wildlife Service: Birds of Conservation Concern
FC	Candidate for federal listing as threatened or endangered
(FD)	Federally delisted; monitored for 5 years
FE	Federally listed Endangered
FT	Federally listed as Threatened
WBWG:	H Western Bat Working Group: High Priority
WBWG:	LM Western Bat Working Group: Low-Medium Priority
WBWG:	M Western Bat Working Group: Medium Priority
WBWG:	MH Western Bat Working Group: Medium-High Priority

**State Designations:**

SSC	California Special Concern Species
FP	California Department of Fish and Game Fully Protected Species
WL	California Department of Fish and Game Watch List Species
SE	State listed as Endangered
ST	State listed as Threatened
SC	State Candidate for Endangered

**County Designations:**

MSCP	Draft East County MSCP covered species
Group 1	County of San Diego Sensitive Animal List
Group 2	County of San Diego Sensitive Animal List

**References**

Nafis 2012  
 Zeiner et al. 1990  
 CDFG 2012a.  
 Unitt 2004  
 Brehme, C., D. Clark, C. Rochester, and R. Fisher. 2011

**Notes:**

<sup>2</sup> The 6-quad search includes species recorded in CNDDDB or USFWS databases for the Tierra Del Sol and Live Oak Springs and six surrounding quads (Campo, Cameron Corners, Mount Laguna, Sombrero Peak, Sweeny Pass, and Jacumba).

**Bold** species indicate species that were identified in the County's Pre-Application Summary Letter (County 2012)

APPENDIX G  
*Wetland Determination Forms*



**WETLAND DETERMINATION DATA FORM - Arid West Region**

Project/Site: Tierra del Sol Solar Site City/County: Boulevard/San Diego Sampling Date: 3/9/12  
 Applicant/Owner: Dwain Boettcher State: CA Sampling Point: 1  
 Investigator(s): Vipul Joshi, Thomas Liddicoat Section, Township, Range: Sec13, Range 6East, Township 18South  
 Landform (hillslope, terrace, etc.): depression Local relief (concave, convex, none): concave Slope (%): 0  
 Subregion (LRR): C - Mediterranean California Lat: 32°36'20.25"N Long: 116°19'14.23"W Datum: \_\_\_\_\_  
 Soil Map Unit Name: Kitchen Creek loamy coarse sand 5-9% slopes NWI classification: \_\_\_\_\_

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation  Soil  or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation  Soil  or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	<b>Is the Sampled Area within a Wetland?</b> Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks: <u>sampling is within possible historical stock pond; possible historical manufactured berm to the east</u>	

**VEGETATION**

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____				
2. _____				
3. _____				
4. _____				
Total Cover: _____ %				
Sapling/Shrub Stratum				
1. _____				
2. _____				
3. _____				
4. _____				
5. _____				
Total Cover: _____ %				
Herb Stratum				
1. <i>Brassica nigra</i>	2	Yes	Not Listed	
2. <i>Erodium cicutarium</i>	1	No	Not Listed	
3. <i>Phacelia sp.</i>	1	No		
4. <i>Polypogon monspeliensis</i>	1	No	FACW	
5. <i>Laennecia coulteri</i>	1	No	FAC	
6. <i>Sisymbrium altissimum</i>	1	No	FACU	
7. _____				
8. _____				
Total Cover: _____ %				
Woody Vine Stratum				
1. _____				
2. _____				
Total Cover: _____ %				
% Bare Ground in Herb Stratum <u>93 %</u>	%		%	
Remarks: <u>Bromus and Phacelia without flowers</u>				

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0 % (A/B)

**Prevalence Index worksheet:**

Total % Cover of:		Multiply by:	
OBL species	<u>0</u>	x 1 =	<u>0</u>
FACW species	<u>1</u>	x 2 =	<u>2</u>
FAC species	<u>1</u>	x 3 =	<u>3</u>
FACU species	<u>1</u>	x 4 =	<u>4</u>
UPL species	<u>3</u>	x 5 =	<u>15</u>
Column Totals:	<u>6</u> (A)		<u>24</u> (B)
Prevalence Index = B/A =			<u>4.00</u>

**Hydrophytic Vegetation Indicators:**

Dominance Test is >50%

Prevalence Index is ≤3.0<sup>1</sup>

Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)

Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)

<sup>1</sup>Indicators of hydric soil and wetland hydrology must be present.

**Hydrophytic Vegetation Present?** Yes  No

**SOIL**

Sampling Point: 1

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

Depth (inches)	Matrix		Redox Features				Texture <sup>3</sup>	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-8	7.5 YR 3/2	100					silty clay loam	oxidized rhizospheres
8-16	7.5 YR 3/2	80	2.5 YR 3/6	10	C	M		
8-16	7.5 YR 4/2	10					silty clay loam	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix.    <sup>2</sup>Location: PL=Pore Lining, RC=Root Channel, M=Matrix.  
<sup>3</sup>Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

<b>Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)</b> <input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) ( <b>LRR C</b> ) <input type="checkbox"/> 1 cm Muck (A9) ( <b>LRR D</b> ) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> Sandy Gleyed Matrix (S4)		<input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input checked="" type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input checked="" type="checkbox"/> Redox Depressions (F8) <input type="checkbox"/> Vernal Pools (F9)	<b>Indicators for Problematic Hydric Soils:<sup>4</sup></b> <input type="checkbox"/> 1 cm Muck (A9) ( <b>LRR C</b> ) <input type="checkbox"/> 2 cm Muck (A10) ( <b>LRR B</b> ) <input type="checkbox"/> Reduced Vertic (F18) <input type="checkbox"/> Red Parent Material (TF2) <input type="checkbox"/> Other (Explain in Remarks)
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<sup>4</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present.

<b>Restrictive Layer (if present):</b> Type: _____ Depth (inches): _____ Remarks: _____	<b>Hydric Soil Present?</b> Yes <input checked="" type="radio"/> No <input type="radio"/>
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**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> Primary Indicators (any one indicator is sufficient) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) ( <b>Nonriverine</b> ) <input type="checkbox"/> Sediment Deposits (B2) ( <b>Nonriverine</b> ) <input type="checkbox"/> Drift Deposits (B3) ( <b>Nonriverine</b> ) <input checked="" type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Salt Crust (B11) <input type="checkbox"/> Biotic Crust (B12) <input type="checkbox"/> Aquatic Invertebrates (B13) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input checked="" type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6) <input type="checkbox"/> Other (Explain in Remarks)	<b>Secondary Indicators (2 or more required)</b> <input type="checkbox"/> Water Marks (B1) ( <b>Riverine</b> ) <input type="checkbox"/> Sediment Deposits (B2) ( <b>Riverine</b> ) <input type="checkbox"/> Drift Deposits (B3) ( <b>Riverine</b> ) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5)
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<b>Field Observations:</b> Surface Water Present?    Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Water Table Present?    Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Saturation Present? (includes capillary fringe)    Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____	<b>Wetland Hydrology Present?</b> Yes <input checked="" type="radio"/> No <input type="radio"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**WETLAND DETERMINATION DATA FORM - Arid West Region**

Project/Site: Tierra del Sol Solar Site City/County: Boulevard/San Diego Sampling Date: 3/9/12  
 Applicant/Owner: Dwain Boettcher State: CA Sampling Point: 2  
 Investigator(s): Vipul Joshi, Thomas Liddicoat Section, Township, Range: Sec13, Range 6East, Township 18South  
 Landform (hillslope, terrace, etc.): upslope of depression Local relief (concave, convex, none): none Slope (%): 5  
 Subregion (LRR): C - Mediterranean California Lat: 32°36'20.25"N Long: 116°19'14.23"W Datum: \_\_\_\_\_  
 Soil Map Unit Name: Kitchen Creek loamy coarse sand 5-9% slopes NWI classification: \_\_\_\_\_

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation  Soil  or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation  Soil  or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	<b>Is the Sampled Area within a Wetland?</b> Yes <input checked="" type="radio"/> No <input type="radio"/>
Remarks: <u>sampling is adjacent to possible historical stock pond; possible historical manufactured berm to the east</u>	

**VEGETATION**

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status																																	
1. <u>Salix exigua</u>	30	Yes	OBL	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>66.7 %</u> (A/B)																																
2. _____																																				
3. _____																																				
4. _____																																				
Total Cover: <u>30 %</u>				<b>Prevalence Index worksheet:</b> <table style="width:100%; border-collapse: collapse;"> <tr> <td align="center" colspan="2">Total % Cover of:</td> <td align="center" colspan="2">Multiply by:</td> </tr> <tr> <td>OBL species</td> <td align="center">30</td> <td>x 1 =</td> <td align="center">30</td> </tr> <tr> <td>FACW species</td> <td align="center">25</td> <td>x 2 =</td> <td align="center">50</td> </tr> <tr> <td>FAC species</td> <td align="center">1</td> <td>x 3 =</td> <td align="center">3</td> </tr> <tr> <td>FACU species</td> <td></td> <td>x 4 =</td> <td align="center">0</td> </tr> <tr> <td>UPL species</td> <td align="center">12</td> <td>x 5 =</td> <td align="center">60</td> </tr> <tr> <td>Column Totals:</td> <td align="center">68</td> <td>(A)</td> <td align="center">143 (B)</td> </tr> <tr> <td align="center" colspan="4">Prevalence Index = B/A = <u>2.10</u></td> </tr> </table>	Total % Cover of:		Multiply by:		OBL species	30	x 1 =	30	FACW species	25	x 2 =	50	FAC species	1	x 3 =	3	FACU species		x 4 =	0	UPL species	12	x 5 =	60	Column Totals:	68	(A)	143 (B)	Prevalence Index = B/A = <u>2.10</u>			
Total % Cover of:		Multiply by:																																		
OBL species	30	x 1 =	30																																	
FACW species	25	x 2 =	50																																	
FAC species	1	x 3 =	3																																	
FACU species		x 4 =	0																																	
UPL species	12	x 5 =	60																																	
Column Totals:	68	(A)	143 (B)																																	
Prevalence Index = B/A = <u>2.10</u>																																				
<u>Sapling/Shrub Stratum</u>																																				
1. _____																																				
2. _____																																				
3. _____																																				
4. _____																																				
5. _____																																				
Total Cover: _____ %																																				
<u>Herb Stratum</u>				<b>Hydrophytic Vegetation Indicators:</b> <input checked="" type="checkbox"/> Dominance Test is >50% <input checked="" type="checkbox"/> Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present.																																
1. <u>Brassica nigra</u>	10	Yes	Not Listed																																	
2. <u>Erodium cicutarium</u>	2	No	Not Listed																																	
3. <u>Rumex sp.</u>	1	No																																		
4. <u>Polypogon monspeliensis</u>	25	Yes	FACW																																	
5. <u>Laennecia coulteri</u>	1	No	FAC																																	
6. _____																																				
7. _____																																				
8. _____																																				
Total Cover: <u>39 %</u>																																				
<u>Woody Vine Stratum</u>																																				
1. _____																																				
2. _____																																				
Total Cover: _____ %																																				
% Bare Ground in Herb Stratum <u>61 %</u>		% Cover of Biotic Crust _____ %																																		

Remarks: One salix tree, remainder of area dominated by herbs as listed

**SOIL**

Sampling Point: 2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)							
Depth (inches)	Matrix		Redox Features			Texture <sup>3</sup>	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>		
0-8	7.5 YR 3/2	99	2.5 YR 3/6	1	C	PL	sandy clay loam
8-16	2.5 YR 4/2	100					loamy sand

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix.    <sup>2</sup>Location: PL=Pore Lining, RC=Root Channel, M=Matrix.  
<sup>3</sup>Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

<p><b>Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)</b></p> <input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <b>(LRR C)</b> <input type="checkbox"/> 1 cm Muck (A9) <b>(LRR D)</b> <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input checked="" type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8) <input type="checkbox"/> Vernal Pools (F9)	<p><b>Indicators for Problematic Hydric Soils:<sup>4</sup></b></p> <input type="checkbox"/> 1 cm Muck (A9) <b>(LRR C)</b> <input type="checkbox"/> 2 cm Muck (A10) <b>(LRR B)</b> <input type="checkbox"/> Reduced Vertic (F18) <input type="checkbox"/> Red Parent Material (TF2) <input type="checkbox"/> Other (Explain in Remarks)
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<sup>4</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present.

<p><b>Restrictive Layer (if present):</b></p> Type: _____ Depth (inches): _____ Remarks: _____	<p><b>Hydric Soil Present?</b>    Yes <input checked="" type="radio"/>    No <input type="radio"/></p>
--	--

**HYDROLOGY**

<p><b>Wetland Hydrology Indicators:</b></p> <p>Primary Indicators (any one indicator is sufficient)</p> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <b>(Nonriverine)</b> <input type="checkbox"/> Sediment Deposits (B2) <b>(Nonriverine)</b> <input type="checkbox"/> Drift Deposits (B3) <b>(Nonriverine)</b> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Salt Crust (B11) <input type="checkbox"/> Biotic Crust (B12) <input type="checkbox"/> Aquatic Invertebrates (B13) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input checked="" type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6) <input type="checkbox"/> Other (Explain in Remarks)	<p><u>Secondary Indicators (2 or more required)</u></p> <input type="checkbox"/> Water Marks (B1) <b>(Riverine)</b> <input type="checkbox"/> Sediment Deposits (B2) <b>(Riverine)</b> <input type="checkbox"/> Drift Deposits (B3) <b>(Riverine)</b> <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5)
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<p><b>Field Observations:</b></p> Surface Water Present?    Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Water Table Present?    Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Saturation Present? (includes capillary fringe)    Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____	<p><b>Wetland Hydrology Present?</b>    Yes <input checked="" type="radio"/>    No <input type="radio"/></p>
--	--

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

Remarks: approx 6" above pond bottom

**WETLAND DETERMINATION DATA FORM - Arid West Region**

Project/Site: Tierra del Sol Solar Site City/County: Boulevard/San Diego Sampling Date: 3/9/12  
 Applicant/Owner: Dwain Boettcher State: CA Sampling Point: 3  
 Investigator(s): Vipul Joshi, Thomas Liddicoat Section, Township, Range: Sec13, Range 6East, Township 18South  
 Landform (hillslope, terrace, etc.): upslope of depression Local relief (concave, convex, none): none Slope (%): 5  
 Subregion (LRR): C - Mediterranean California Lat: 32°36'20.25"N Long: 116°19'14.23"W Datum: \_\_\_\_\_  
 Soil Map Unit Name: Kitchen Creek loamy coarse sand 5-9% slopes NWI classification: \_\_\_\_\_

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation  Soil  or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation  Soil  or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	<b>Is the Sampled Area within a Wetland?</b> Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks: <u>sampling is further upslope of DS 2 and the stock pond</u>	

**VEGETATION**

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____				
2. _____				
3. _____				
4. _____				
Total Cover: _____ %				
Sapling/Shrub Stratum				
1. _____				
2. _____				
3. _____				
4. _____				
5. _____				
Total Cover: _____ %				
Herb Stratum				
1. <u>Brassica nigra</u>	2	No	Not Listed	
2. <u>Erodium cicutarium</u>	2	No	Not Listed	
3. <u>Corethrogyne sp.</u>	1	No		
4. <u>Bromus madritensis</u>	4	Yes	Not Listed	
5. _____				
6. _____				
7. _____				
8. _____				
Total Cover: _____ %				
Woody Vine Stratum				
1. _____				
2. _____				
Total Cover: _____ %				
% Bare Ground in Herb Stratum <u>91 %</u>		% Cover of Biotic Crust _____ %		

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0 % (A/B)

**Prevalence Index worksheet:**

Total % Cover of:	Multiply by:	
OBL species	x 1 =	<u>0</u>
FACW species	x 2 =	<u>0</u>
FAC species	x 3 =	<u>0</u>
FACU species	x 4 =	<u>0</u>
UPL species	x 5 =	<u>40</u>
Column Totals:		<u>8</u> (A) <u>40</u> (B)
Prevalence Index = B/A =		<u>5.00</u>

**Hydrophytic Vegetation Indicators:**

Dominance Test is >50%

Prevalence Index is ≤3.0<sup>1</sup>

Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)

Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)

<sup>1</sup>Indicators of hydric soil and wetland hydrology must be present.

**Hydrophytic Vegetation Present?** Yes  No

Remarks: \_\_\_\_\_

**SOIL**

Sampling Point: 3

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)							
Depth (inches)	Matrix		Redox Features			Texture <sup>3</sup>	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>		
0-7	10 YR 4/3	99	2.5 YR 3/6	1	C	PL	sandy clay loam
7-16	10 YR 4/3	100					sand

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix.    <sup>2</sup>Location: PL=Pore Lining, RC=Root Channel, M=Matrix.  
<sup>3</sup>Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

<p><b>Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)</b></p> <input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <b>(LRR C)</b> <input type="checkbox"/> 1 cm Muck (A9) <b>(LRR D)</b> <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8) <input type="checkbox"/> Vernal Pools (F9)	<p><b>Indicators for Problematic Hydric Soils:<sup>4</sup></b></p> <input type="checkbox"/> 1 cm Muck (A9) <b>(LRR C)</b> <input type="checkbox"/> 2 cm Muck (A10) <b>(LRR B)</b> <input type="checkbox"/> Reduced Vertic (F18) <input type="checkbox"/> Red Parent Material (TF2) <input type="checkbox"/> Other (Explain in Remarks)
--	---	--

<sup>4</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present.

<p><b>Restrictive Layer (if present):</b></p> Type: _____ Depth (inches): _____ Remarks: _____	<p><b>Hydric Soil Present?</b>    Yes <input type="radio"/>    No <input checked="" type="radio"/></p>
--	--

**HYDROLOGY**

<p><b>Wetland Hydrology Indicators:</b></p> <p>Primary Indicators (any one indicator is sufficient)</p> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <b>(Nonriverine)</b> <input type="checkbox"/> Sediment Deposits (B2) <b>(Nonriverine)</b> <input type="checkbox"/> Drift Deposits (B3) <b>(Nonriverine)</b> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Salt Crust (B11) <input type="checkbox"/> Biotic Crust (B12) <input type="checkbox"/> Aquatic Invertebrates (B13) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input checked="" type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6) <input type="checkbox"/> Other (Explain in Remarks)	<p><u>Secondary Indicators (2 or more required)</u></p> <input type="checkbox"/> Water Marks (B1) <b>(Riverine)</b> <input type="checkbox"/> Sediment Deposits (B2) <b>(Riverine)</b> <input type="checkbox"/> Drift Deposits (B3) <b>(Riverine)</b> <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5)
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<p><b>Field Observations:</b></p> Surface Water Present?    Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Water Table Present?    Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Saturation Present? (includes capillary fringe)    Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____	<p><b>Wetland Hydrology Present?</b>    Yes <input checked="" type="radio"/>    No <input type="radio"/></p>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: further upslope from DS 2 and approx 2' above pond bottom

**APPROVED JURISDICTIONAL DETERMINATION FORM**  
**U.S. Army Corps of Engineers**

This form should be completed by following the instructions provided in Section IV of the JD Form Instructional Guidebook.

**SECTION I: BACKGROUND INFORMATION**

**A. REPORT COMPLETION DATE FOR APPROVED JURISDICTIONAL DETERMINATION (JD): March 2012**

**B. DISTRICT OFFICE, FILE NAME, AND NUMBER: Los Angeles District, Tierra del Sol, No Number Assigned**

**C. PROJECT LOCATION AND BACKGROUND INFORMATION:**

State: California County/parish/borough: San Diego County City: Boulevard  
Center coordinates of site (lat/long in degree decimal format): Lat. 32.605025° N, Long. 116.325361° W.  
Universal Transverse Mercator:

Name of nearest waterbody:

Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows: Pacific Ocean

Name of watershed or Hydrologic Unit Code (HUC): Cottonwood-Tijuana, Catalog Unit 180703050501

Check if map/diagram of review area and/or potential jurisdictional areas is/are available upon request.

Check if other sites (e.g., offsite mitigation sites, disposal sites, etc...) are associated with this action and are recorded on a different JD form.

**D. REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY):**

Office (Desk) Determination. Date:

Field Determination. Date(s): March 9, 2012

**SECTION II: SUMMARY OF FINDINGS**

**A. RHA SECTION 10 DETERMINATION OF JURISDICTION.**

There **Are no** "navigable waters of the U.S." within Rivers and Harbors Act (RHA) jurisdiction (as defined by 33 CFR part 329) in the review area. [Required]

Waters subject to the ebb and flow of the tide.

Waters are presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce.  
Explain: .

**B. CWA SECTION 404 DETERMINATION OF JURISDICTION.**

There **Are no** "waters of the U.S." within Clean Water Act (CWA) jurisdiction (as defined by 33 CFR part 328) in the review area. [Required]

**1. Waters of the U.S.**

**a. Indicate presence of waters of U.S. in review area (check all that apply):<sup>1</sup>**

TNWs, including territorial seas

Wetlands adjacent to TNWs

Relatively permanent waters<sup>2</sup> (RPWs) that flow directly or indirectly into TNWs

Non-RPWs that flow directly or indirectly into TNWs

Wetlands directly abutting RPWs that flow directly or indirectly into TNWs

Wetlands adjacent to but not directly abutting RPWs that flow directly or indirectly into TNWs

Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs

Impoundments of jurisdictional waters

Isolated (interstate or intrastate) waters, including isolated wetlands

**b. Identify (estimate) size of waters of the U.S. in the review area:**

Non-wetland waters: 0 linear feet: width (ft) and/or 0 acres.

Wetlands: 0.1 acres.

**c. Limits (boundaries) of jurisdiction based on: 1987 Delineation Manual**

Elevation of established OHWM (if known): unknown, but site elevation is approximately 3,600 feet AMSL.

**2. Non-regulated waters/wetlands (check if applicable):<sup>3</sup>**

Potentially jurisdictional waters and/or wetlands were assessed within the review area and determined to be not jurisdictional.  
Explain: **Wetlands are isolated and do not have hydrologic connection to TNW or any tributary to TNW. Thus, no significant nexus to a TNW.**

<sup>1</sup> Boxes checked below shall be supported by completing the appropriate sections in Section III below.

<sup>2</sup> For purposes of this form, an RPW is defined as a tributary that is not a TNW and that typically flows year-round or has continuous flow at least "seasonally" (e.g., typically 3 months).

<sup>3</sup> Supporting documentation is presented in Section III.F.

### SECTION III: CWA ANALYSIS

#### A. TNWs AND WETLANDS ADJACENT TO TNWs

The agencies will assert jurisdiction over TNWs and wetlands adjacent to TNWs. If the aquatic resource is a TNW, complete Section III.A.1 and Section III.D.1. only; if the aquatic resource is a wetland adjacent to a TNW, complete Sections III.A.1 and 2 and Section III.D.1.; otherwise, see Section III.B below.

1. **TNW**

Identify TNW: .

Summarize rationale supporting determination: .

2. **Wetland adjacent to TNW**

Summarize rationale supporting conclusion that wetland is “adjacent”:

#### B. CHARACTERISTICS OF TRIBUTARY (THAT IS NOT A TNW) AND ITS ADJACENT WETLANDS (IF ANY):

This section summarizes information regarding characteristics of the tributary and its adjacent wetlands, if any, and it helps determine whether or not the standards for jurisdiction established under *Rapanos* have been met.

The agencies will assert jurisdiction over non-navigable tributaries of TNWs where the tributaries are “relatively permanent waters” (RPWs), i.e. tributaries that typically flow year-round or have continuous flow at least seasonally (e.g., typically 3 months). A wetland that directly abuts an RPW is also jurisdictional. If the aquatic resource is not a TNW, but has year-round (perennial) flow, skip to Section III.D.2. If the aquatic resource is a wetland directly abutting a tributary with perennial flow, skip to Section III.D.4.

A wetland that is adjacent to but that does not directly abut an RPW requires a significant nexus evaluation. Corps districts and EPA regions will include in the record any available information that documents the existence of a significant nexus between a relatively permanent tributary that is not perennial (and its adjacent wetlands if any) and a traditional navigable water, even though a significant nexus finding is not required as a matter of law.

If the waterbody<sup>4</sup> is not an RPW, or a wetland directly abutting an RPW, a JD will require additional data to determine if the waterbody has a significant nexus with a TNW. If the tributary has adjacent wetlands, the significant nexus evaluation must consider the tributary in combination with all of its adjacent wetlands. This significant nexus evaluation that combines, for analytical purposes, the tributary and all of its adjacent wetlands is used whether the review area identified in the JD request is the tributary, or its adjacent wetlands, or both. If the JD covers a tributary with adjacent wetlands, complete Section III.B.1 for the tributary, Section III.B.2 for any onsite wetlands, and Section III.B.3 for all wetlands adjacent to that tributary, both onsite and offsite. The determination whether a significant nexus exists is determined in Section III.C below.

1. **Characteristics of non-TNWs that flow directly or indirectly into TNW**

(i) **General Area Conditions:**

Watershed size: 495 **square miles**

Drainage area: 0.1 **square miles**

Average annual rainfall: 10 inches

Average annual snowfall: 0 inches

(ii) **Physical Characteristics:**

(a) **Relationship with TNW:**

Tributary flows directly into TNW.

Tributary flows through **10 (or more)** tributaries before entering TNW.

Project waters are **Pick List** river miles from TNW.

Project waters are **Pick List** river miles from RPW.

Project waters are **30 (or more)** aerial (straight) miles from TNW.

Project waters are **Pick List** aerial (straight) miles from RPW.

Project waters cross or serve as state boundaries. Explain: Topography on site suggests that stormwater flows travel south and cross the California border into Mexico.

---

<sup>4</sup> Note that the Instructional Guidebook contains additional information regarding swales, ditches, washes, and erosional features generally and in the arid West.

Identify flow route to TNW<sup>5</sup>: Topography on site and surrounding region suggests that stormwater flows travel south into Mexico and west towards the Pacific Ocean (i.e., nearest TNW). Because most of the adjacent watershed is in Mexico, river miles and RPW could not be determined.

Tributary stream order, if known:

(b) General Tributary Characteristics (check all that apply):

Tributary is:  Natural  
 Artificial (man-made). Explain:  
 Manipulated (man-altered). Explain:

Tributary properties with respect to top of bank (estimate):

Average width: less than 1 foot wide feet  
Average depth: unknown, no defined bed/bank feet  
Average side slopes: **Pick List.**

Primary tributary substrate composition (check all that apply):

Silts  Sands  Concrete  
 Cobbles  Gravel  Muck  
 Bedrock  Vegetation. Type/% cover:  
 Other. Explain: No defined waters of the U.S. or any such tributaries on site; however, on site soils are sandy and

gravelly.

Tributary condition/stability [e.g., highly eroding, sloughing banks]. Explain: Unknown. See "Other" explanation above.

Presence of run/riffle/pool complexes. Explain: Unknown. See "Other" explanation above.

Tributary geometry: **Meandering**

Tributary gradient (approximate average slope): Unknown. See "Other" explanation above. %

(c) Flow:

Tributary provides for: **Ephemeral flow**

Estimate average number of flow events in review area/year: **6-10**

Describe flow regime: Ephemeral, low flow type of regime where onsite flows are short duration, directly related to rainfall, and not substantial enough to result in an OHWM.

Other information on duration and volume: Duration of flows on site are short and ephemeral in character. The flow volume is directly proportionate and dependant on site precipitation levels.

Surface flow is: **Discrete and confined.** Characteristics: Onsite elevations peak near the center of the site and suggest water flows toward the southeast and southwest portions of the site. Surface flows are concentrated to swale areas that are unvegetated, narrow (i.e., <1foot wide), and support no defined bed or bank. The areas that support surface flows are generally located within the northern and central portions of the site, are discrete from one another, and short in length (e.g., <100 linear feet) before penetrating the onsite soils. The areas that support surface water flows on site are confined to the small (i.e., <1foot wide and <100feet long) unvegetated swale areas which do not extend through or directly connect to any drainages off site.

Subsurface flow: **Unknown.** Explain findings: No direct evidence of subsurface flow (emergent wetland vegetation, etc.); however, surface flows are limited to the swale features on site and there are no signs of surfacewater connectivity to offsite areas. Thus, water that does not evaporate, permeates the sandy soils and flows subsurface.

Dye (or other) test performed: No.

Tributary has (check all that apply):

Bed and banks  
 OHWM<sup>6</sup> (check all indicators that apply):  
 clear, natural line impressed on the bank  the presence of litter and debris  
 changes in the character of soil  destruction of terrestrial vegetation  
 shelving  the presence of wrack line  
 vegetation matted down, bent, or absent  sediment sorting  
 leaf litter disturbed or washed away  scour  
 sediment deposition  multiple observed or predicted flow events  
 water staining  abrupt change in plant community  
 other (list):

Discontinuous OHWM.<sup>7</sup> Explain: no defined continuous bed/bank; unvegetated areas with sandy soil are small (< 1' wide) and also discontinuous).

<sup>5</sup> Flow route can be described by identifying, e.g., tributary a, which flows through the review area, to flow into tributary b, which then flows into TNW.

<sup>6</sup> A natural or man-made discontinuity in the OHWM does not necessarily sever jurisdiction (e.g., where the stream temporarily flows underground, or where the OHWM has been removed by development or agricultural practices). Where there is a break in the OHWM that is unrelated to the waterbody's flow regime (e.g., flow over a rock outcrop or through a culvert), the agencies will look for indicators of flow above and below the break.

<sup>7</sup> Ibid.

If factors other than the OHWM were used to determine lateral extent of CWA jurisdiction (check all that apply):

- |  |  |
|--|--|
| <input type="checkbox"/> High Tide Line indicated by:              | <input type="checkbox"/> Mean High Water Mark indicated by:            |
| <input type="checkbox"/> oil or scum line along shore objects      | <input type="checkbox"/> survey to available datum;                    |
| <input type="checkbox"/> fine shell or debris deposits (foreshore) | <input type="checkbox"/> physical markings;                            |
| <input type="checkbox"/> physical markings/characteristics         | <input type="checkbox"/> vegetation lines/changes in vegetation types. |
| <input type="checkbox"/> tidal gauges                              |  |
| <input type="checkbox"/> other (list):                             |  |

**(iii) Chemical Characteristics:**

Characterize tributary (e.g., water color is clear, discolored, oily film; water quality; general watershed characteristics, etc.).

Explain: No water detected during field investigations.

Identify specific pollutants, if known: None known.

(iv) **Biological Characteristics. Channel supports (check all that apply):**

- Riparian corridor. Characteristics (type, average width):
- Wetland fringe. Characteristics:
- Habitat for:
  - Federally Listed species. Explain findings:
  - Fish/spawn areas. Explain findings:
  - Other environmentally-sensitive species. Explain findings:
  - Aquatic/wildlife diversity. Explain findings:

2. **Characteristics of wetlands adjacent to non-TNW that flow directly or indirectly into TNW**

(i) **Physical Characteristics:**

(a) General Wetland Characteristics:

Properties:

Wetland size: 0.1 acres

Wetland type. Explain: isolated wetlands, non-RPW, no significant nexus.

Wetland quality. Explain:

Project wetlands cross or serve as state boundaries. Explain: Wetlands on site are isolated and do not serve as or cross state boundaries.

(b) General Flow Relationship with Non-TNW:

Flow is: **No Flow**. Explain: Wetland is isolated on site and there is no evidence of downstream flow connectivity with a non-TNW.

Surface flow is: **Confined**

Characteristics: Wetland is confined to a small (0.1 acre) swale in the central-eastern portion of the site and there is no evidence of downstream surface flow connectivity with any non-TNW.

Subsurface flow: **Unknown**. Explain findings: Wetland is confined to a small (0.1 acre) swale in the central-eastern portion of the site and there is no evidence of downstream subsurface flow connectivity with any non-TNW.

Dye (or other) test performed:

(c) Wetland Adjacency Determination with Non-TNW:

Directly abutting

Not directly abutting

Discrete wetland hydrologic connection. Explain:

Ecological connection. Explain:

Separated by berm/barrier. Explain:

(d) Proximity (Relationship) to TNW

Project wetlands are **30 (or more)** river miles from TNW.

Project waters are **30 (or more)** aerial (straight) miles from TNW.

Flow is from: **No Flow**.

Estimate approximate location of wetland as within the **500-year or greater** floodplain.

(ii) **Chemical Characteristics:**

Characterize wetland system (e.g., water color is clear, brown, oil film on surface; water quality; general watershed characteristics; etc.). Explain: No water detected during the field investigations.

Identify specific pollutants, if known: None known.

(iii) **Biological Characteristics. Wetland supports (check all that apply):**

Riparian buffer. Characteristics (type, average width):

Vegetation type/percent cover. Explain: Wetland is within mapped a red shank chaparral vegetation community.

Vegetation directly associated with wetland is primarily herbs (i.e., Polypogon monspeliensis) and one willow tree (Salix exigua).

Habitat for:

Federally Listed species. Explain findings:

Fish/spawn areas. Explain findings:

Other environmentally-sensitive species. Explain findings:

Aquatic/wildlife diversity. Explain findings:

3. **Characteristics of all wetlands adjacent to the tributary (if any)**

All wetland(s) being considered in the cumulative analysis: **1**

Approximately ( 0.1 ) acres in total are being considered in the cumulative analysis.

For each wetland, specify the following:

<u>Directly abuts? (Y/N)</u>	<u>Size (in acres)</u>	<u>Directly abuts? (Y/N)</u>	<u>Size (in acres)</u>
No	0.1		

Summarize overall biological, chemical and physical functions being performed: The wetland is located within the central-eastern portion of the site and is characterized as a swale type feature that supports a small area (i.e., less than 400 square feet) of non-RPW and a surrounding (directly abutting) ring of herbaceous vegetation; totaling 0.1 acres of wetlands. This wetland area does not support habitat for any special-status species and most likely receives seasonal water via precipitation events and drainage from upstream areas. Function of the wetland is most likely water filtration.

### C. SIGNIFICANT NEXUS DETERMINATION

**A significant nexus analysis will assess the flow characteristics and functions of the tributary itself and the functions performed by any wetlands adjacent to the tributary to determine if they significantly affect the chemical, physical, and biological integrity of a TNW. For each of the following situations, a significant nexus exists if the tributary, in combination with all of its adjacent wetlands, has more than a speculative or insubstantial effect on the chemical, physical and/or biological integrity of a TNW. Considerations when evaluating significant nexus include, but are not limited to the volume, duration, and frequency of the flow of water in the tributary and its proximity to a TNW, and the functions performed by the tributary and all its adjacent wetlands. It is not appropriate to determine significant nexus based solely on any specific threshold of distance (e.g. between a tributary and its adjacent wetland or between a tributary and the TNW). Similarly, the fact an adjacent wetland lies within or outside of a floodplain is not solely determinative of significant nexus.**

**Draw connections between the features documented and the effects on the TNW, as identified in the *Rapanos* Guidance and discussed in the Instructional Guidebook. Factors to consider include, for example:**

- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to carry pollutants or flood waters to TNWs, or to reduce the amount of pollutants or flood waters reaching a TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), provide habitat and lifecycle support functions for fish and other species, such as feeding, nesting, spawning, or rearing young for species that are present in the TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to transfer nutrients and organic carbon that support downstream foodwebs?
- Does the tributary, in combination with its adjacent wetlands (if any), have other relationships to the physical, chemical, or biological integrity of the TNW?

**Note: the above list of considerations is not inclusive and other functions observed or known to occur should be documented below:**

1. **Significant nexus findings for non-RPW that has no adjacent wetlands and flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary itself, then go to Section III.D:
2. **Significant nexus findings for non-RPW and its adjacent wetlands, where the non-RPW flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D: The wetland area on site has no hydrologic connectivity to any non-RPW that flows directly or indirectly to downstream TNWs. Any surface water flows on site are very short in duration (i.e., ephemeral), directly related to seasonal precipitation events, and conveyed through small swales (i.e., <1 foot wide, non defined bed/bank, <100 feet long). There is no evidence on site that suggests water flow is confluent and continues draining off site directly or indirectly into the nearest TNW (i.e., Pacific Ocean), which is approximately 48 miles away from the site. Thus, there is no significant nexus.
3. **Significant nexus findings for wetlands adjacent to an RPW but that do not directly abut the RPW.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D:

### D. DETERMINATIONS OF JURISDICTIONAL FINDINGS. THE SUBJECT WATERS/WETLANDS ARE (CHECK ALL THAT APPLY):

1. **TNWs and Adjacent Wetlands.** Check all that apply and provide size estimates in review area:  
 TNWs: linear feet width (ft), Or, acres.  
 Wetlands adjacent to TNWs: acres.
2. **RPWs that flow directly or indirectly into TNWs.**

- Tributaries of TNWs where tributaries typically flow year-round are jurisdictional. Provide data and rationale indicating that tributary is perennial:
- Tributaries of TNW where tributaries have continuous flow “seasonally” (e.g., typically three months each year) are jurisdictional. Data supporting this conclusion is provided at Section III.B. Provide rationale indicating that tributary flows seasonally:

Provide estimates for jurisdictional waters in the review area (check all that apply):

- Tributary waters:        linear feet        width (ft).
  - Other non-wetland waters:        acres.
- Identify type(s) of waters:        .

**3. Non-RPWs<sup>8</sup> that flow directly or indirectly into TNWs.**

- Waterbody that is not a TNW or an RPW, but flows directly or indirectly into a TNW, and it has a significant nexus with a TNW is jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide estimates for jurisdictional waters within the review area (check all that apply):

- Tributary waters:        linear feet        width (ft).
  - Other non-wetland waters:        acres.
- Identify type(s) of waters:        .

**4. Wetlands directly abutting an RPW that flow directly or indirectly into TNWs.**

- Wetlands directly abut RPW and thus are jurisdictional as adjacent wetlands.
  - Wetlands directly abutting an RPW where tributaries typically flow year-round. Provide data and rationale indicating that tributary is perennial in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW:        .
  - Wetlands directly abutting an RPW where tributaries typically flow “seasonally.” Provide data indicating that tributary is seasonal in Section III.B and rationale in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW:        .

Provide acreage estimates for jurisdictional wetlands in the review area:        acres.

**5. Wetlands adjacent to but not directly abutting an RPW that flow directly or indirectly into TNWs.**

- Wetlands that do not directly abut an RPW, but when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide acreage estimates for jurisdictional wetlands in the review area:        acres.

**6. Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs.**

- Wetlands adjacent to such waters, and have when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide estimates for jurisdictional wetlands in the review area:        acres.

**7. Impoundments of jurisdictional waters.<sup>9</sup>**

As a general rule, the impoundment of a jurisdictional tributary remains jurisdictional.

- Demonstrate that impoundment was created from “waters of the U.S.,” or
- Demonstrate that water meets the criteria for one of the categories presented above (1-6), or
- Demonstrate that water is isolated with a nexus to commerce (see E below).

**E. ISOLATED [INTERSTATE OR INTRA-STATE] WATERS, INCLUDING ISOLATED WETLANDS, THE USE, DEGRADATION OR DESTRUCTION OF WHICH COULD AFFECT INTERSTATE COMMERCE, INCLUDING ANY SUCH WATERS (CHECK ALL THAT APPLY):<sup>10</sup>**

<sup>8</sup>See Footnote # 3.

<sup>9</sup>To complete the analysis refer to the key in Section III.D.6 of the Instructional Guidebook.

<sup>10</sup>Prior to asserting or declining CWA jurisdiction based solely on this category, Corps Districts will elevate the action to Corps and EPA HQ for review consistent with the process described in the Corps/EPA Memorandum Regarding CWA Act Jurisdiction Following Rapanos.

- which are or could be used by interstate or foreign travelers for recreational or other purposes.
- from which fish or shellfish are or could be taken and sold in interstate or foreign commerce.
- which are or could be used for industrial purposes by industries in interstate commerce.
- Interstate isolated waters. Explain: .
- Other factors. Explain: .

**Identify water body and summarize rationale supporting determination:**

Provide estimates for jurisdictional waters in the review area (check all that apply):

- Tributary waters: linear feet width (ft).
- Other non-wetland waters: acres.  
Identify type(s) of waters: .
- Wetlands: acres.

**F. NON-JURISDICTIONAL WATERS, INCLUDING WETLANDS (CHECK ALL THAT APPLY):**

- If potential wetlands were assessed within the review area, these areas did not meet the criteria in the 1987 Corps of Engineers Wetland Delineation Manual and/or appropriate Regional Supplements.
- Review area included isolated waters with no substantial nexus to interstate (or foreign) commerce.
  - Prior to the Jan 2001 Supreme Court decision in “*SWANCC*,” the review area would have been regulated based solely on the “Migratory Bird Rule” (MBR).
- Waters do not meet the “Significant Nexus” standard, where such a finding is required for jurisdiction. Explain: **The onsite wetland does not have a hydrologic connectivity downstream or to offsite areas and does not have a substantial effect on the chemical, physical, or biological integrity of a TNW or any tributary to a TNW. Nearest TNW is the Pacific Ocean approximately 48 miles away from the site. Additionally the isolated wetland on site does not support any interstate or foreign commerce activities.**
- Other: (explain, if not covered above): **The wetland on site does not provide habitat for migratory bird species or related to habitat constituents for any special-status plants or wildlife species.**

Provide acreage estimates for non-jurisdictional waters in the review area, where the sole potential basis of jurisdiction is the MBR factors (i.e., presence of migratory birds, presence of endangered species, use of water for irrigated agriculture), using best professional judgment (check all that apply):

- Non-wetland waters (i.e., rivers, streams): linear feet width (ft).
- Lakes/ponds: acres.
- Other non-wetland waters: acres. List type of aquatic resource: .
- Wetlands: acres.

Provide acreage estimates for non-jurisdictional waters in the review area that do not meet the “Significant Nexus” standard, where such a finding is required for jurisdiction (check all that apply):

- Non-wetland waters (i.e., rivers, streams): linear feet, width (ft).
- Lakes/ponds: acres.
- Other non-wetland waters: 0.1 acres. List type of aquatic resource: isolated wetland, non-RPW, no significant nexus.
- Wetlands: 0.1 acres.

**SECTION IV: DATA SOURCES.**

**A. SUPPORTING DATA. Data reviewed for JD (check all that apply - checked items shall be included in case file and, where checked and requested, appropriately reference sources below):**

- Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant: .
- Data sheets prepared/submitted by or on behalf of the applicant/consultant.
  - Office concurs with data sheets/delineation report.
  - Office does not concur with data sheets/delineation report.
- Data sheets prepared by the Corps: .
- Corps navigable waters’ study: .
- U.S. Geological Survey Hydrologic Atlas: .
  - USGS NHD data.
  - USGS 8 and 12 digit HUC maps.
- U.S. Geological Survey map(s). Cite scale & quad name: 7.5-minute Tierra del Sol Quadrangle.
- USDA Natural Resources Conservation Service Soil Survey. Citation:USDA. 2011. NRCS. Websoil Survey.
- National wetlands inventory map(s). Cite name: .
- State/Local wetland inventory map(s): .

- FEMA/FIRM maps:
- 100-year Floodplain Elevation is: (National Geodetic Vertical Datum of 1929)
- Photographs:  Aerial (Name & Date): Digital Globe. 2008.  
or  Other (Name & Date):
- Previous determination(s). File no. and date of response letter:
- Applicable/supporting case law:
- Applicable/supporting scientific literature:
- Other information (please specify):

**B. ADDITIONAL COMMENTS TO SUPPORT JD:**



**WETLAND DETERMINATION DATA FORM - Arid West Region**

Project/Site: Tierra del Sol Solar Farm Project City/County: Boulevard, San Diego Sampling Date: 4/8/13  
 Applicant/Owner: Tierra del Sol Solar Farm LLC State: CA Sampling Point: DS-1  
 Investigator(s): Andy Thomson, Danielle Mullen Section, Township, Range: Section 13, Township 18 South, Range 6 East  
 Landform (hillslope, terrace, etc.): \_\_\_\_\_ Local relief (concave, convex, none): \_\_\_\_\_ Slope (%): \_\_\_\_\_  
 Subregion (LRR): C - Mediterranean California Lat: 6543779.934 Long: 1806846.843 Datum: NAD83  
 Soil Map Unit Name: La Posta rocky loamy coarse sand, 5-30% NWI classification: \_\_\_\_\_

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation  Soil  or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation  Soil  or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	<b>Is the Sampled Area within a Wetland?</b> Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks: Sampling point is on slope about 5 feet from the edge of the channel in uplands.	

**VEGETATION**

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	<b>Dominance Test worksheet:</b>	
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC:	0 (A)
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata:	2 (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC:	0.0 % (A/B)
4. _____	_____	_____	_____		
Total Cover: _____ %					
Sapling/Shrub Stratum				<b>Prevalence Index worksheet:</b>	
1. <i>Adenostoma sparsifolium</i>	50	Yes	UPL	Total % Cover of: _____ Multiply by: _____	
2. _____	_____	_____	_____	OBL species	x 1 = 0
3. _____	_____	_____	_____	FACW species	x 2 = 0
4. _____	_____	_____	_____	FAC species	x 3 = 0
5. _____	_____	_____	_____	FACU species	1 x 4 = 4
Total Cover: 50 %				UPL species	67 x 5 = 335
				Column Totals:	68 (A) 339 (B)
				Prevalence Index = B/A = 4.99	
Herb Stratum				<b>Hydrophytic Vegetation Indicators:</b>	
1. <i>Erodium cicutarium</i>	10	Yes	UPL	<input checked="" type="checkbox"/> Dominance Test is >50% <input checked="" type="checkbox"/> Prevalence Index is ≤3.0 <sup>1</sup>	
2. <i>Nemophila menziesii</i>	2	No	UPL	<input type="checkbox"/> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)	
3. <i>Bromus diandrus</i>	2	No	UPL	<input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)	
4. <i>Acmispon glaber ssp. glaber</i>	1	No	UPL		
5. <i>Amsinckia menziesii</i>	1	No	UPL		
6. <i>Descurainia pinnata</i>	1	No	UPL		
7. <i>Dichelostemma capitatum</i>	1	No	FACU		
8. _____	_____	_____	_____		
Total Cover: 18 %					
Woody Vine Stratum					
1. _____	_____	_____	_____		
2. _____	_____	_____	_____		
Total Cover: _____ %					
% Bare Ground in Herb Stratum _____ %	% Cover of Biotic Crust _____ %				
				<b>Hydrophytic Vegetation Present?</b>	Yes <input type="radio"/> No <input checked="" type="radio"/>

Remarks:

**SOIL**

Sampling Point: DS-1

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

Depth (inches)	Matrix		Redox Features				Texture <sup>3</sup>	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-14	10YR 5/4	100	None				Sandy loam	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix.    <sup>2</sup>Location: PL=Pore Lining, RC=Root Channel, M=Matrix.  
<sup>3</sup>Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

<p><b>Hydic Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)</b></p> <input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) ( <b>LRR C</b> ) <input type="checkbox"/> 1 cm Muck (A9) ( <b>LRR D</b> ) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8) <input type="checkbox"/> Vernal Pools (F9)	<p><b>Indicators for Problematic Hydic Soils:<sup>4</sup></b></p> <input type="checkbox"/> 1 cm Muck (A9) ( <b>LRR C</b> ) <input type="checkbox"/> 2 cm Muck (A10) ( <b>LRR B</b> ) <input type="checkbox"/> Reduced Vertic (F18) <input type="checkbox"/> Red Parent Material (TF2) <input type="checkbox"/> Other (Explain in Remarks)
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<sup>4</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present.

<p><b>Restrictive Layer (if present):</b></p> Type: _____ Depth (inches): _____ Remarks: _____	<p><b>Hydic Soil Present?</b>    Yes <input type="radio"/>    No <input checked="" type="radio"/></p>
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**HYDROLOGY**

<p><b>Wetland Hydrology Indicators:</b></p> <p>Primary Indicators (any one indicator is sufficient)</p> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) ( <b>Nonriverine</b> ) <input type="checkbox"/> Sediment Deposits (B2) ( <b>Nonriverine</b> ) <input type="checkbox"/> Drift Deposits (B3) ( <b>Nonriverine</b> ) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Salt Crust (B11) <input type="checkbox"/> Biotic Crust (B12) <input type="checkbox"/> Aquatic Invertebrates (B13) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6) <input type="checkbox"/> Other (Explain in Remarks)	<p><u>Secondary Indicators (2 or more required)</u></p> <input type="checkbox"/> Water Marks (B1) ( <b>Riverine</b> ) <input type="checkbox"/> Sediment Deposits (B2) ( <b>Riverine</b> ) <input type="checkbox"/> Drift Deposits (B3) ( <b>Riverine</b> ) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5)
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<p><b>Field Observations:</b></p> Surface Water Present?    Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Water Table Present?    Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Saturation Present? (includes capillary fringe)    Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____	<p><b>Wetland Hydrology Present?</b>    Yes <input type="radio"/>    No <input checked="" type="radio"/></p>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**WETLAND DETERMINATION DATA FORM - Arid West Region**

Project/Site: Tierra del Sol Solar Farm Project City/County: Boulevard, San Diego Sampling Date: 4/8/13  
 Applicant/Owner: Tierra del Sol Solar Farm LLC State: CA Sampling Point: DS-2  
 Investigator(s): Andy Thomson, Danielle Mullen Section, Township, Range: Section 13, Township 18 South, Range 6 East  
 Landform (hillslope, terrace, etc.): \_\_\_\_\_ Local relief (concave, convex, none): \_\_\_\_\_ Slope (%): \_\_\_\_\_  
 Subregion (LRR): C - Mediterranean California Lat: 6543767.713 Long: 1806863.026 Datum: NAD83  
 Soil Map Unit Name: La Posta rocky loamy coarse sand, 5-30% slopes NWI classification: \_\_\_\_\_

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation  Soil  or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation  Soil  or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	<b>Is the Sampled Area within a Wetland?</b> Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks: _____ _____ _____	

**VEGETATION**

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____				
2. _____				
3. _____				
4. _____				
Total Cover: _____ %				
Sapling/Shrub Stratum				
1. _____				
2. _____				
3. _____				
4. _____				
5. _____				
Total Cover: _____ %				
Herb Stratum				
1. <i>Juncus mexicanus</i>	30	Yes	FACW	
2. <i>Melilotus indicus</i>	30	Yes	FACU	
3. <i>Lamium amplexicaule</i>	6	No	UPL	
4. <i>Erodium cicutarium</i>	5	No	UPL	
5. <i>Bromus hordeaceus</i>	3	No	FACU	
6. <i>Descurainia pinnata</i>	2	No	UPL	
7. <i>Rumex crispus</i>	1	No	FAC	
8. <i>Ambrosia psilostachya</i>	1	No	FACU	
Total Cover: _____ %	78			
Woody Vine Stratum				
1. _____				
2. _____				
Total Cover: _____ %				
% Bare Ground in Herb Stratum _____ %		% Cover of Biotic Crust _____ %		

**Dominance Test worksheet:**

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

Total Number of Dominant Species Across All Strata: 2 (B)

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

**Prevalence Index worksheet:**

Total % Cover of:		Multiply by:	
OBL species	_____	x 1 =	0
FACW species	30	x 2 =	60
FAC species	1	x 3 =	3
FACU species	34	x 4 =	136
UPL species	13	x 5 =	65
Column Totals:	78 (A)		264 (B)
Prevalence Index = B/A =			3.38

**Hydrophytic Vegetation Indicators:**

Dominance Test is >50%

Prevalence Index is ≤3.0<sup>1</sup>

Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)

Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)

<sup>1</sup>Indicators of hydric soil and wetland hydrology must be present.

**Hydrophytic Vegetation Present?** Yes  No

Remarks: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

**SOIL**

Sampling Point: DS-2

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

Depth (inches)	Matrix		Redox Features				Texture <sup>3</sup>	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-16	7.5 YR 3/2	100					Silty sand	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix.    <sup>2</sup>Location: PL=Pore Lining, RC=Root Channel, M=Matrix.  
<sup>3</sup>Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

<b>Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)</b> <input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) ( <b>LRR C</b> ) <input type="checkbox"/> 1 cm Muck (A9) ( <b>LRR D</b> ) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> Sandy Gleyed Matrix (S4)		<input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8) <input type="checkbox"/> Vernal Pools (F9)		<b>Indicators for Problematic Hydric Soils:<sup>4</sup></b> <input type="checkbox"/> 1 cm Muck (A9) ( <b>LRR C</b> ) <input type="checkbox"/> 2 cm Muck (A10) ( <b>LRR B</b> ) <input type="checkbox"/> Reduced Vertic (F18) <input type="checkbox"/> Red Parent Material (TF2) <input type="checkbox"/> Other (Explain in Remarks)
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<sup>4</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present.

<b>Restrictive Layer (if present):</b> Type: _____ Depth (inches): _____ Remarks: _____	<b>Hydric Soil Present?</b> Yes <input type="radio"/> No <input checked="" type="radio"/>
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**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> Primary Indicators (any one indicator is sufficient)		Secondary Indicators (2 or more required)	
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) ( <b>Nonriverine</b> ) <input type="checkbox"/> Sediment Deposits (B2) ( <b>Nonriverine</b> ) <input type="checkbox"/> Drift Deposits (B3) ( <b>Nonriverine</b> ) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Salt Crust (B11) <input type="checkbox"/> Biotic Crust (B12) <input type="checkbox"/> Aquatic Invertebrates (B13) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6) <input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Water Marks (B1) ( <b>Riverine</b> ) <input type="checkbox"/> Sediment Deposits (B2) ( <b>Riverine</b> ) <input type="checkbox"/> Drift Deposits (B3) ( <b>Riverine</b> ) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5)	
<b>Field Observations:</b> Surface Water Present?    Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Water Table Present?    Yes <input checked="" type="radio"/> No <input type="radio"/> Depth (inches):    14 Saturation Present?    Yes <input checked="" type="radio"/> No <input type="radio"/> Depth (inches):    10		<b>Wetland Hydrology Present?</b> Yes <input checked="" type="radio"/> No <input type="radio"/>	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: _____			
Remarks: _____			

## WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Tierra del Sol Solar Farm Project City/County: Boulevard, San Diego Sampling Date: 4/8/13  
 Applicant/Owner: Tierra del Sol Solar Farm LLC State: CA Sampling Point: DS-3  
 Investigator(s): Andy Thomson, Danielle Mullen Section, Township, Range: Section 13, Township 18 South, Range 6 East  
 Landform (hillslope, terrace, etc.): \_\_\_\_\_ Local relief (concave, convex, none): \_\_\_\_\_ Slope (%): \_\_\_\_\_  
 Subregion (LRR): C - Mediterranean California Lat: 6543733.622 Long: 1806886.753 Datum: NAD83  
 Soil Map Unit Name: La Posta rocky loamy coarse sand, 5-30% slopes NWI classification: \_\_\_\_\_

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation  Soil  or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation  Soil  or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	<b>Is the Sampled Area within a Wetland?</b> Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks: Sampling point is on secondary bench of floodplain.	

### VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____				
2. _____				
3. _____				
4. _____				
Total Cover: _____ %				
Sapling/Shrub Stratum				
1. _____				
2. _____				
3. _____				
4. _____				
5. _____				
Total Cover: _____ %				
Herb Stratum				
1. <i>Erodium cicutarium</i>	40	Yes	UPL	
2. <i>Juncus mexicanus</i>	10	No	FACW	
3. <i>Bromus sp.</i>	5	No		
4. <i>Acmispon glaber spp. glaber</i>	2	No	UPL	
5. <i>Descurainia pinnata</i>	1	No	UPL	
6. <i>Ambrosia psilostachya</i>	1	No	FACU	
7. <i>Nama sp.</i>	1	No		
8. _____				
Total Cover: <b>60</b> %				
Woody Vine Stratum				
1. _____				
2. _____				
Total Cover: _____ %				
% Bare Ground in Herb Stratum _____ %		% Cover of Biotic Crust _____ %		

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0 % (A/B)

**Prevalence Index worksheet:**

	Total % Cover of:	Multiply by:	
OBL species	0	x 1 =	0
FACW species	10	x 2 =	20
FAC species	0	x 3 =	0
FACU species	1	x 4 =	4
UPL species	43	x 5 =	215
Column Totals:	54 (A)		239 (B)
Prevalence Index = B/A =			4.43

**Hydrophytic Vegetation Indicators:**

Dominance Test is >50%

Prevalence Index is ≤3.0<sup>1</sup>

Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)

Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)

<sup>1</sup>Indicators of hydric soil and wetland hydrology must be present.

**Hydrophytic Vegetation Present?** Yes  No

Remarks:

**SOIL**

Sampling Point: DS-3

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

Depth (inches)	Matrix		Redox Features				Texture <sup>3</sup>	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-14	10 YR 5/3	100					Sandy loam	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix.    <sup>2</sup>Location: PL=Pore Lining, RC=Root Channel, M=Matrix.  
<sup>3</sup>Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

<p><b>Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)</b></p> <input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) ( <b>LRR C</b> ) <input type="checkbox"/> 1 cm Muck (A9) ( <b>LRR D</b> ) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8) <input type="checkbox"/> Vernal Pools (F9)	<p><b>Indicators for Problematic Hydric Soils:<sup>4</sup></b></p> <input type="checkbox"/> 1 cm Muck (A9) ( <b>LRR C</b> ) <input type="checkbox"/> 2 cm Muck (A10) ( <b>LRR B</b> ) <input type="checkbox"/> Reduced Vertic (F18) <input type="checkbox"/> Red Parent Material (TF2) <input type="checkbox"/> Other (Explain in Remarks)
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<sup>4</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present.

**Restrictive Layer (if present):**

Type: \_\_\_\_\_

Depth (inches): \_\_\_\_\_

Remarks: \_\_\_\_\_

**Hydric Soil Present?**    Yes     No

**HYDROLOGY**

<p><b>Wetland Hydrology Indicators:</b></p> <p>Primary Indicators (any one indicator is sufficient)</p> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) ( <b>Nonriverine</b> ) <input type="checkbox"/> Sediment Deposits (B2) ( <b>Nonriverine</b> ) <input type="checkbox"/> Drift Deposits (B3) ( <b>Nonriverine</b> ) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Salt Crust (B11) <input type="checkbox"/> Biotic Crust (B12) <input type="checkbox"/> Aquatic Invertebrates (B13) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6) <input type="checkbox"/> Other (Explain in Remarks)	<p><u>Secondary Indicators (2 or more required)</u></p> <input type="checkbox"/> Water Marks (B1) ( <b>Riverine</b> ) <input type="checkbox"/> Sediment Deposits (B2) ( <b>Riverine</b> ) <input type="checkbox"/> Drift Deposits (B3) ( <b>Riverine</b> ) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5)
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**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:

## WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Tierra del Sol Solar Farm Project City/County: Boulevard, San Diego Sampling Date: 4/8/13  
 Applicant/Owner: Tierra del Sol Solar Farm LLC State: CA Sampling Point: DS-4  
 Investigator(s): Andy Thomson, Danielle Mullen Section, Township, Range: Section 13, Township 18 South, Range 6 East  
 Landform (hillslope, terrace, etc.): \_\_\_\_\_ Local relief (concave, convex, none): \_\_\_\_\_ Slope (%): \_\_\_\_\_  
 Subregion (LRR): C - Mediterranean California Lat: 6543776.096 Long: 1807091.746 Datum: NAD83  
 Soil Map Unit Name: La Posta rocky loamy coarse sandy, 5-30% slopes NWI classification: \_\_\_\_\_

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation  Soil  or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation  Soil  or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	<b>Is the Sampled Area within a Wetland?</b> Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks: Data station is located within a channel and an understory of willows. Area burned last year and therefore vegetation is considered disturbed.	

### VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status																																	
1. <i>Salix laevigata</i>	40	Yes	FACW	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <span style="background-color: #e0e0e0; padding: 2px;">3</span> (A) Total Number of Dominant Species Across All Strata: <span style="background-color: #e0e0e0; padding: 2px;">3</span> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <span style="background-color: #e0e0e0; padding: 2px;">100.0 %</span> (A/B)																																
2. _____																																				
3. _____																																				
4. _____																																				
Total Cover: <span style="background-color: #e0e0e0; padding: 2px;">40 %</span>																																				
<b>Sapling/Shrub Stratum</b>				<b>Prevalence Index worksheet:</b> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 40%;">Total % Cover of:</td> <td style="width: 20%;"></td> <td style="width: 20%;">Multiply by:</td> <td style="width: 20%;"></td> </tr> <tr> <td>OBL species</td> <td style="background-color: #e0e0e0;"></td> <td>x 1 =</td> <td style="background-color: #e0e0e0; text-align: center;">0</td> </tr> <tr> <td>FACW species</td> <td style="background-color: #e0e0e0; text-align: center;">110</td> <td>x 2 =</td> <td style="background-color: #e0e0e0; text-align: center;">220</td> </tr> <tr> <td>FAC species</td> <td style="background-color: #e0e0e0;"></td> <td>x 3 =</td> <td style="background-color: #e0e0e0; text-align: center;">0</td> </tr> <tr> <td>FACU species</td> <td style="background-color: #e0e0e0;"></td> <td>x 4 =</td> <td style="background-color: #e0e0e0; text-align: center;">0</td> </tr> <tr> <td>UPL species</td> <td style="background-color: #e0e0e0; text-align: center;">13</td> <td>x 5 =</td> <td style="background-color: #e0e0e0; text-align: center;">65</td> </tr> <tr> <td>Column Totals:</td> <td style="background-color: #e0e0e0; text-align: center;">123</td> <td>(A)</td> <td style="background-color: #e0e0e0; text-align: center;">285 (B)</td> </tr> <tr> <td colspan="2" style="text-align: right;">Prevalence Index = B/A =</td> <td></td> <td style="background-color: #e0e0e0; text-align: center;">2.32</td> </tr> </table>	Total % Cover of:		Multiply by:		OBL species		x 1 =	0	FACW species	110	x 2 =	220	FAC species		x 3 =	0	FACU species		x 4 =	0	UPL species	13	x 5 =	65	Column Totals:	123	(A)	285 (B)	Prevalence Index = B/A =			2.32
Total % Cover of:		Multiply by:																																		
OBL species		x 1 =	0																																	
FACW species	110	x 2 =	220																																	
FAC species		x 3 =	0																																	
FACU species		x 4 =	0																																	
UPL species	13	x 5 =	65																																	
Column Totals:	123	(A)	285 (B)																																	
Prevalence Index = B/A =			2.32																																	
1. _____																																				
2. _____																																				
3. _____																																				
4. _____																																				
Total Cover: <span style="background-color: #e0e0e0; padding: 2px;">%</span>																																				
<b>Herb Stratum</b>				<b>Hydrophytic Vegetation Indicators:</b> <input checked="" type="checkbox"/> Dominance Test is >50% <input checked="" type="checkbox"/> Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present.																																
1. <i>Juncus mexicanus</i>	50	Yes	FACW																																	
2. <i>Carex praegracilis</i>	20	Yes	FACW																																	
3. <i>Lamium amplexicaule</i>	10	No	UPL																																	
4. <i>Melilotus sp.</i>	10	No																																		
5. <i>Descurainia pinnata</i>	2	No	UPL																																	
6. <i>Hirschfeldia incana</i>	1	No	UPL																																	
7. _____																																				
8. _____																																				
Total Cover: <span style="background-color: #e0e0e0; padding: 2px;">93 %</span>																																				
<b>Woody Vine Stratum</b>				<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="radio"/> No <input type="radio"/>																																
1. _____																																				
2. _____																																				
Total Cover: <span style="background-color: #e0e0e0; padding: 2px;">%</span>																																				
% Bare Ground in Herb Stratum _____ %		% Cover of Biotic Crust _____ %																																		

Remarks:

**SOIL**

Sampling Point: DS-4

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

Depth (inches)	Matrix		Redox Features				Texture <sup>3</sup>	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-14	10 YR 4/3	100					Loamy sand	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix.    <sup>2</sup>Location: PL=Pore Lining, RC=Root Channel, M=Matrix.  
<sup>3</sup>Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

<p><b>Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)</b></p> <input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) ( <b>LRR C</b> ) <input type="checkbox"/> 1 cm Muck (A9) ( <b>LRR D</b> ) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8) <input type="checkbox"/> Vernal Pools (F9)	<p><b>Indicators for Problematic Hydric Soils:<sup>4</sup></b></p> <input type="checkbox"/> 1 cm Muck (A9) ( <b>LRR C</b> ) <input type="checkbox"/> 2 cm Muck (A10) ( <b>LRR B</b> ) <input type="checkbox"/> Reduced Vertic (F18) <input type="checkbox"/> Red Parent Material (TF2) <input type="checkbox"/> Other (Explain in Remarks)
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<sup>4</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present.

**Restrictive Layer (if present):**

Type: \_\_\_\_\_

Depth (inches): \_\_\_\_\_

Remarks: \_\_\_\_\_

**Hydric Soil Present?** Yes  No

**HYDROLOGY**

<p><b>Wetland Hydrology Indicators:</b></p> <p>Primary Indicators (any one indicator is sufficient)</p> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) ( <b>Nonriverine</b> ) <input type="checkbox"/> Sediment Deposits (B2) ( <b>Nonriverine</b> ) <input type="checkbox"/> Drift Deposits (B3) ( <b>Nonriverine</b> ) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Salt Crust (B11) <input type="checkbox"/> Biotic Crust (B12) <input type="checkbox"/> Aquatic Invertebrates (B13) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6) <input type="checkbox"/> Other (Explain in Remarks)	<p><b>Secondary Indicators (2 or more required)</b></p> <input type="checkbox"/> Water Marks (B1) ( <b>Riverine</b> ) <input type="checkbox"/> Sediment Deposits (B2) ( <b>Riverine</b> ) <input type="checkbox"/> Drift Deposits (B3) ( <b>Riverine</b> ) <input checked="" type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Shallow Aquitard (D3) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
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**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: \_\_\_\_\_

## WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Tierra del Sol Solar Farm Project City/County: Boulevard, San Diego Sampling Date: 4/8/13  
 Applicant/Owner: Tierra del Sol Solar Farm LLC State: CA Sampling Point: DS-5  
 Investigator(s): Andy Thomson, Danielle Mullen Section, Township, Range: Section 13, Township 18 South, Range 6 East  
 Landform (hillslope, terrace, etc.): \_\_\_\_\_ Local relief (concave, convex, none): \_\_\_\_\_ Slope (%): \_\_\_\_\_  
 Subregion (LRR): C - Mediterranean California Lat: 6546751.905 Long: 1808605.697 Datum: NAD83  
 Soil Map Unit Name: Tollhouse rocky coarse sandy loam, 5-30% slopes NWI classification: \_\_\_\_\_

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation  Soil  or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation  Soil  or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	<b>Is the Sampled Area within a Wetland?</b> Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks: <u>Sampling point is in narrow channel in oak woodlands.</u>	

### VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status		
1. <u>Quercus agrifolia</u>	20	Yes	UPL		
2. _____					
3. _____					
4. _____					
Total Cover:	20 %				
Sapling/Shrub Stratum					
1. <u>Baccharis pilularis</u>	5	Yes	UPL		
2. _____					
3. _____					
4. _____					
5. _____					
Total Cover:	5 %				
Herb Stratum					
1. <u>Muhlenbergia rigens</u>	5	Yes	FAC		
2. <u>Galium aparine</u>	5	Yes	FACU		
3. <u>Juncus mexicanus</u>	2	No	FACW		
4. <u>Carex praegracilis</u>	2	No	FACW		
5. <u>Rumex salicifolius</u>	1	No	FACW		
6. <u>Claytonia parviflora</u>	1	No	FACU		
7. _____					
8. _____					
Total Cover:	16 %				
Woody Vine Stratum					
1. _____					
2. _____					
Total Cover:	%				
% Bare Ground in Herb Stratum _____ %		% Cover of Biotic Crust _____ %			

**Dominance Test worksheet:**

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 25.0 % (A/B)

**Prevalence Index worksheet:**

Total % Cover of:	Multiply by:		
OBL species	x 1 =	0	
FACW species	x 2 =	10	
FAC species	x 3 =	15	
FACU species	x 4 =	24	
UPL species	x 5 =	125	
Column Totals:		41 (A)	174 (B)
Prevalence Index = B/A =		4.24	

**Hydrophytic Vegetation Indicators:**

Dominance Test is >50%

Prevalence Index is ≤3.0<sup>1</sup>

Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)

Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)

<sup>1</sup>Indicators of hydric soil and wetland hydrology must be present.

**Hydrophytic Vegetation Present?** Yes  No

Remarks: \_\_\_\_\_

**SOIL**

Sampling Point: DS-5

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

Depth (inches)	Matrix		Redox Features				Texture <sup>3</sup>	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-14	10 YR 3/1	100					Sandy loam	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix.    <sup>2</sup>Location: PL=Pore Lining, RC=Root Channel, M=Matrix.  
<sup>3</sup>Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

<b>Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)</b> <input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) ( <b>LRR C</b> ) <input type="checkbox"/> 1 cm Muck (A9) ( <b>LRR D</b> ) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> Sandy Gleyed Matrix (S4)		<input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8) <input type="checkbox"/> Vernal Pools (F9)	<b>Indicators for Problematic Hydric Soils:<sup>4</sup></b> <input type="checkbox"/> 1 cm Muck (A9) ( <b>LRR C</b> ) <input type="checkbox"/> 2 cm Muck (A10) ( <b>LRR B</b> ) <input type="checkbox"/> Reduced Vertic (F18) <input type="checkbox"/> Red Parent Material (TF2) <input type="checkbox"/> Other (Explain in Remarks)
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<sup>4</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present.

<b>Restrictive Layer (if present):</b> Type: _____ Depth (inches): _____ Remarks: _____	<b>Hydric Soil Present?</b> Yes <input type="radio"/> No <input checked="" type="radio"/>
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**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> Primary Indicators (any one indicator is sufficient) <input checked="" type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) ( <b>Nonriverine</b> ) <input type="checkbox"/> Sediment Deposits (B2) ( <b>Nonriverine</b> ) <input type="checkbox"/> Drift Deposits (B3) ( <b>Nonriverine</b> ) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Salt Crust (B11) <input type="checkbox"/> Biotic Crust (B12) <input type="checkbox"/> Aquatic Invertebrates (B13) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6) <input type="checkbox"/> Other (Explain in Remarks)	<b>Secondary Indicators (2 or more required)</b> <input type="checkbox"/> Water Marks (B1) ( <b>Riverine</b> ) <input type="checkbox"/> Sediment Deposits (B2) ( <b>Riverine</b> ) <input type="checkbox"/> Drift Deposits (B3) ( <b>Riverine</b> ) <input checked="" type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5)
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<b>Field Observations:</b> Surface Water Present?    Yes <input checked="" type="radio"/> No <input type="radio"/> Depth (inches): _____ Water Table Present?    Yes <input checked="" type="radio"/> No <input type="radio"/> Depth (inches):    8 Saturation Present?    Yes <input checked="" type="radio"/> No <input type="radio"/> Depth (inches):    6	<b>Wetland Hydrology Present?</b> Yes <input checked="" type="radio"/> No <input type="radio"/>
--	---

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

Remarks:

**WETLAND DETERMINATION DATA FORM - Arid West Region**

Project/Site: Tierra del Sol Solar Farm Project City/County: Boulevard, San Diego Sampling Date: 4/8/13  
 Applicant/Owner: Tierra del Sol Solar Farm LLC State: CA Sampling Point: DS-6  
 Investigator(s): Andy Thomson, Danielle Mullen Section, Township, Range: Section 13, Township 18 South, Range 6 East  
 Landform (hillslope, terrace, etc.): \_\_\_\_\_ Local relief (concave, convex, none): \_\_\_\_\_ Slope (%): \_\_\_\_\_  
 Subregion (LRR): C - Mediterranean California Lat: 6547895.529 Long: 1813980.900 Datum: NAD83  
 Soil Map Unit Name: La Posta loamy coarse sand, 5-30% slopes, eroded NWI classification: \_\_\_\_\_

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation  Soil  or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation  Soil  or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	<b>Is the Sampled Area within a Wetland?</b> Yes <input checked="" type="radio"/> No <input type="radio"/>
Remarks: Sampling point is within an artificial impoundment.	

**VEGETATION**

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status																																	
1. <i>Salix laevigata</i>	80	Yes	FACW	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)  Total Number of Dominant Species Across All Strata: <u>1</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100.0 %</u> (A/B)																																
2. _____																																				
3. _____																																				
4. _____																																				
Total Cover: <u>80 %</u>				<b>Prevalence Index worksheet:</b> <table style="width:100%; border-collapse: collapse;"> <tr> <td align="center" colspan="2">Total % Cover of:</td> <td align="center" colspan="2">Multiply by:</td> </tr> <tr> <td>OBL species</td> <td align="center"><u>  </u></td> <td align="center">x 1 =</td> <td align="center"><u>0</u></td> </tr> <tr> <td>FACW species</td> <td align="center"><u>80</u></td> <td align="center">x 2 =</td> <td align="center"><u>160</u></td> </tr> <tr> <td>FAC species</td> <td align="center"><u>  </u></td> <td align="center">x 3 =</td> <td align="center"><u>0</u></td> </tr> <tr> <td>FACU species</td> <td align="center"><u>  </u></td> <td align="center">x 4 =</td> <td align="center"><u>0</u></td> </tr> <tr> <td>UPL species</td> <td align="center"><u>  </u></td> <td align="center">x 5 =</td> <td align="center"><u>0</u></td> </tr> <tr> <td>Column Totals:</td> <td align="center"><u>80</u></td> <td align="center">(A)</td> <td align="center"><u>160</u> (B)</td> </tr> <tr> <td align="center" colspan="3">Prevalence Index = B/A =</td> <td align="center"><u>2.00</u></td> </tr> </table>	Total % Cover of:		Multiply by:		OBL species	<u>  </u>	x 1 =	<u>0</u>	FACW species	<u>80</u>	x 2 =	<u>160</u>	FAC species	<u>  </u>	x 3 =	<u>0</u>	FACU species	<u>  </u>	x 4 =	<u>0</u>	UPL species	<u>  </u>	x 5 =	<u>0</u>	Column Totals:	<u>80</u>	(A)	<u>160</u> (B)	Prevalence Index = B/A =			<u>2.00</u>
Total % Cover of:		Multiply by:																																		
OBL species	<u>  </u>	x 1 =	<u>0</u>																																	
FACW species	<u>80</u>	x 2 =	<u>160</u>																																	
FAC species	<u>  </u>	x 3 =	<u>0</u>																																	
FACU species	<u>  </u>	x 4 =	<u>0</u>																																	
UPL species	<u>  </u>	x 5 =	<u>0</u>																																	
Column Totals:	<u>80</u>	(A)	<u>160</u> (B)																																	
Prevalence Index = B/A =			<u>2.00</u>																																	
<b>Sapling/Shrub Stratum</b>																																				
1. _____																																				
2. _____																																				
3. _____																																				
4. _____																																				
5. _____																																				
Total Cover: <u>  </u> %																																				
<b>Herb Stratum</b>																																				
1. <i>Bromus sp.</i>	1	No		<b>Hydrophytic Vegetation Indicators:</b> <input checked="" type="checkbox"/> Dominance Test is >50% <input checked="" type="checkbox"/> Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present.																																
2. _____																																				
3. _____																																				
4. _____																																				
5. _____																																				
6. _____																																				
7. _____																																				
8. _____																																				
Total Cover: <u>1 %</u>																																				
<b>Woody Vine Stratum</b>																																				
1. _____																																				
2. _____																																				
Total Cover: <u>  </u> %																																				
% Bare Ground in Herb Stratum <u>  </u> %		% Cover of Biotic Crust <u>  </u> %																																		

Remarks:

**SOIL**

Sampling Point: DS-6

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

Depth (inches)	Matrix		Redox Features				Texture <sup>3</sup>	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-8	10 YR 3/1						Sandy clay loam	
8-16							Sand	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix.    <sup>2</sup>Location: PL=Pore Lining, RC=Root Channel, M=Matrix.  
<sup>3</sup>Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

<p><b>Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)</b></p> <input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) ( <b>LRR C</b> ) <input type="checkbox"/> 1 cm Muck (A9) ( <b>LRR D</b> ) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input checked="" type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8) <input type="checkbox"/> Vernal Pools (F9)	<p><b>Indicators for Problematic Hydric Soils:<sup>4</sup></b></p> <input type="checkbox"/> 1 cm Muck (A9) ( <b>LRR C</b> ) <input type="checkbox"/> 2 cm Muck (A10) ( <b>LRR B</b> ) <input type="checkbox"/> Reduced Vertic (F18) <input type="checkbox"/> Red Parent Material (TF2) <input type="checkbox"/> Other (Explain in Remarks)
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<sup>4</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present.

**Restrictive Layer (if present):**

Type: \_\_\_\_\_

Depth (inches): \_\_\_\_\_

Remarks: \_\_\_\_\_

**Hydric Soil Present?**    Yes     No

**HYDROLOGY**

<p><b>Wetland Hydrology Indicators:</b></p> <p>Primary Indicators (any one indicator is sufficient)</p> <input checked="" type="checkbox"/> Surface Water (A1) <input checked="" type="checkbox"/> High Water Table (A2) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) ( <b>Nonriverine</b> ) <input type="checkbox"/> Sediment Deposits (B2) ( <b>Nonriverine</b> ) <input type="checkbox"/> Drift Deposits (B3) ( <b>Nonriverine</b> ) <input checked="" type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input checked="" type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Salt Crust (B11) <input type="checkbox"/> Biotic Crust (B12) <input type="checkbox"/> Aquatic Invertebrates (B13) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6) <input type="checkbox"/> Other (Explain in Remarks)	<p><b>Secondary Indicators (2 or more required)</b></p> <input type="checkbox"/> Water Marks (B1) ( <b>Riverine</b> ) <input type="checkbox"/> Sediment Deposits (B2) ( <b>Riverine</b> ) <input type="checkbox"/> Drift Deposits (B3) ( <b>Riverine</b> ) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5)
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**Field Observations:**

Surface Water Present?	Yes <input checked="" type="radio"/> No <input type="radio"/>	Depth (inches): _____
Water Table Present?	Yes <input checked="" type="radio"/> No <input type="radio"/>	Depth (inches): 6
Saturation Present? (includes capillary fringe)	Yes <input checked="" type="radio"/> No <input type="radio"/>	Depth (inches): 4

**Wetland Hydrology Present?**    Yes     No

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

Remarks: Adventitious roots growing off Salix.

**WETLAND DETERMINATION DATA FORM - Arid West Region**

Project/Site: Tierra del Sol Solar Farm Project City/County: Boulevard, San Diego Sampling Date: 4/8/13  
 Applicant/Owner: Tierra del Sol Solar Farm LLC State: CA Sampling Point: DS-7  
 Investigator(s): Andy Thomson, Danielle Mullen Section, Township, Range: Section 13, Township 18 South, Range 6 East  
 Landform (hillslope, terrace, etc.): \_\_\_\_\_ Local relief (concave, convex, none): \_\_\_\_\_ Slope (%): \_\_\_\_\_  
 Subregion (LRR): C - Mediterranean California Lat: 6547807.762 Long: 1813922.598 Datum: NAD83  
 Soil Map Unit Name: La Posta loamy coarse sand, 5-30% slopes, eroded NWI classification: \_\_\_\_\_

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation  Soil  or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation  Soil  or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	<b>Is the Sampled Area within a Wetland?</b> Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks: _____	

**VEGETATION**

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	<b>Dominance Test worksheet:</b>	
1. <u>Quercus agrifolia</u>	70	Yes	UPL	Number of Dominant Species That Are OBL, FACW, or FAC:	0 (A)
2. <u>Salix laevigata</u>	10	No	FACW	Total Number of Dominant Species Across All Strata:	2 (B)
3. _____				Percent of Dominant Species That Are OBL, FACW, or FAC:	0.0 % (A/B)
4. _____					
Total Cover:			80 %		
Sapling/Shrub Stratum				<b>Prevalence Index worksheet:</b>	
1. _____				Total % Cover of: _____ Multiply by: _____	
2. _____				OBL species	x 1 = 0
3. _____				FACW species	10 x 2 = 20
4. _____				FAC species	1 x 3 = 3
5. _____				FACU species	6 x 4 = 24
Total Cover:			%	UPL species	123 x 5 = 615
				Column Totals:	140 (A) 662 (B)
				Prevalence Index = B/A = 4.73	
Herb Stratum				<b>Hydrophytic Vegetation Indicators:</b>	
1. <u>Bromus hordaceus</u>	50	Yes	UPL	<input checked="" type="checkbox"/> Dominance Test is >50% <input checked="" type="checkbox"/> Prevalence Index is ≤3.0 <sup>1</sup>	
2. <u>Claytonia parviflora</u>	5	No	FACU	<input type="checkbox"/> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)	
3. <u>Solidago californica</u>	2	No	UPL	<input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)	
4. <u>Amsinckia menziesii</u>	1	No	UPL		
5. <u>Melilotus indicus</u>	1	No	FACU		
6. <u>Rumex crispus</u>	1	No	FAC		
7. _____					
8. _____					
Total Cover:			60 %		
Woody Vine Stratum					
1. _____					
2. _____					
Total Cover:			%		
% Bare Ground in Herb Stratum _____ %	% Cover of Biotic Crust _____ %			<b>Hydrophytic Vegetation Present?</b> Yes <input type="radio"/> No <input checked="" type="radio"/>	
Remarks: _____					

**SOIL**

Sampling Point: DS-7

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

Depth (inches)	Matrix		Redox Features				Texture <sup>3</sup>	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-12	10 YR 4/3						Sandy loam	
12-16	10 YR 5/3						Silty sand	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix.    <sup>2</sup>Location: PL=Pore Lining, RC=Root Channel, M=Matrix.  
<sup>3</sup>Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

<b>Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)</b> <input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) ( <b>LRR C</b> ) <input type="checkbox"/> 1 cm Muck (A9) ( <b>LRR D</b> ) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> Sandy Gleyed Matrix (S4)		<input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8) <input type="checkbox"/> Vernal Pools (F9)	<b>Indicators for Problematic Hydric Soils:<sup>4</sup></b> <input type="checkbox"/> 1 cm Muck (A9) ( <b>LRR C</b> ) <input type="checkbox"/> 2 cm Muck (A10) ( <b>LRR B</b> ) <input type="checkbox"/> Reduced Vertic (F18) <input type="checkbox"/> Red Parent Material (TF2) <input type="checkbox"/> Other (Explain in Remarks)
--	--	---	--

<sup>4</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present.

<b>Restrictive Layer (if present):</b> Type: _____ Depth (inches): _____ Remarks: _____	<b>Hydric Soil Present?</b> Yes <input type="radio"/> No <input checked="" type="radio"/>
--	---

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> Primary Indicators (any one indicator is sufficient) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) ( <b>Nonriverine</b> ) <input type="checkbox"/> Sediment Deposits (B2) ( <b>Nonriverine</b> ) <input type="checkbox"/> Drift Deposits (B3) ( <b>Nonriverine</b> ) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Salt Crust (B11) <input type="checkbox"/> Biotic Crust (B12) <input type="checkbox"/> Aquatic Invertebrates (B13) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6) <input type="checkbox"/> Other (Explain in Remarks)	<b>Secondary Indicators (2 or more required)</b> <input type="checkbox"/> Water Marks (B1) ( <b>Riverine</b> ) <input type="checkbox"/> Sediment Deposits (B2) ( <b>Riverine</b> ) <input type="checkbox"/> Drift Deposits (B3) ( <b>Riverine</b> ) <input checked="" type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5)
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<b>Field Observations:</b> Surface Water Present?    Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Water Table Present?    Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Saturation Present? (includes capillary fringe)    Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____	<b>Wetland Hydrology Present?</b> Yes <input type="radio"/> No <input checked="" type="radio"/>
--	---

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

Remarks: Data station taken in 1-foot wide channel.

**APPROVED JURISDICTIONAL DETERMINATION FORM**  
**U.S. Army Corps of Engineers**

This form should be completed by following the instructions provided in Section IV of the JD Form Instructional Guidebook.

**SECTION I: BACKGROUND INFORMATION**

**A. REPORT COMPLETION DATE FOR APPROVED JURISDICTIONAL DETERMINATION (JD): March 2012**

**B. DISTRICT OFFICE, FILE NAME, AND NUMBER: Los Angeles District, Tierra del Sol, No Number Assigned**

**C. PROJECT LOCATION AND BACKGROUND INFORMATION:**

State: California County/parish/borough: San Diego County City: Boulevard  
Center coordinates of site (lat/long in degree decimal format): Lat. 32.605025° N, Long. 116.325361° W.  
Universal Transverse Mercator:

Name of nearest waterbody:

Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows: Pacific Ocean

Name of watershed or Hydrologic Unit Code (HUC): Cottonwood-Tijuana, Catalog Unit 180703050501

Check if map/diagram of review area and/or potential jurisdictional areas is/are available upon request.

Check if other sites (e.g., offsite mitigation sites, disposal sites, etc...) are associated with this action and are recorded on a different JD form.

**D. REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY):**

Office (Desk) Determination. Date:

Field Determination. Date(s): March 9, 2012

**SECTION II: SUMMARY OF FINDINGS**

**A. RHA SECTION 10 DETERMINATION OF JURISDICTION.**

There **Are no** "navigable waters of the U.S." within Rivers and Harbors Act (RHA) jurisdiction (as defined by 33 CFR part 329) in the review area. [Required]

Waters subject to the ebb and flow of the tide.

Waters are presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce.  
Explain: .

**B. CWA SECTION 404 DETERMINATION OF JURISDICTION.**

There **Are no** "waters of the U.S." within Clean Water Act (CWA) jurisdiction (as defined by 33 CFR part 328) in the review area. [Required]

**1. Waters of the U.S.**

**a. Indicate presence of waters of U.S. in review area (check all that apply):<sup>1</sup>**

TNWs, including territorial seas

Wetlands adjacent to TNWs

Relatively permanent waters<sup>2</sup> (RPWs) that flow directly or indirectly into TNWs

Non-RPWs that flow directly or indirectly into TNWs

Wetlands directly abutting RPWs that flow directly or indirectly into TNWs

Wetlands adjacent to but not directly abutting RPWs that flow directly or indirectly into TNWs

Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs

Impoundments of jurisdictional waters

Isolated (interstate or intrastate) waters, including isolated wetlands

**b. Identify (estimate) size of waters of the U.S. in the review area:**

Non-wetland waters: 0 linear feet: width (ft) and/or 0 acres.

Wetlands: 0.1 acres.

**c. Limits (boundaries) of jurisdiction based on: 1987 Delineation Manual**

Elevation of established OHWM (if known): unknown, but site elevation is approximately 3,600 feet AMSL.

**2. Non-regulated waters/wetlands (check if applicable):<sup>3</sup>**

Potentially jurisdictional waters and/or wetlands were assessed within the review area and determined to be not jurisdictional.  
Explain: **Wetlands are isolated and do not have hydrologic connection to TNW or any tributary to TNW. Thus, no significant nexus to a TNW.**

<sup>1</sup> Boxes checked below shall be supported by completing the appropriate sections in Section III below.

<sup>2</sup> For purposes of this form, an RPW is defined as a tributary that is not a TNW and that typically flows year-round or has continuous flow at least "seasonally" (e.g., typically 3 months).

<sup>3</sup> Supporting documentation is presented in Section III.F.

### SECTION III: CWA ANALYSIS

#### A. TNWs AND WETLANDS ADJACENT TO TNWs

The agencies will assert jurisdiction over TNWs and wetlands adjacent to TNWs. If the aquatic resource is a TNW, complete Section III.A.1 and Section III.D.1. only; if the aquatic resource is a wetland adjacent to a TNW, complete Sections III.A.1 and 2 and Section III.D.1.; otherwise, see Section III.B below.

1. **TNW**

Identify TNW: .

Summarize rationale supporting determination: .

2. **Wetland adjacent to TNW**

Summarize rationale supporting conclusion that wetland is “adjacent”:

#### B. CHARACTERISTICS OF TRIBUTARY (THAT IS NOT A TNW) AND ITS ADJACENT WETLANDS (IF ANY):

This section summarizes information regarding characteristics of the tributary and its adjacent wetlands, if any, and it helps determine whether or not the standards for jurisdiction established under *Rapanos* have been met.

The agencies will assert jurisdiction over non-navigable tributaries of TNWs where the tributaries are “relatively permanent waters” (RPWs), i.e. tributaries that typically flow year-round or have continuous flow at least seasonally (e.g., typically 3 months). A wetland that directly abuts an RPW is also jurisdictional. If the aquatic resource is not a TNW, but has year-round (perennial) flow, skip to Section III.D.2. If the aquatic resource is a wetland directly abutting a tributary with perennial flow, skip to Section III.D.4.

A wetland that is adjacent to but that does not directly abut an RPW requires a significant nexus evaluation. Corps districts and EPA regions will include in the record any available information that documents the existence of a significant nexus between a relatively permanent tributary that is not perennial (and its adjacent wetlands if any) and a traditional navigable water, even though a significant nexus finding is not required as a matter of law.

If the waterbody<sup>4</sup> is not an RPW, or a wetland directly abutting an RPW, a JD will require additional data to determine if the waterbody has a significant nexus with a TNW. If the tributary has adjacent wetlands, the significant nexus evaluation must consider the tributary in combination with all of its adjacent wetlands. This significant nexus evaluation that combines, for analytical purposes, the tributary and all of its adjacent wetlands is used whether the review area identified in the JD request is the tributary, or its adjacent wetlands, or both. If the JD covers a tributary with adjacent wetlands, complete Section III.B.1 for the tributary, Section III.B.2 for any onsite wetlands, and Section III.B.3 for all wetlands adjacent to that tributary, both onsite and offsite. The determination whether a significant nexus exists is determined in Section III.C below.

1. **Characteristics of non-TNWs that flow directly or indirectly into TNW**

(i) **General Area Conditions:**

Watershed size: 495 **square miles**

Drainage area: 0.1 **square miles**

Average annual rainfall: 10 inches

Average annual snowfall: 0 inches

(ii) **Physical Characteristics:**

(a) **Relationship with TNW:**

Tributary flows directly into TNW.

Tributary flows through **10 (or more)** tributaries before entering TNW.

Project waters are **Pick List** river miles from TNW.

Project waters are **Pick List** river miles from RPW.

Project waters are **30 (or more)** aerial (straight) miles from TNW.

Project waters are **Pick List** aerial (straight) miles from RPW.

Project waters cross or serve as state boundaries. Explain: Topography on site suggests that stormwater flows travel south and cross the California border into Mexico.

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<sup>4</sup> Note that the Instructional Guidebook contains additional information regarding swales, ditches, washes, and erosional features generally and in the arid West.

Identify flow route to TNW<sup>5</sup>: Topography on site and surrounding region suggests that stormwater flows travel south into Mexico and west towards the Pacific Ocean (i.e., nearest TNW). Because most of the adjacent watershed is in Mexico, river miles and RPW could not be determined.

Tributary stream order, if known:

(b) General Tributary Characteristics (check all that apply):

Tributary is:  Natural  
 Artificial (man-made). Explain:  
 Manipulated (man-altered). Explain:

Tributary properties with respect to top of bank (estimate):

Average width: less than 1 foot wide feet  
Average depth: unknown, no defined bed/bank feet  
Average side slopes: **Pick List.**

Primary tributary substrate composition (check all that apply):

Silts  Sands  Concrete  
 Cobbles  Gravel  Muck  
 Bedrock  Vegetation. Type/% cover:  
 Other. Explain: No defined waters of the U.S. or any such tributaries on site; however, on site soils are sandy and

gravelly.

Tributary condition/stability [e.g., highly eroding, sloughing banks]. Explain: Unknown. See "Other" explanation above.

Presence of run/riffle/pool complexes. Explain: Unknown. See "Other" explanation above.

Tributary geometry: **Meandering**

Tributary gradient (approximate average slope): Unknown. See "Other" explanation above. %

(c) Flow:

Tributary provides for: **Ephemeral flow**

Estimate average number of flow events in review area/year: **6-10**

Describe flow regime: Ephemeral, low flow type of regime where onsite flows are short duration, directly related to rainfall, and not substantial enough to result in an OHWM.

Other information on duration and volume: Duration of flows on site are short and ephemeral in character. The flow volume is directly proportionate and dependant on site precipitation levels.

Surface flow is: **Discrete and confined.** Characteristics: Onsite elevations peak near the center of the site and suggest water flows toward the southeast and southwest portions of the site. Surface flows are concentrated to swale areas that are unvegetated, narrow (i.e., <1foot wide), and support no defined bed or bank. The areas that support surface flows are generally located within the northern and central portions of the site, are discrete from one another, and short in length (e.g., <100 linear feet) before penetrating the onsite soils. The areas that support surface water flows on site are confined to the small (i.e., <1foot wide and <100feet long) unvegetated swale areas which do not extend through or directly connect to any drainages off site.

Subsurface flow: **Unknown.** Explain findings: No direct evidence of subsurface flow (emergent wetland vegetation, etc.); however, surface flows are limited to the swale features on site and there are no signs of surfacewater connectivity to offsite areas. Thus, water that does not evaporate, permeates the sandy soils and flows subsurface.

Dye (or other) test performed: No.

Tributary has (check all that apply):

Bed and banks  
 OHWM<sup>6</sup> (check all indicators that apply):  
 clear, natural line impressed on the bank  the presence of litter and debris  
 changes in the character of soil  destruction of terrestrial vegetation  
 shelving  the presence of wrack line  
 vegetation matted down, bent, or absent  sediment sorting  
 leaf litter disturbed or washed away  scour  
 sediment deposition  multiple observed or predicted flow events  
 water staining  abrupt change in plant community  
 other (list):

Discontinuous OHWM.<sup>7</sup> Explain: no defined continuous bed/bank; unvegetated areas with sandy soil are small (< 1' wide) and also discontinuous).

<sup>5</sup> Flow route can be described by identifying, e.g., tributary a, which flows through the review area, to flow into tributary b, which then flows into TNW.

<sup>6</sup> A natural or man-made discontinuity in the OHWM does not necessarily sever jurisdiction (e.g., where the stream temporarily flows underground, or where the OHWM has been removed by development or agricultural practices). Where there is a break in the OHWM that is unrelated to the waterbody's flow regime (e.g., flow over a rock outcrop or through a culvert), the agencies will look for indicators of flow above and below the break.

<sup>7</sup> Ibid.

If factors other than the OHWM were used to determine lateral extent of CWA jurisdiction (check all that apply):

- |  |  |
|--|--|
| <input type="checkbox"/> High Tide Line indicated by:              | <input type="checkbox"/> Mean High Water Mark indicated by:            |
| <input type="checkbox"/> oil or scum line along shore objects      | <input type="checkbox"/> survey to available datum;                    |
| <input type="checkbox"/> fine shell or debris deposits (foreshore) | <input type="checkbox"/> physical markings;                            |
| <input type="checkbox"/> physical markings/characteristics         | <input type="checkbox"/> vegetation lines/changes in vegetation types. |
| <input type="checkbox"/> tidal gauges                              |  |
| <input type="checkbox"/> other (list):                             |  |

**(iii) Chemical Characteristics:**

Characterize tributary (e.g., water color is clear, discolored, oily film; water quality; general watershed characteristics, etc.).

Explain: No water detected during field investigations.

Identify specific pollutants, if known: None known.

(iv) **Biological Characteristics. Channel supports (check all that apply):**

- Riparian corridor. Characteristics (type, average width):
- Wetland fringe. Characteristics:
- Habitat for:
  - Federally Listed species. Explain findings:
  - Fish/spawn areas. Explain findings:
  - Other environmentally-sensitive species. Explain findings:
  - Aquatic/wildlife diversity. Explain findings:

2. **Characteristics of wetlands adjacent to non-TNW that flow directly or indirectly into TNW**

(i) **Physical Characteristics:**

(a) General Wetland Characteristics:

Properties:

Wetland size: 0.1 acres

Wetland type. Explain: isolated wetlands, non-RPW, no significant nexus.

Wetland quality. Explain:

Project wetlands cross or serve as state boundaries. Explain: Wetlands on site are isolated and do not serve as or cross state boundaries.

(b) General Flow Relationship with Non-TNW:

Flow is: **No Flow**. Explain: Wetland is isolated on site and there is no evidence of downstream flow connectivity with a non-TNW.

Surface flow is: **Confined**

Characteristics: Wetland is confined to a small (0.1 acre) swale in the central-eastern portion of the site and there is no evidence of downstream surface flow connectivity with any non-TNW.

Subsurface flow: **Unknown**. Explain findings: Wetland is confined to a small (0.1 acre) swale in the central-eastern portion of the site and there is no evidence of downstream subsurface flow connectivity with any non-TNW.

Dye (or other) test performed:

(c) Wetland Adjacency Determination with Non-TNW:

Directly abutting

Not directly abutting

Discrete wetland hydrologic connection. Explain:

Ecological connection. Explain:

Separated by berm/barrier. Explain:

(d) Proximity (Relationship) to TNW

Project wetlands are **30 (or more)** river miles from TNW.

Project waters are **30 (or more)** aerial (straight) miles from TNW.

Flow is from: **No Flow**.

Estimate approximate location of wetland as within the **500-year or greater** floodplain.

(ii) **Chemical Characteristics:**

Characterize wetland system (e.g., water color is clear, brown, oil film on surface; water quality; general watershed characteristics; etc.). Explain: No water detected during the field investigations.

Identify specific pollutants, if known: None known.

(iii) **Biological Characteristics. Wetland supports (check all that apply):**

Riparian buffer. Characteristics (type, average width):

Vegetation type/percent cover. Explain: Wetland is within mapped a red shank chaparral vegetation community.

Vegetation directly associated with wetland is primarily herbs (i.e., Polypogon monspeliensis) and one willow tree (Salix exigua).

Habitat for:

Federally Listed species. Explain findings:

Fish/spawn areas. Explain findings:

Other environmentally-sensitive species. Explain findings:

Aquatic/wildlife diversity. Explain findings:

3. **Characteristics of all wetlands adjacent to the tributary (if any)**

All wetland(s) being considered in the cumulative analysis: **1**

Approximately ( 0.1 ) acres in total are being considered in the cumulative analysis.

For each wetland, specify the following:

<u>Directly abuts? (Y/N)</u>	<u>Size (in acres)</u>	<u>Directly abuts? (Y/N)</u>	<u>Size (in acres)</u>
No	0.1		

Summarize overall biological, chemical and physical functions being performed: The wetland is located within the central-eastern portion of the site and is characterized as a swale type feature that supports a small area (i.e., less than 400 square feet) of non-RPW and a surrounding (directly abutting) ring of herbaceous vegetation; totaling 0.1 acres of wetlands. This wetland area does not support habitat for any special-status species and most likely receives seasonal water via precipitation events and drainage from upstream areas. Function of the wetland is most likely water filtration.

### C. SIGNIFICANT NEXUS DETERMINATION

**A significant nexus analysis will assess the flow characteristics and functions of the tributary itself and the functions performed by any wetlands adjacent to the tributary to determine if they significantly affect the chemical, physical, and biological integrity of a TNW. For each of the following situations, a significant nexus exists if the tributary, in combination with all of its adjacent wetlands, has more than a speculative or insubstantial effect on the chemical, physical and/or biological integrity of a TNW. Considerations when evaluating significant nexus include, but are not limited to the volume, duration, and frequency of the flow of water in the tributary and its proximity to a TNW, and the functions performed by the tributary and all its adjacent wetlands. It is not appropriate to determine significant nexus based solely on any specific threshold of distance (e.g. between a tributary and its adjacent wetland or between a tributary and the TNW). Similarly, the fact an adjacent wetland lies within or outside of a floodplain is not solely determinative of significant nexus.**

**Draw connections between the features documented and the effects on the TNW, as identified in the *Rapanos* Guidance and discussed in the Instructional Guidebook. Factors to consider include, for example:**

- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to carry pollutants or flood waters to TNWs, or to reduce the amount of pollutants or flood waters reaching a TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), provide habitat and lifecycle support functions for fish and other species, such as feeding, nesting, spawning, or rearing young for species that are present in the TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to transfer nutrients and organic carbon that support downstream foodwebs?
- Does the tributary, in combination with its adjacent wetlands (if any), have other relationships to the physical, chemical, or biological integrity of the TNW?

**Note: the above list of considerations is not inclusive and other functions observed or known to occur should be documented below:**

1. **Significant nexus findings for non-RPW that has no adjacent wetlands and flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary itself, then go to Section III.D:
2. **Significant nexus findings for non-RPW and its adjacent wetlands, where the non-RPW flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D: The wetland area on site has no hydrologic connectivity to any non-RPW that flows directly or indirectly to downstream TNWs. Any surface water flows on site are very short in duration (i.e., ephemeral), directly related to seasonal precipitation events, and conveyed through small swales (i.e., <1 foot wide, non defined bed/bank, <100 feet long). There is no evidence on site that suggests water flow is confluent and continues draining off site directly or indirectly into the nearest TNW (i.e., Pacific Ocean), which is approximately 48 miles away from the site. Thus, there is no significant nexus.
3. **Significant nexus findings for wetlands adjacent to an RPW but that do not directly abut the RPW.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D:

### D. DETERMINATIONS OF JURISDICTIONAL FINDINGS. THE SUBJECT WATERS/WETLANDS ARE (CHECK ALL THAT APPLY):

1. **TNWs and Adjacent Wetlands.** Check all that apply and provide size estimates in review area:  
 TNWs: linear feet width (ft), Or, acres.  
 Wetlands adjacent to TNWs: acres.
2. **RPWs that flow directly or indirectly into TNWs.**

- Tributaries of TNWs where tributaries typically flow year-round are jurisdictional. Provide data and rationale indicating that tributary is perennial:
- Tributaries of TNW where tributaries have continuous flow “seasonally” (e.g., typically three months each year) are jurisdictional. Data supporting this conclusion is provided at Section III.B. Provide rationale indicating that tributary flows seasonally:

Provide estimates for jurisdictional waters in the review area (check all that apply):

- Tributary waters:        linear feet        width (ft).
  - Other non-wetland waters:        acres.
- Identify type(s) of waters:        .

**3. Non-RPWs<sup>8</sup> that flow directly or indirectly into TNWs.**

- Waterbody that is not a TNW or an RPW, but flows directly or indirectly into a TNW, and it has a significant nexus with a TNW is jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide estimates for jurisdictional waters within the review area (check all that apply):

- Tributary waters:        linear feet        width (ft).
  - Other non-wetland waters:        acres.
- Identify type(s) of waters:        .

**4. Wetlands directly abutting an RPW that flow directly or indirectly into TNWs.**

- Wetlands directly abut RPW and thus are jurisdictional as adjacent wetlands.
  - Wetlands directly abutting an RPW where tributaries typically flow year-round. Provide data and rationale indicating that tributary is perennial in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW:        .
  - Wetlands directly abutting an RPW where tributaries typically flow “seasonally.” Provide data indicating that tributary is seasonal in Section III.B and rationale in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW:        .

Provide acreage estimates for jurisdictional wetlands in the review area:        acres.

**5. Wetlands adjacent to but not directly abutting an RPW that flow directly or indirectly into TNWs.**

- Wetlands that do not directly abut an RPW, but when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide acreage estimates for jurisdictional wetlands in the review area:        acres.

**6. Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs.**

- Wetlands adjacent to such waters, and have when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide estimates for jurisdictional wetlands in the review area:        acres.

**7. Impoundments of jurisdictional waters.<sup>9</sup>**

As a general rule, the impoundment of a jurisdictional tributary remains jurisdictional.

- Demonstrate that impoundment was created from “waters of the U.S.,” or
- Demonstrate that water meets the criteria for one of the categories presented above (1-6), or
- Demonstrate that water is isolated with a nexus to commerce (see E below).

**E. ISOLATED [INTERSTATE OR INTRA-STATE] WATERS, INCLUDING ISOLATED WETLANDS, THE USE, DEGRADATION OR DESTRUCTION OF WHICH COULD AFFECT INTERSTATE COMMERCE, INCLUDING ANY SUCH WATERS (CHECK ALL THAT APPLY):<sup>10</sup>**

<sup>8</sup>See Footnote # 3.

<sup>9</sup>To complete the analysis refer to the key in Section III.D.6 of the Instructional Guidebook.

<sup>10</sup> Prior to asserting or declining CWA jurisdiction based solely on this category, Corps Districts will elevate the action to Corps and EPA HQ for review consistent with the process described in the Corps/EPA Memorandum Regarding CWA Act Jurisdiction Following Rapanos.

- which are or could be used by interstate or foreign travelers for recreational or other purposes.
- from which fish or shellfish are or could be taken and sold in interstate or foreign commerce.
- which are or could be used for industrial purposes by industries in interstate commerce.
- Interstate isolated waters. Explain: .
- Other factors. Explain: .

**Identify water body and summarize rationale supporting determination:**

Provide estimates for jurisdictional waters in the review area (check all that apply):

- Tributary waters: linear feet width (ft).
- Other non-wetland waters: acres.  
Identify type(s) of waters: .
- Wetlands: acres.

**F. NON-JURISDICTIONAL WATERS, INCLUDING WETLANDS (CHECK ALL THAT APPLY):**

- If potential wetlands were assessed within the review area, these areas did not meet the criteria in the 1987 Corps of Engineers Wetland Delineation Manual and/or appropriate Regional Supplements.
- Review area included isolated waters with no substantial nexus to interstate (or foreign) commerce.
  - Prior to the Jan 2001 Supreme Court decision in “*SWANCC*,” the review area would have been regulated based solely on the “Migratory Bird Rule” (MBR).
- Waters do not meet the “Significant Nexus” standard, where such a finding is required for jurisdiction. Explain: **The onsite wetland does not have a hydrologic connectivity downstream or to offsite areas and does not have a substantial effect on the chemical, physical, or biological integrity of a TNW or any tributary to a TNW. Nearest TNW is the Pacific Ocean approximately 48 miles away from the site. Additionally the isolated wetland on site does not support any interstate or foreign commerce activities.**
- Other: (explain, if not covered above): **The wetland on site does not provide habitat for migratory bird species or related to habitat constituents for any special-status plants or wildlife species.**

Provide acreage estimates for non-jurisdictional waters in the review area, where the sole potential basis of jurisdiction is the MBR factors (i.e., presence of migratory birds, presence of endangered species, use of water for irrigated agriculture), using best professional judgment (check all that apply):

- Non-wetland waters (i.e., rivers, streams): linear feet width (ft).
- Lakes/ponds: acres.
- Other non-wetland waters: acres. List type of aquatic resource: .
- Wetlands: acres.

Provide acreage estimates for non-jurisdictional waters in the review area that do not meet the “Significant Nexus” standard, where such a finding is required for jurisdiction (check all that apply):

- Non-wetland waters (i.e., rivers, streams): linear feet, width (ft).
- Lakes/ponds: acres.
- Other non-wetland waters: 0.1 acres. List type of aquatic resource: isolated wetland, non-RPW, no significant nexus.
- Wetlands: 0.1 acres.

**SECTION IV: DATA SOURCES.**

**A. SUPPORTING DATA. Data reviewed for JD (check all that apply - checked items shall be included in case file and, where checked and requested, appropriately reference sources below):**

- Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant: .
- Data sheets prepared/submitted by or on behalf of the applicant/consultant.
  - Office concurs with data sheets/delineation report.
  - Office does not concur with data sheets/delineation report.
- Data sheets prepared by the Corps: .
- Corps navigable waters’ study: .
- U.S. Geological Survey Hydrologic Atlas: .
  - USGS NHD data.
  - USGS 8 and 12 digit HUC maps.
- U.S. Geological Survey map(s). Cite scale & quad name: 7.5-minute Tierra del Sol Quadrangle.
- USDA Natural Resources Conservation Service Soil Survey. Citation:USDA. 2011. NRCS. Websoil Survey.
- National wetlands inventory map(s). Cite name: .
- State/Local wetland inventory map(s): .

- FEMA/FIRM maps:
- 100-year Floodplain Elevation is: (National Geodetic Vertical Datum of 1929)
- Photographs:  Aerial (Name & Date): Digital Globe. 2008.  
or  Other (Name & Date):
- Previous determination(s). File no. and date of response letter:
- Applicable/supporting case law:
- Applicable/supporting scientific literature:
- Other information (please specify):

**B. ADDITIONAL COMMENTS TO SUPPORT JD:**



# **APPENDIX H**

*Evaluation of Biological Resources for the Soitec  
Mitigation Site*



## MEMORANDUM

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**To:** Patrick Brown, Soitec Development LLC  
**From:** David Hochart, Dudek  
**Subject:** Evaluation of Biological Resources for the Soitec Mitigation Site  
**Date:** November 21, 2013  
**cc:** Brock Ortega, Dudek  
Vipul Joshi, Dudek  
**Attachment(s):** Figures 1–4

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Soitec Development LLC is considering the purchase of 2,601.3 acres of open space (i.e., Soitec mitigation site) to satisfy habitat loss mitigation requirements for the development of solar facilities on properties located within the vicinity. The mitigation site, and the four solar farm sites, Tierra del Sol, Rugged LanEast and LanWest, are located within the unincorporated community of Boulevard, California (Figures 1 and 2). The mitigation site will serve as mitigation for the four solar farm projects. However, impacts have only been evaluated for the Tierra del Sol and Rugged sites; impacts for the LanEast and LanWest solar farms will be analyzed at a later date because neither project has been fully developed to a project-level of detail at this time. It is presumed that there will be sufficient habitat and resources available to mitigate for impacts on the LanEast and LanWest solar sites. Impacts for these sites will be evaluated prior to construction.

In order to locate and characterize natural communities, including habitats for special-status species within the mitigation site, Dudek conducted vegetation mapping in accordance with the County of San Diego Report Format and Content Requirements (County of San Diego 2010a). This memo provides the results of the vegetation mapping and outlines the potential for special-status plant and wildlife species to occur within the mitigation site.

### ENVIRONMENTAL SETTING (EXISTING CONDITIONS)

The mitigation site is situated between approximately 3,240 to 4,080 feet above mean sea level (amsl) in elevation. Land use on site, and in the surrounding areas, is a mixture of open space and rural residential areas. A portion of the mitigation land site borders Mexico and is separated by the border fence. The site is bisected by railroad tracks that are no longer in use. The western portion of the mitigation lands, just north of the train tracks, contains a large rock outcrop which

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is the highest peak of the property and contains limited vegetation. The remaining portions of the project contain gently rolling hills with several low points that indicate signs of water flow, i.e., potential drainages. Several of the larger potential drainages have artificial impoundments (e.g., berms and basins), most of which are dry at the time of the survey. During the site visits two areas contained water: a small area located within the center of the site, just south of the railroad tracks, and Lake Domingo which is located in the southeastern corner of the site. The mitigation site is generally within the Peninsular Range in a transitional area between the coast and the desert. It is in a dry climate with average temperatures near the community of Campo ranging from approximately 34–94°F. This community generally receives an average rainfall of less than 15 inches per year (Western Regional Climate Center 2013).

According to USDA (2013), there are four soil types found in the project area, and descriptions based on those by Bowman (1973) and the Web Soil Survey appear as follows.

Acid igneous rock land soil is found in rough broken terrain. The topography ranges from low hills to steep mountains. Large boulders and rock outcrops of granite, quartz diorite, gabbro, basalt, and other rock types cover greater than 50% of the total area of this soil type. The soil material is very shallow consisting of loam to loamy coarse sand textures over decomposed granite or basic igneous rock. In some locales, pockets of deep soils may be present between the rocks. Many areas are practically barren and have very rapid runoff. The vegetation for this soil type varies by elevation and climate. In the foothills and mountains, acid igneous rock land supports various chaparral vegetation communities. On site, the mapping of this soil coincides with the large rock outcrop located within the western portion of the site, just north of the railroad tracks.

The La Posta series has grayish brown and brown, slightly acid and neutral, loamy coarse sand A horizons, grading to weathered acid igneous rock at a depth of 29 inches. These soils occur in hilly mountainous areas that are moderately sloping to very steep. The following La Posta soil inclusions occur within the project area: La Posta loamy coarse sand, 5–30% slopes, eroded; and La Posta rocky loamy coarse sand, 5–30% slopes, eroded. The soils formed in residuum weathered from granitic rocks at elevations of 2,000 to 4,500 feet. La Posta soils are somewhat excessively drained with medium or rapid runoff and rapid permeability, and native vegetation expected on this soil type in the project area is mainly annual grasses and forbs, chamise (*Adenostoma fasciculatum*), red shank (*Adenostoma sparsifolia*), manzanita (*Arctostaphylos* spp.), scrub oak (*Quercus* spp.), and a few scattered oak trees (*Quercus agrifolia*) along drainages.

The Mottsville series consists of very deep, excessively drained soils that formed in alluvium derived from granitic rocks. Mottsville soils occur on gently sloping (0–15%) alluvial fans, fan

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remnants, and fan aprons. Mottsville soil inclusion occurs within the project area: Mottsville loamy coarse sand, 2–9% slopes. Mottsville soils occur at elevations of 4,500–5,300 feet. Mottsville soils have negligible or very low surface runoff, rapid or very rapid permeability, and high saturated hydraulic conductivity. Native vegetation expected on this soil type within the project area is mainly big sagebrush (*Artemisia tridentata* ssp. *tridentata*), other desert transition shrubs, and needlegrasses (*Stipa* spp.).

The Tollhouse series consists of shallow, somewhat excessively or excessively drained soils that formed in material weathered from granite and closely related coarse crystalline rocks. The following Tollhouse soil inclusion occurs within the project area: Tollhouse rocky, coarse sandy loam, 5–30% slopes, eroded; and Tollhouse rocky, coarse sandy loam, 30–65% slopes. Tollhouse soils are on strongly sloping to very steep mountain slopes. Rock outcrops are common to many soils of this series. Tollhouse soils occur at elevations of 650 to about 8,000 feet. Native vegetation expected on this soil type within the project area is primarily chaparral consisting of a variety of native shrubs and oak trees. Naturalized grasses and forbs may occur in some locations.

## METHODS

Between February 2013 and September 2013, Dudek conducted vegetation mapping and rare plant surveys for the mitigation lands. Dudek biologists conducted vegetation mapping for 8 days in February, conducted surveys for desert beauty (*Linanthus bellus*) and Jacumba milk-vetch (*Astragalus douglasii* var. *perstrictus*) for 5 days in April, conducted surveys for sticky geraea (*Geraea viscida*) and Jacumba milk-vetch for 13 days in June, and conducted surveys for Tecate tarplant (*Deinandra floribunda*) for 8 days in September.

## Focused Plant Surveys

Focused surveys for special-status plants were implemented in three separate passes, spring summer, and fall to record species that have different blooming periods throughout the year. During these surveys, all plant species encountered during the field surveys were identified and recorded. Latin and common names for plant species with a California Rare Plant Rank (CRPR; formerly CNPS List) follow the *California Native Plant Society On-Line Inventory of Rare, Threatened, and Endangered Plants of California* (CNPS 2013). For plant species without a CRPR, Latin names follow the *Jepson Interchange List of Currently Accepted Names of Native and Naturalized Plants of California* (Jepson Flora Project 2012) and common names follow the U.S. Department of Agriculture (USDA) Natural Resources Conservation Service Plants Database (USDA 2012).

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Targeted survey methods for special-status plant species identified specific areas within the proposed mitigation lands that would be more likely to support these species. Survey areas were selected for the spring and summer pass to exclude areas mapped in the soil survey as acid igneous rock, partially based on the lack of species occurrence within this soil mapping area on the Rugged and Tierra del Sol sites. Survey areas were selected for the fall pass to include areas that contained U.S. Geology Survey (USGS) National Hydrography Dataset (NHD) information based on the presence of Tecate tarplant within drainages on the Rugged and Tierra del Sol sites. Due to the limited duration of the spring survey season, only Survey Areas 2, 4, and 5 (approximately 800 acres) were surveyed. During the summer season, all five Survey Areas were surveyed (approximately 1,100 acres).

In accordance with survey methods for the Rugged and portions of the Tierra del Sol project areas, numbers of special-status plant species individuals were counted in the field and reported as ranges including the following: 1 to 10; 11 to 50; 51 to 100; 101 to 500; 501 to 1,000; 1,001 to 5,000; and greater than 10,000. Point data were collected for each occurrence; no polygon data was collected.

### **Resource Mapping**

Vegetation communities and land uses on and within 100 feet of the site were mapped in the field directly onto a 200-foot-scale (1 inch = 200 feet), aerial photograph–based field map of the mitigation site. Following completion of the fieldwork, all vegetation polygons were transferred to a topographic base and digitized using ArcGIS and a geographic information system (GIS) coverage was created. Once in ArcGIS, the acreage of each vegetation community and land cover present on site was determined.

Consistent with the latest County of San Diego *Report Format and Content Requirements: Biological Resources* (County of San Diego 2010a), vegetation community classifications used in this report follow Holland (1986) and Oberbauer et al. (2008), where feasible, with modifications to accommodate the lack of conformity of the observed communities to those of Holland (1986) or Oberbauer et al. (2008).

### **Survey Limitations**

Over the past three water years, average rainfall within the mitigation site and associated project areas has steadily declined. The nearest weather station is located in Campo, California, and generally receives an average rainfall of approximately 15 inches per year (Western Regional Climate Center 2013). Precipitation water year (i.e., July 1 to June 30) amounts for Campo from

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2010 to 2011 were recorded at 21.03 inches, from 2011 to 2012 were recorded at 15.84 inches, and from 2012 to 2013 were recorded at 11.21 inches.

Reference population checks were completed for each of the target species prior to conducting focused survey passes. Since annual plant species populations can fluctuate from year to year depending on a variety of conditions, including rainfall, the reference check for desert beauty also included a comparison of population numbers. A reference check of desert beauty was conducted within the Rugged and Tierra del Sol sites on April 4, 2013. A total of 4 locations where desert beauty was mapped in 2011 on the Rugged site were re-surveyed in 2013. Three of the locations had fewer desert beauty individuals than previously recorded (between 30–90% reduction) and one location had a greater number of individuals (approximately 200% increase). Overall it is estimated that the 2013 population was approximately 70% less than the population size recorded in 2011 at the Rugged site. On the Tierra del Sol site, the 2013 reference survey identified only one individual within four selected sites that had a total of 314 individuals recorded in 2012. These reference site surveys indicate that the population size of desert beauty recorded within the mitigation lands in spring 2013 is likely lower than what would be present during an average rainfall year.

A reference survey for Jacumba milk-vetch and sticky geraea was conducted within the Rugged site on June 14, 2013, and confirmed that these species were blooming and identifiable. Because these species are perennial, the number of individual is not expected to vary greatly from year to year and therefore population counts were not recorded for comparison with previous year counts.

A reference check of Tecate tarplant was conducted within the Rugged and Tierra del Sol sites on September 23, 2013. A total of two locations where Tecate tarplant was mapped in 2011 on the Rugged site were re-surveyed in 2013. Both of the locations had fewer Tecate tarplant individuals than previously recorded (between 99–100% reduction). Overall it is estimated that the 2013 population was less than the population size recorded in 2011 at the Rugged site. On the Tierra del Sol site, the 2013 reference survey identified only three individuals within 11 selected sites that had a total of 3,029 individuals recorded in 2012. These reference site surveys indicate that the population size of Tecate tarplant recorded within the mitigation lands in fall 2013 is likely lower than what would be present during an average rainfall year.

Focused surveys for special-status wildlife species, wintering raptors, and reptile/small mammal trapping were not conducted for the mitigation lands. Nocturnal surveys were not conducted for the project. Birds represent the largest component of the vertebrate fauna, and because most are active in the daytime, diurnal surveys maximize the number of observations of this portion of the fauna. In contrast, daytime surveys usually result in few observations of mammals, many of

which may be active at night. In addition, many species of reptiles and amphibians are nocturnal or cryptic in their habits and are difficult to observe using standard meandering transects. Wildlife occurrence data is based largely on previous bird count surveys conducted for the Jewel Valley area (Dudek 2012), with other species noted incidentally during vegetation mapping or focused plant surveys.

Approximately 206 acres of the mitigation lands were burned during the 2012 Shockey Fire. These areas were mapped per the County Guidelines which state: “Areas recovering from fire shall be mapped using the resurgent vegetation as indicators of the probable resultant habitat. When the fire is so recent that no new vegetation has emerged, historical evidence such as aerial photos and the County’s vegetation mapping information shall be used to map the habitat that was burned” (County of San Diego 2010b).

### **Habitat Types/Vegetation Communities**

Twenty vegetation communities or land covers were mapped by Dudek within the project site. Native vegetation communities on site include big sagebrush scrub, granitic chamise chaparral, montane buckwheat scrub, red shank chaparral (including disturbed), red shank chaparral-rock, red shank chaparral/montane buckwheat scrub, granitic northern mixed chaparral, granitic northern mixed chaparral-rock, granitic northern mixed chaparral/montane buckwheat scrub, scrub oak chaparral, coast live oak woodland, southern coast live oak riparian forest, riparian habitat, and alkali meadow. One non-native vegetation community, non-native grassland, and four land cover types (non-vegetated areas), open water, rock outcrops disturbed land, and urban/developed also occur within the mitigation site. These vegetation communities and land cover types are described as follows, their acreages are presented in Table 1, and their spatial distributions are presented on Figures 3a-e.

In September 2010, the CDFG published the *List of California Vegetation Alliances and Associations* (CDFG 2010), which uses the scientific name of the dominant species in that alliance as the alliance name and includes a global and state rarity rank based on the NatureServe Standard Heritage Program methodology (NatureServe 2013). The conservation status of a vegetation community is designated by a number from 1 to 5, preceded by a letter reflecting the appropriate geographic scale of the assessment (G = global, N = national, and S = subnational). The numbers have the following meaning (NatureServe 2013):

- 1 = critically imperiled
- 2 = imperiled
- 3 = vulnerable to extirpation or extinction
- 4 = apparently secure
- 5 = demonstrably widespread, abundant, and secure.

For example, G1 would indicate that a vegetation community is critically imperiled across its entire range (i.e., globally). A rank of S3 would indicate the vegetation community is vulnerable and at moderate risk within a particular state or province, although it may be more secure elsewhere (NatureServe 2013). Because NatureServe ranks vegetation communities at the global level, they have few rankings at the state or province level available. However, the *List of California Vegetation Alliances and Associations* (CDFG 2010) includes state-level rarity rankings (i.e., the subnational (S) rank) for vegetation communities. The *List of California Vegetation Alliances and Associations* (CDFG 2010) is considered the authority for ranking the conservation status of vegetation communities in California.

CDFG’s guidelines for determining high priority vegetation types include considering any communities listed with a ranking of S1 to S3 and ascertaining whether the specific stands of the community type within the project area are “considered as high-quality occurrences of a given community.” The consideration of stand quality includes cover of non-native invasive species, human-caused disturbance, reproductive viability, and insect or disease damage (CDFG 2012).

Vegetation communities considered special-status are those with an “S” ranking of 1, 2, or 3 (CDFG 2010), as well as communities that require mitigation by the County (County of San Diego 2010b, Table 5). These communities are denoted in Table 1 with an asterisk (\*).

There are two power lines scheduled to be installed within the mitigation lands, the Gen-Tie alignment (associated with the Tierra del Sol Project) and the East County (ECO) alignment. Impacts resulting from construction of these two alignments, based on the limits of the proposed right-of-way, are excluded from the vegetation tables. Approximately 1 acre of the site was excluded as mitigation due to the presence of the planned Gen-Tie alignment and 17 acres of the site were excluded due to the ECO alignment.

**Table 1**  
**Vegetation Communities and Land Cover Types**

Habitat Types/Vegetation Communities	Code <sup>1</sup>	Existing Acreage Within Mitigation Lands
<i>Upland Scrub and Chaparral</i>		
Big Sagebrush Scrub*	35210	46.2
Granitic Chamise Chaparral*	37210	165.2
Montane Buckwheat Scrub*	37K00	69.6
Red Shank Chaparral *	37300	932.8
Red Shank Chaparral-disturbed *	37300	1.6
Red Shank Chaparral-Rock *	37300	4.9
Red Shank Chaparral / Montane Buckwheat Scrub *	37300/37K00	8.9
Granitic Northern Mixed Chaparral*	37131	984.0

**Table 1**  
**Vegetation Communities and Land Cover Types**

Habitat Types/Vegetation Communities	Code <sup>1</sup>	Existing Acreage Within Mitigation Lands
Granitic Northern Mixed Chaparral-Rock*	37131	244.1
Granitic Northern Mixed Chaparral/Montane Buckwheat Scrub*	37131/37K00	6.0
Scrub Oak Chaparral*	37900	0.3
<i>Subtotal</i>		2,463.6
<i>Upland Woodland and Savannah</i>		
Coast Live Oak Woodland*	71160	17.1
<i>Riparian and Bottomland Habitat</i>		
Southern Coast Live Oak Riparian Forest*	61310	6.8
Riparian Habitat*	63000	9.8
<i>Subtotal</i>		16.6
<i>Riparian Herb</i>		
Alkali Meadow*	45300	2.2
<i>Unvegetated Areas</i>		
Open Water	64100	9.9
Rock Outcrops	N/A	4.0
<i>Subtotal</i>		13.9
<i>Non-Native Communities and Land Covers</i>		
Non-Native Grassland	42200	50.6
Disturbed Land	11300	35.8
Urban/Developed	12000	0.066
<i>Subtotal</i>		86.5
<b>Total</b>		<b>2,601.2</b>

<sup>1</sup> Holland (1986) as modified by Oberbauer et al. (2008)

\* Considered special-status by the County (2010b).

### Upland Scrub and Chaparral

#### *Big Sagebrush Scrub (35210)*

Big sagebrush scrub is characterized as being a moderately open shrubland consisting predominantly (greater than 50% absolute cover) of big sagebrush. It often occurs in or adjacent to the floodplain in the sandy transition to chaparral. This scrub community is relatively common on site, although it occurs in smaller, distinct patches. Some areas mapped as big sagebrush scrub include California buckwheat (*Eriogonum fasciculatum* var. *polifolium*), but at less than 15% absolute cover.

The *Artemisia tridentata* alliance has a rank of G5S5 in CDFG (2010), meaning it is globally secure and secure in the state. Big sagebrush scrub is considered special-status based on mitigation recommendations of the County (2010b).

**Granitic Chamise Chaparral (37210)**

According to Holland (1986), chamise chaparral is strongly dominated by chamise and is adapted to repeated fire by stump sprouting. The herb layer is usually very sparse (Holland 1986). On site, chamise was observed at approximately 50–75% absolute cover, with a sparse herb layer of annual forbs comprising 5–15% absolute cover. Other woody shrubs include manzanita, and cupleaf ceanothus (*Ceanothus perplexans*), which collectively comprise less than 15% absolute cover.

The *Adenostoma fasciculatum* alliance has a rank of G5S5 in CDFG (2010), meaning it is globally secure and secure in the state. Granitic chamise chaparral is considered special-status based on mitigation recommendations of the County (2010b).

**Montane Buckwheat Scrub (37K00)**

Montane buckwheat scrub is not described by Holland but is included in Oberbauer et al. (2008). Montane buckwheat scrub is characterized by a nearly monoculture community of flat-topped buckwheat found at higher elevations in San Diego County. On site, areas mapped as montane buckwheat scrub are almost exclusively dominated by Eastern Mojave buckwheat (*Eriogonum fasciculatum* var. *polifolium*), which occurs at approximately 25–50% absolute cover, and has a well-developed herb layer, composed of annual brome grasses and herbs at approximately 25–50% absolute cover.

The *Eriogonum fasciculatum* alliance has a rank of G5S5 in CDFG (2010), meaning it is globally secure and secure in the state. Montane buckwheat scrub is not included in the Habitat Mitigation Ratios in the County Significance Guidelines (Table 5, County of San Diego 2010b); however, it was originally classified together with flat-topped buckwheat scrub, which is considered special-status based on mitigation recommendations of the County (2010b).

**Red Shank Chaparral (37300)**

Red shank chaparral is composed of nearly pure stands of red shank (*Adenostoma sparsifolium*) (Holland 1986). It is similar to chamise chaparral but is typically taller and somewhat more open (Holland 1986). On site, red shank chaparral intergrades with chamise chaparral (37200) and scrub oak chaparral (37900). Red shank comprises approximately 50–75% absolute cover, with chamise occasionally present at less than 15% absolute cover. Like chamise chaparral, the herb layer in red shank chaparral is sparse. This vegetation

community was found throughout the site. Red shank chaparral – rock was mapped in areas that supported a high percentage of large boulders within the vegetation. Areas mapped as disturbed red shank chaparral were located along a dirt access road and contained fewer shrubs and more annual grasses than pure stands of red shank chaparral.

The *Adenostoma sparsifolium* alliance has a rank of G4S4 in CDFG (2010), meaning it is considered apparently secure globally and in the state. Red shank chaparral is considered special-status based on mitigation recommendations of the County (2010b).

***Montane Buckwheat Scrub/ Red Shank Chaparral/ (37K00/37300)***

Montane buckwheat scrub/red shank chaparral is not described by Holland (1986) or Oberbauer et al. (2008). This community is co-dominated by Eastern Mojave buckwheat and red shank . On site, areas mapped as montane buckwheat scrub/red shank chaparral are dominated by buckwheat and red shank, but also include species such as chamise, and chaparral yucca (*Hesperoyucca whipplei*).

The *Eriogonum fasciculatum/Adenostoma sparsifolium* association is not recognized by CDFG (2010). However, montane buckwheat and red shank chaparral are considered special-status based on mitigation recommendations of the County (2010a).

***Granitic Northern Mixed Chaparral (37131)***

Granitic northern mixed chaparral consists of broad-leaved sclerophyll shrubs that range from 2–4 meters (7–13 feet) in height and that form dense stands dominated by chamise, red shank, manzanita, and ceanothus (*Ceanothus* spp.). This community occurs inland of southern mixed chaparral in San Diego County and is indicated by desert ceanothus (*Ceanothus greggii*) and other codominants (chamise, scrub oak, and other oak hybrids). Granitic northern mixed chaparral is underlain by granitic soils.

Granitic northern mixed chaparral has a rank of G4S4 in CDFG (2010), meaning it is considered apparently secure globally and in the state. Granitic northern mixed chaparral is not considered special-status by CDFG, but it is considered special-status based on mitigation recommendations of the County (2010a).

***Granitic Northern Mixed Chaparral/Montane Buckwheat Scrub***

Granitic northern mixed chaparral/montane buckwheat scrub is not described by Holland (1986) or Oberbauer et al. (2008). This community is co-dominated by broad-leaved sclerophyll shrubs such as chamise, redshank, ceanothus, and Eastern Mojave buckwheat.

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This association is not recognized by CDFG (2010); however, granitic northern mixed chaparral/montane buckwheat scrub are considered special-status based on mitigation recommendations of the County (2010a).

### ***Scrub Oak Chaparral (37900)***

Scrub oak chaparral is a dense, evergreen chaparral up to 20 feet tall (Holland 1986). Holland describes the community as dominated by scrub oak. On site, scrub oak chaparral is dominated by scrub oak at between 50–75% absolute cover. Red shank is commonly associated with this vegetation community, but occurs at less than 15% absolute cover. The herb layer is similar to that of chamise and red shank chaparral communities.

The *Quercus berberidifolia* alliance has a rank of G4S4 in CDFG (2010), meaning it is considered apparently secure globally and in the state. Scrub oak chaparral is considered special-status based on mitigation recommendations of the County (2010b).

### **Upland Woodland and Savannah**

#### ***Coast Live Oak Woodland (71161)***

Coast live oak woodland is an evergreen woodland dominated by coast live oak (*Quercus agrifolia* var. *oxyadenia*). The understory is typically made up of grassland, scrub, or chaparral species, and the community often intergrades with coastal sage scrub or mixed chaparral (Holland 1986). On site, coast live oak woodland is an open woodland, with generally less than 40% cover of coast live oak. The understory is dominated by non-native grasses and annual forbs.

The *Quercus agrifolia* alliance has a rank of G5S4 in CDFG (2010), meaning it is globally secure and apparently secure in the state. Coast live oak woodland is considered special-status based on mitigation recommendations of the County (2010b).

### **Riparian and Bottomland Habitat**

#### ***Southern Coast Live Oak Riparian Forest (61310)***

Southern coast live oak riparian forest is a dense riparian forest dominated by evergreen sclerophyllous trees (oaks) with a closed, or nearly closed, canopy. Within the mitigation site, this vegetation community is dominated by coast live oaks and riparian species such as willows, mulefat (*Baccharis salicifolia*) and tamarisk (*Tamarix* spp.), and is associated with a channel that drains into Domingo Lake.

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Southern coast live oak riparian forest has a rank of G4S4 in CDFG (2010), meaning it is globally secure and apparently secure in the state. Southern coast live oak riparian forest is considered special-status based on mitigation recommendations of the County (2010b).

***Riparian Habitat (60000)***

Areas mapped as riparian habitat encompass all areas that have a potential to contain riparian species and are associated with open water or stream channels. Willow species (*Salix* sp.) were observed in some of these areas however, due to the timing of the survey, willow species and tamarisk were not easily distinguishable. These areas will be refined later in the spring during rare plant surveys.

**Riparian Herb**

***Alkali Meadow (45300)***

Alkali meadow is a low-growing, dense or open association of grasses, sedges, and rushes on moist, alkaline soils. This community may intergrade with marsh communities in wetter settings or Great Basin scrub or non-native grassland in drier settings. Representative species of alkali meadow includes Mexican rush (*Juncus mexicanus*), salt grass (*Distichlis spicata*), Mediterranean barley (*Hordeum marinum* ssp. *gussoneanum*), and seaside heliotrope (*Heliotropium curassavicum*).

*Juncus mexicanus* alliance has a rank of G5S4 in CDFG (2010), meaning it is considered globally secure and apparently secure within the state. Alkali meadow is considered special-status by the County (2010b) based in its qualification as a Resource Protection Ordinance (RPO) wetland and the County's recommended mitigation ratio for this vegetation community.

**Unvegetated Areas**

***Open Water (64100)***

Open water is not a vegetation community; therefore, it is not included in the *List of California Vegetation Alliances and Associations* (CDFG 2010). Although the County does recommend mitigation for impacts to open water, this land cover type is typically considered an RPO wetland and is typically considered jurisdictional waters (County 2010b). On site, open water consists of areas where stream channels have been dammed at some point downstream, creating reservoirs and/or detention basins, most of which are dry. During the site visits two areas contained water: a small area located within the center of the site, just south of the railroad tracks, and Lake Domingo which is located in the southeastern corner of the site.

### ***Rock Outcrops***

One large rock outcrop was mapped within the mitigation lands. This area is located in the western part of the site, just north of the railroad tracks. Rock outcrops are not a vegetation community; therefore, are not included in the *List of California Vegetation Alliances and Associations* (CDFG 2010).

Rock outcrops are not considered special-status by CDFG or the County (2010b).

### **Non-Native Communities and Land Covers**

#### ***Non-Native Grassland (42200)***

According to Holland (1986), non-native grasslands include a dense to sparse cover of annual grasses that die during the summer months, persisting as seeds. Due to the timing of the survey, the species composition within areas mapped as non-native grassland could not be determined. In addition, some of the areas mapped as non-native grassland may actually contain alkali meadow species. These areas will be refined during the spring plant surveys.

Non-native grassland has a rank of G4S4 in CDFG (2010), meaning it is apparently secure globally and in the state. Because non-native grassland can provide habitat for a variety of species, the County requires mitigation for impacts to it; therefore, it is considered special-status by the County (2010b).

#### ***Disturbed Habitat (11300)***

Disturbed land refers to areas that have been permanently altered by previous human activity that has eliminated all future biological value of the land for most species. The native or naturalized vegetation is no longer present, and the land lacks habitat value for sensitive wildlife, including potential raptor foraging. Disturbed habitat on site consists of unpaved roads and some areas immediately adjacent to dirt roads. These roads are graded periodically, and no native vegetation remains.

Disturbed habitat is not considered special-status by CDFG or the County (2010b).

#### ***Urban/Developed (12000)***

Urban/developed land refers to areas that have been constructed upon or disturbed so severely that native vegetation is no longer supported. Developed land includes areas with permanent or semi-permanent structures, pavement or hardscape, landscaped areas, and areas with a large

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amount of debris or other materials (Oberbauer et al. 2008). Urban/developed areas in the mitigation lands are associated with historically used train tracks that bisect the mitigation lands.

Urban/developed areas are not considered special-status by CDFW or the County (2010a).

**Suitability of Mitigation Lands**

The mitigation lands are currently planned to be used as mitigation for at least four proposed projects -, Rugged, Tierra del Sol (which includes the Gen-Tie alignment), LanWest and LanEast projects. Mitigation required for the Rugged and Tierra del Sol projects totals 753.1 acres for a variety of upland habitat types, as shown in Table 2. There is a total of 2,531.3 acres of mitigation lands (excluding rock outcrops, wetlands/riparian habitats, disturbed land, and urban/developed) that is available for mitigation. This results in excess habitat within the mitigation lands that totals 1,759.0 acres. Most of this excess habitat results from excess chaparral habitat within the mitigation lands. A portion of this excess habitat is expected to be used as mitigation for other projects.

**Table 2**  
**Summary Mitigation Requirements for the Rugged, and Tierra del Sol Projects**

Habitat Types/Vegetation Communities	Rugged Mitigation Requirements (acres)	Tierra del Sol Mitigation Requirements (acres)	Total Mitigation Required	Vegetation within the Mitigation Site (acres)	Total Mitigation Acreage (+/- acreage required)
<i>Upland Scrub and Chaparral</i>					
Big Sagebrush Scrub*	135.8	32.4	168.2	46.2	-122.0
disturbed Big Sagebrush Scrub*	7.0	--	7.0	--	-7.0
Montane Buckwheat Scrub*	65.3	41.7	106.9	69.6	-37.3
disturbed Montane Buckwheat Scrub*	7.3	2.3	9.6	--	-9.6
Granitic Chamise Chaparral*	48.4	88.5	136.9	165.2	+28.3
Granitic Chamise Chaparral/ Montane Buckwheat Scrub *	--	2.2	2.2	--	-2.2
Granitic Northern Mixed Chaparral*	--	37.6	37.6	984.0	+946.4
Granitic Northern Mixed Chaparral-Rock*	--	--	--	244.1	+244.1
Granitic Northern Mixed Chaparral/ Montane Buckwheat Scrub *	--	13.3	13.3	6.0	-7.3
Red Shank Chaparral*	36.0	69.8	105.8	932.8	+827.0
disturbed Red Shank Chaparral*	--	--	--	1.6	+1.6
Red Shank Chaparral-Rock *	--	--	--	4.9	+4.9

**Table 2**  
**Summary Mitigation Requirements for the Rugged, and Tierra del Sol Projects**

Habitat Types/Vegetation Communities	Rugged Mitigation Requirements (acres)	Tierra del Sol Mitigation Requirements (acres)	Total Mitigation Required	Vegetation within the Mitigation Site (acres)	Total Mitigation Acreage (+/- acreage required)
Montane Buckwheat Scrub/ Red Shank Chaparral*	--	2.0	2.0	8.9	+6.9
Scrub Oak Chaparral*	58.7	6.6	65.3	0.3	-65.0
disturbed Scrub Oak Chaparral*	0.5	--	0.5	--	-0.5
Semi-Desert Chaparral*	57.8	--	57.8	--	-57.8
Semi-Desert Chaparral – Rock*	1.5	--	1.5	--	-1.5
disturbed Semi-Desert Chaparral*	0.3	--	0.3	--	-0.3
<i>Subtotal</i>	<b>418.6</b>	<b>296.4</b>	<b>715</b>	<b>2,463.6</b>	<b>+1,748.6</b>
<i>Upland Woodland and Savannah</i>					
Coast Live Oak Woodland*	--	included in oak root zone mitigation <sup>2</sup>	included in oak root zone mitigation <sup>2</sup>	17.1	+17.1
Disturbed Coast Live Oak Woodland	--	included in oak root zone mitigation <sup>2</sup>	included in oak root zone mitigation <sup>2</sup>	--	--
Mixed Oak Woodland*	--	--	--	--	--
Oak Root Zone <sup>1</sup>	--	7.5	7.5	--	-7.5 <sup>3</sup>
<i>Subtotal</i>	--	<b>7.5</b>	<b>7.5</b>	<b>17.1</b>	<b>-9.6<sup>3</sup></b>
<i>Non-Native Communities and Land Covers</i>					
Non-Native Grassland*	30.4	0.2	30.6	50.6	+20.0
<b>Total**</b>	<b>449.0</b>	<b>304.1</b>	<b>753.1</b>	<b>2,531.3<sup>4</sup></b>	<b>1,759.0</b>

<sup>1</sup> These features are overlays to the vegetation community layer and are not counted toward the overall acreage.

<sup>2</sup> Because the oak root zone impacts require a higher mitigation ratio, acres of vegetation communities included in the oak root zone category that have less than a 3:1 mitigation ratio are not counted in the vegetation communities and land cover types.

<sup>3</sup> Mitigation requirements for impacts to oak root zone will be mitigated through conservation of oak riparian forest. A total of 6.8 acres of oak riparian forest occurs within the mitigation site.

<sup>4</sup> Does not include 4 acres of rock, 36 acres of disturbed land, and 0.07 acres of urban/developed habitat.

\* Considered special-status by the County (2010a).

\*\* Totals may not add due to rounding.

Although the mitigation site does not support adequate habitat to mitigate each specific vegetation communities separately, taken as a whole, the overall suite of habitats that exist within the mitigation lands provide adequate mitigation to compensate for the losses associated with the two current projects, with remaining habitat available to mitigate future projects. The final acreage of the mitigation site that will be dedicated to mitigate each project will be determined during preparing of a Final Resource Management Plan (RMP), taking into account areas required to mitigate special-status plant species. It is expected that more than 753.1 acres

will be required to mitigate impacts to special-status plant species. Therefore the lack of in-kind habitat mitigation for certain communities (e.g., big sagebrush scrub, scrub oak chaparral) will be compensated by an overall greater acreage of mitigation.

This approach is appropriate because species in this region generally utilize a variety of habitats (e.g., scrub, chaparral, and oak woodlands) as opposed to being specifically restricted to one habitat type. Special-status wildlife will generally utilize all of these habitats indiscriminately, provided there is suitable cover, habitat connectivity, and water and food resources. During Dudek’s field investigations, special-status plant species were found in many different chaparral habitats, indicating that they will serve the same special-status species that were found on the three project sites. Furthermore, these species benefit from the consolidated nature of the proposed mitigation lands through reduced edge effects and enhanced regional connectivity.

**SPECIAL-STATUS PLANT AND WILDLIFE SPECIES**

In addition to the compensation for impacts to special-status vegetation communities, the mitigation lands are being proposed to compensate for impacts to special-status plant species and habitat for special-status wildlife species associated with the Rugged and Tierra del Sol solar farm projects.

**Special-Status Plant Species**

Mitigation is required to offset impacts to 4 of the 10 special-status plant species observed within either the Rugged or Tierra del Sol project areas including: Tecate tarplant (*Deinandra* [=*Hemizonia*] *floribunda*), desert beauty (*Linanthus bellus*), Jacumba milk-vetch (*Astragalus douglasii* var. *perstrictus*), and sticky geraea (*Geraea viscida*) (Table 3). These four species, have been observed within the mitigation lands (Table 3).

**Table 3  
Special-Status Plant Species with a Potential to Occur in the Mitigation Site**

Scientific Name Common Name	Sensitivity Code and Status (Federal/State/County/CRPR) <sup>1</sup>	Habitat Requirements/Life Form/Blooming Period/Elevation Range	Verified on Rugged and/or Tierra del Sol (direct/indirect evidence)	Potential to Occur within the Mitigation Site and Factual Basis for Determination
<i>Astragalus douglasii</i> var. <i>perstrictus</i> Jacumba milk-vetch	None/None/List A, MSCP/1B.2	Chaparral, cismontane woodland, pinyon and juniper woodland, riparian scrub, valley and foothill grassland; rocky/perennial herb/April–June/2,953 to 4,495 feet	Observed within both Tierra del Sol, Rugged.	Observed within mitigation lands. Suitable soils found within the western and central regions of the mitigation site. The mitigation site also contains suitable vegetation communities.

**Table 3**  
**Special-Status Plant Species with a Potential to Occur in the Mitigation Site**

Scientific Name Common Name	Sensitivity Code and Status (Federal/State/County/CRPR) <sup>1</sup>	Habitat Requirements/Life Form/Blooming Period/Elevation Range	Verified on Rugged and/or Tierra del Sol (direct/indirect evidence)	Potential to Occur within the Mitigation Site and Factual Basis for Determination
<i>Deinandra</i> [= <i>Hemizonia</i> ] <i>floribunda</i> Tecate tarplant	None/None/List A, MSCP/1B.2	Chaparral, coastal scrub/annual herb/August–October/230 to 4,003 feet	Observed within both Tierra del Sol, and Rugged.	Observed within mitigation lands. Suitable soils and vegetated habitat located within the mitigation site. This species was observed along ephemeral drainages in both solar farm project areas and similar drainages are located within the mitigation site.
<i>Geraea viscida</i> Sticky geraea	None/None/List B, MSCP/2.3	Chaparral (often disturbed)/perennial herb/May–June/1,476 to 5,577 feet	Observed within both Tierra del Sol, and Rugged.	Observed within mitigation lands. Suitable chaparral habitat and soils located throughout the mitigation site.
<i>Hesperocyparis forbesii</i> Tecate cypress	None/None/List A, MSCP/1B.1	Closed-cone conifer forest, chaparral/evergreen tree/NA/255–1,500 meters	Observed within Tierra del Sol. Absent from Rugged.	Not observed. This species was presumed an ornamental planted on the Tierra del Sol site. No Tecate cypress trees were observed during the initial biological surveys.
<i>Linanthus bellus</i> Desert beauty	None/None/List B, MSCP/2.3	Chaparral; sandy/annual herb/April–May/3,281 to 4,593 feet	Observed within both Tierra del Sol, and Rugged.	Observed within mitigation lands. Suitable vegetated and soil habitats found within mitigation site

<sup>1</sup> **Status Designations:**  
MSCP: Proposed Covered Species under the Draft East County MSCP  
SE: State-listed as endangered  
ST: State-listed as threatened  
SR: State-listed as rare

**CRPR: California Rare Plant Rank**

- 1A (formerly List 1A): Plants Presumed Extinct in California
- 1B (formerly List 1B): Plants Rare, Threatened, or Endangered in California and Elsewhere
- 2 (formerly List 2): Plants Rare, Threatened, or Endangered in California, But More Common Elsewhere
- 3 (formerly List 3): Plants About Which We Need More Information – A Review List
- 4 (formerly List 4): Plants of Limited Distribution – A Watch List
- 0.1–Seriously threatened in California (over 80% of occurrences threatened/high degree and immediacy of threat)
- 0.2–Fairly threatened in California (20–80% occurrences threatened/moderate degree and immediacy of threat)
- 0.3–Not very threatened in California (<20% of occurrences threatened /low degree and immediacy of threat or no current threats known)

**Tecate Tarplant (*Deinandra floribunda*)**

Tecate tarplant is a CRPR 1B.2 (CNPS 2013) and a County List A species (County of San Diego 2010a). A member of the sunflower (*Asteraceae*) family, this species blooms from August

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through October in chaparral and coastal scrub habitats. Tecate tarplant is an annual herb that occurs at elevations of 70 to 1,220 meters (230 to 4,003 feet) (CNPS 2013).

On the mitigation lands approximately 2,455–8,285 occurrences of Tecate tarplant have been identified (Table 4, Figure 4). Most occurrences within the mitigation lands were documented within sandy drainages and roadsides. The amount of Tecate tarplant recorded within the mitigation site provides the required mitigation for this species.

**Desert Beauty (*Linanthus bellus*)**

Desert beauty is a CRPR 2.3 (CNPS 2013) and a County List B species (County of San Diego 2010a). A member of the phlox (*Polemoniaceae*) family, this annual herb blooms from April through May in chaparral habitats. This species typically occurs at elevations of 1,000 to 1,400 meters (3,281 to 5,493 feet) (CNPS 2013).

On the mitigation lands approximately 811–2,790 occurrences of desert beauty have been identified (Table 4, Figure 4). Most occurrences were documented in the north-central portion of the mitigation lands within open sandy areas in red shank chaparral. Few occurrences were documented within granitic chamise chaparral, as well.

Fewer numbers of desert beauty were detected within the mitigation lands than are required by the mitigation ratios. However, prior to conducting focused surveys, a check of reference populations within Rugged and Tierra del Sol project areas found reduced population sizes for this species when compared with survey results from 2011 and 2012. As such, it is suggested that the population size results found in 2013 within the mitigation lands are not indicative of generally reduced population size; rather, that fewer individuals were blooming during 2013 surveys. It is therefore presumed that there is sufficient desert beauty within the mitigation lands during other years that are in accordance with the mitigation ratio.

The 2,601-acre mitigation site supports approximately 2,464 acres of potentially suitable habitat for this species. Approximately 800 acres (32%) of the suitable habitat was surveyed during the focused spring surveys for desert beauty. Although additional surveys are required, it is expected that in a more typical rainfall year, conservation of 800–1,000 acres of the site will be adequate to support the required numbers of desert beauty.

**Jacumba Milk-vetch (*Astragalus douglasii* var. *perstrictus*)**

Jacumba milk-vetch is a CRPR 1B.2 (CNPS 2013) and County List A species (County of San Diego 2010a). This perennial herb in the pea or bean family (*Fabaceae*) blooms from April through June. It occurs in chaparral, cismontane woodland, pinyon and juniper woodland,

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riparian scrub, valley and foothill grassland, and rocky communities at elevations of 900 to 1,370 meters (2,953 to 4,495 feet) (CNPS 2013).

Within the mitigation lands, there are approximately 225–672 occurrences, concentrated in the north-central, southeast, and southwest portions of the site (Figure 4). Since the first pass of focused surveys resulted in the detection of fewer plants than are required for mitigation, the fall pass will also focus on recording any additional milk-vetch that may be located outside of the originally defined focused survey areas.

**Sticky Geræa (*Geræa viscida*)**

Sticky geræa is a CRPR 2.3 (CNPS 2013) and a County List B species (County of San Diego 2010a). A member of the sunflower (*Asteraceae*) family, this perennial herb blooms from May through June in chaparral habitats and occurs at elevations between 450 and 1,700 meters (1,476–5,557 feet) (CNPS 2013). Approximately 356–1,333 individuals were observed during the June 2013 survey pass (Figure 4). Most of the observations were in northern mixed chaparral or redshank chaparral in the northern area of the mitigation lands, and in areas southeast of the railroad tracks. The amount of sticky geræa recorded within the mitigation site provides the required mitigation for this species.

**Table 4**  
**Mitigation Requirements for Special-Status Plant Species**

Species	Impacts to Special-Status Plant Species			Mitigation Requirements			Total Recorded within Mitigation Lands	Approx. Acres Surveyed (portion of high suitability habitat)
	Tierra del Sol	Rugged	Gen-tie Alignment	Mitigation Ratio	Total Needs (Low)	Total Needs (High)		
Tecate tarplant	3,103	1–10	n/a	2:1*	6,206	6,226	2,455–8,285	n/a
Desert beauty	727	414–1,820	84–600	1:1	1,225	3,147	811–2,790	800 (32%)
Jacumba milk-vetch	315	66–480	27–150	2:1*	816	1,890	251–872	1,122 (46%)
Sticky geræa	274	161–690	10–50	1:1	445	1,014	356–1,333	1,122 (46%)

\* Due to their relative abundance within the project areas, a two to one ratio was chosen for impacts to List A plant species.

**Special-Status Wildlife Species**

Mitigation for significant long-term direct impacts to County Group 1 wildlife species as a result of removal of suitable habitat within the Tierra del Sol and Rugged solar farm projects,

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will be reduced to a level that is less than significant through habitat conservation of equivalent function and value. Combined, the two solar farm projects have the potential to directly impact 8 reptile and amphibian species, 10 bird species, and 11 bat species (Table 5). A preliminary assessment of vegetation communities, elevation, and range of these species has determined that all 29 species have a potential to occur within the mitigation site (Table 4). The following sources were also consulted for pertinent special-status species information: the California Natural Diversity Database (CNDDDB) (CDFW 2013a), information provided by the California Department of Fish and Wildlife (CDFW) (CDFG 2011, CDFW 2013b), the San Diego County Bird Atlas (Unitt 2004), and previous bird utilization count surveys conducted by Dudek (Dudek 2012). Focused surveys for quino checkerspot (*Euphydryas editha quino*) were conducted on the Tierra Del Sol, Gen-tie and Rugged project sites in 2012 and 2013. The surveys were negative. In the unlikely event that quino checkerspot were to be found, the habitats on the proposed mitigation property would be similar and consistent with their needs. A habitat assessment for these species will be conducted in the spring/summer of 2013 to confirm the potential for these species to occur and to document species observed within the mitigation site.

**Table 5**  
**Special-Status Wildlife Species within a Potential to Occur in the Mitigation Site**

Scientific Name/ Common Name	Status (Federal/ State/County) <sup>1</sup>	Habitat Preferences/Requirements	Verified on Rugged and/or Tierra del Sol (direct/indirect evidence)	Potential to Occur within the Mitigation Site and Factual Basis for Determination
<i>Amphibians and Reptiles</i>				
<i>Aspidoscelis hyperythra beldingi</i> Belding's orange-throated whiptail	None/SSC/ Group 2, MSCP	Coastal sage scrub, chamise-redshank chaparral, mixed chaparral, valley-foothill hardwood especially in area with summer fog. Found from Santa Ana River and near Colton in San Bernardino County, west of Peninsular Ranges, south throughout Baja California, 0 to 2,001 feet (1, 2).	Observed within Rugged and moderate potential to occur within Tierra del Sol.	Moderate. Suitable habitat is present within the mitigation site. The mitigation site is above the elevation range for this species, however this species was observed at the Rugged site where the elevation ranges from 3,500 to 3,670 feet amsl. The nearest CNDDDB occurrence for this species is approximately 10 miles west of the mitigation site (6).

**Table 5**  
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Scientific Name/ Common Name	Status (Federal/ State/County) <sup>1</sup>	Habitat Preferences/Requirements	Verified on Rugged and/or Tierra del Sol (direct/indirect evidence)	Potential to Occur within the Mitigation Site and Factual Basis for Determination
<i>Phrynosoma blainvillii</i> Blainville's horned lizard	None /SSC/ Group 2, MSCP	Area of sandy soil and low vegetation in valleys, foothills, and semiarid mountains. Annual grassland, chaparral, woodland, coniferous forest, sandy area, frequently near ant hills. Foothills and coastal plains from Los Angeles to northern Baja California (1, 3).	Observed within both Tierra del Sol, and Rugged.	Observed within mitigation lands. Suitable habitat for this species is located throughout the mitigation area. The nearest CNDDDB occurrence for this species is less than 0.4 miles northeast of the mitigation site (6).
<i>Salvadora hexalepis virgultea</i> Coast patch-nosed snake	None/SSC/ Group 2, MSCP	Semi-arid, brushy area and chaparral in canyons, rocky hillsides, plains from northern Carrizo Plains south through coastal zone, south and west of the deserts into coastal northern Baja California, at elevations below sea level to 6,988 feet (1).	High potential to occur within Rugged, and moderate potential to occur within Tierra del Sol.	High. Suitable habitat for this species is located throughout the mitigation area. The nearest CNDDDB occurrence for this species is approximately 28 miles northwest of the mitigation site (6).
<i>Plestiodon skiltonianus interparietalis</i> Coronado skink	None/SSC/ Group 2, MSCP	Grassland, woodlands, pine forests, chaparral, especially open sunny areas, such as clearings and edges of creeks, and rocky areas near streams with lots of vegetation; in litter, rotting logs, under flat stones. Found in coastal ranges and Sierra Nevada and foothills, 0 to 8,300 feet (1, 2).	High potential to occur within Rugged, and low potential to occur within Tierra del Sol due to lack of habitat.	High. Suitable habitat for this species is located around Domingo Lake. The nearest CNDDDB occurrence for this species is approximately 24 miles west of the mitigation site (6).
<i>Crotalus ruber ruber</i> Northern red-diamond rattlesnake	None/SSC/ Group 2, MSCP	Chaparral, oak and pine woodland, arid desert, rocky grassland habitats in rocky area and dense vegetation; rocky desert flats on desert slopes of mountains; Morongo Valley (1).	High potential to occur within both Tierra del Sol and Rugged.	High. Suitable habitat for the northern red-diamond rattlesnake is present within the rocky outcrops observed throughout the mitigation site. Also, any area with dense vegetation provides suitable habitat, including chaparral, scrub, and woodland habitats. The nearest CNDDDB occurrence for this species is approximately 2.3 miles east of the mitigation site (6).
<i>Anniella pulchra pulchra</i> Silvery legless lizard	None/SSC/ Group 2	Loose soils (sand, loam, humus) in coastal dune, coastal sage scrub, woodlands, and riparian habitats (1).	High potential to occur within both Tierra del Sol and Rugged.	High. Suitable habitat for this species is located within the oak woodlands and surrounding areas of open water. The nearest CNDDDB occurrence for this species is approximately 32 miles north of the mitigation site (6).

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**Special-Status Wildlife Species within a Potential to Occur in the Mitigation Site**

Scientific Name/ Common Name	Status (Federal/ State/County) <sup>1</sup>	Habitat Preferences/Requirements	Verified on Rugged and/or Tierra del Sol (direct/indirect evidence)	Potential to Occur within the Mitigation Site and Factual Basis for Determination
<i>Thamnophis hammondi</i> Two-striped garter snake	None/SSC/ Group 1, MSCP	Permanent or semipermanent bodies of water bordered by dense vegetation in rocky area, oak woodland, chaparral, brushland, coniferous forest. Found on Diablo Range, South Coast and Transverse Ranges, and Santa Catalina Island (1, 2).	High potential to occur within Rugged, no potential to occur in Tierra del Sol due to lack of suitable habitat.	High. Suitable habitat is present within areas of open water and surrounding open water. The nearest CNDDDB occurrence for this species is approximately 10.4 miles west of the mitigation site (6).
<i>Spea</i> [= <i>Scaphiopus</i> ] <i>hammondi</i> Western spadefoot	None/SSC/ Group 2, MSCP	Sandy/gravelly soils within mixed woodlands, grasslands, coastal sage scrub, chaparral, sandy washes, foothills, mountains, and other habitats. Breed in rainpools that do not have bullfrogs, fish, or crayfish. Found throughout Great Valley and foothills south of Redding, throughout South Coast Ranges in Southern California south of Transverse Mountains and west of Peninsular Mountains, 0 to 4,478 feet (1).	High potential to occur within Rugged, no potential to occur in Tierra del Sol due to lack of suitable habitat.	High. Suitable habitat is present within areas of open water, and surrounding open water, as well as stream channels located throughout the site. The nearest CNDDDB occurrence for this species is approximately 27.5 miles west of the mitigation site (6).
<i>Birds</i>				
<i>Accipiter cooperii</i> Cooper's hawk (nesting)	None/WL/ Group 1, MSCP	Dense stands of live oak, riparian deciduous, forest habitats near water. Breeds in southern Sierra Nevada foothills, New York Mountains., Owens Valley, and other local area in Southern California, 0 to 8,858 feet (2).	Observed within Rugged and Tierra del Sol.	Known to occur. Suitable habitat for this species is located within the oak woodlands and surrounding areas of open water and this species was observed within the mitigation site during focused bird count surveys <sup>1</sup> (7). The nearest CNDDDB occurrence for this species is approximately 1.3 miles west of the mitigation site (6). Recorded in U26 and surrounding grids T25-27 and U25 and U27 (8).

<sup>1</sup> This is a modified point-count survey method used to obtain a baseline index of bird use within the area. Monitoring data collected, taken from November 2010 through July 2012, included data such as time, the number and species of birds observed, distance and flight height estimate in general, distance and height estimate, habitat, flight pattern and direction, perch height, and behavior of raptors.

**Table 5**  
**Special-Status Wildlife Species within a Potential to Occur in the Mitigation Site**

Scientific Name/ Common Name	Status (Federal/ State/County) <sup>1</sup>	Habitat Preferences/Requirements	Verified on Rugged and/or Tierra del Sol (direct/indirect evidence)	Potential to Occur within the Mitigation Site and Factual Basis for Determination
<i>Agelaius tricolor</i> Tricolored blackbird	BCC/SSC/ Group 1, MSCP	Breeds in emergent wetland with tall, dense cattails or tules; willow, blackberry, tall herb thickets. Feeds in grassland and cropland habitats. Found throughout Central Valley and coastal area south of Sonoma County (2).	High potential to forage within Rugged, not expected to nest. No suitable habitat on Tierra del Sol.	High potential to forage. Meadow habitat, and non-native grassland habitat on site provides suitable foraging habitat. Potential nesting suitable habitat on site around Domino Lake. Red-winged blackbirds have been observed in the area (7). The nearest CNDDDB occurrence for this species is approximately 4.5 miles east of the mitigation site (6). Recorded in U26 and surrounding grids T25-27 and U25 (8).
<i>Aimophila ruficeps canescens</i> Southern California rufous-crowned sparrow	None/WL/ Group 1, MSCP	Sparse mixed chaparral and coastal scrub habitats (especially coastal sage) in Southern California on slopes of Transverse and Coastal Ranges, north to Los Angeles County, and northwestern Baja California. Found on steep, rocky hillsides with grass and forb patches, and grassy slopes without shrubs, if rock outcrops are present (2, 4).	High potential to occur within Tierra del Sol and Rugged.	High. Suitable habitat for this species is located throughout the mitigation area. The nearest CNDDDB occurrence for this species is approximately 26.5 miles northwest of the mitigation site (6). Recorded in U26 (8).
<i>Amphispiza belli belli</i> Bell's sage sparrow	BCC / WL/ Group 1, MSCP	Low, dense stands of shrubs; chaparral dominated by chamise; coastal scrub dominated by sage. Coast Ranges from northern California to northwestern Baja California, western slope of Sierra Nevada (2, 4).	Observed within both Tierra del Sol and Rugged.	High. Suitable habitat for this species is located throughout the mitigation area. The nearest CNDDDB occurrence for this species is approximately 22 miles northwest of the mitigation site (6). Not recorded in grids; sage sparrow ( <i>Amphispiza belli</i> ) recorded in U26 and surrounding grids T25-27, U25 and U27 (8).

**Table 5**  
**Special-Status Wildlife Species within a Potential to Occur in the Mitigation Site**

Scientific Name/ Common Name	Status (Federal/ State/County) <sup>1</sup>	Habitat Preferences/Requirements	Verified on Rugged and/or Tierra del Sol (direct/indirect evidence)	Potential to Occur within the Mitigation Site and Factual Basis for Determination
<i>Aquila chrysaetos</i> Golden eagle (nesting and wintering)	BCC/FP, WL/ Group 1, MSCP	Rolling foothills, mountain area, sage-juniper flats, and desert throughout California (2).	High potential to forage on Rugged with a low potential to nest. Not expected to forage or nest within Tierra del Sol.	Known to occur. Suitable foraging habitat is present within most of the mitigation site; moderate potential to nest within rocky areas. Recorded nesting sites are located in the region, but off site. This species was observed within the mitigation site during focused bird count surveys for the area (7). The nearest CNDDDB occurrence for this species is approximately 13 miles west of the mitigation site (6). Recorded in surrounding grids T26, T27, and U25 (8).
<i>Buteo lineatus</i> Red-shouldered hawk	None/None/ Group 1	Riparian and woodland habitats interspersed with swamps and wetlands found along coast, southern deserts, and in Central Valley, 0 to 4,921 feet (2).	Moderate potential to occur within Tierra del Sol and high potential to occur within Rugged.	Known to occur. Suitable habitat for this species is located throughout the mitigation area. May use the project area for nesting and foraging. This species was observed within the mitigation site during focused bird count surveys for the area (7). There are no CNDDDB occurrence records for this species (6). Recorded in surrounding grids T25-27 and U25 (8).
<i>Cathartes aura</i> Turkey vulture	None/None/ Group 1, MSCP	Rangeland, agriculture, grassland; uses cliffs and large trees for roosting, nesting, and resting throughout most of California during breeding season (2).	Observed within both Tierra del Sol and Rugged.	Known to occur. Suitable habitat for this species is located throughout the mitigation area. Suitable open foraging habitat present on site. Suitable nesting habitat not available on site. This species was observed within the mitigation site during focused bird count surveys for the area (7). There are no CNDDDB occurrence records for this species (6). Recorded in grid U26 and surrounding grids T25-27, U25, and U27 (8).

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Scientific Name/ Common Name	Status (Federal/ State/County) <sup>1</sup>	Habitat Preferences/Requirements	Verified on Rugged and/or Tierra del Sol (direct/indirect evidence)	Potential to Occur within the Mitigation Site and Factual Basis for Determination
<i>Circus cyaneus</i> Northern harrier (nesting)	None/SSC/ Group 1, MSCP	Open wetlands (nesting), pasture, old fields, dry uplands, grasslands, rangelands, coastal sage scrub. Resident of northeastern plateau and coastal area; less common resident in Central Valley. Breeds at marsh edge in shrubby vegetation in Central Valley and Sierra Nevada (0 to 5,577 feet), and northeastern California (up to 2,625 feet (2)).	Observed within Rugged and not expected to occur within Tierra del Sol.	Known to occur. This species is only expected as a winter visitor in grassland habitat and the more open area of scrub and chaparral communities on site. This species was observed within the mitigation site during focused bird count surveys for the area (7). The nearest CNDDDB occurrence for this species is approximately 47 miles west of the mitigation site (6). Recorded in U26 and surrounding grids T27 and U27 (8).
<i>Falco mexicanus</i> Prairie falcon (nesting)	BCC/WL/ Group 1	Grassland, savannas, rangeland, agriculture, desert scrub, alpine meadows; nest on cliffs or bluffs. Southeastern deserts northwest through Central Valley and along inner Coast Ranges and Sierra Nevada (2).	Observed within Rugged. Not expected to nest within either site but there is a high potential for foraging.	High. There is suitable foraging habitat throughout the site and potential nesting habitat within the rocky areas. The nearest CNDDDB occurrence for this species is centered approximately 2 miles west of the mitigation site (6). Not recorded in grids (8).
<i>Lanius ludovicianus</i> Loggerhead shrike (nesting)	BCC/SSC/ Group 1, MSCP	Open habitats with scattered shrubs, trees, or other perches; highest density in open-canopied valley foothill hardwood, valley foothill hardwood-conifer, valley foothill riparian, pinyon-juniper, juniper, desert riparian, and Joshua tree habitats. Found in foothills and lowlands throughout California (2).	Observed within Rugged and Tierra del Sol.	Known to occur. Suitable nesting habitat for this species is located throughout the mitigation area. This species was observed within the mitigation site during focused bird count surveys for the area (7). The nearest CNDDDB occurrence for this species is approximately 24 miles north of the mitigation site (6). Recorded in U26 and surrounding grids T25-27, U25 and U27 (8).
<i>Mammals</i>				
<i>Chaetodipus californicus femoralis</i> Dulzura (California) pocket mouse	None/SSC/ Group 2	Open habitat, coastal sage scrub, chaparral, oak woodland, chamise chaparral, mixed conifer habitats; disturbance specialist; 0 to 3,000 feet (5).	Low potential to occur within Tierra del Sol due to lack of suitable habitat. High potential to occur within Rugged.	Moderate. Suitable habitat for this species exists within the oak woodland and chaparral habitats within the mitigation area. Mitigation area is located just outside of the range for this species. The nearest CNDDDB occurrence for this species is approximately 4 miles north of the mitigation site (6).

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Scientific Name/ Common Name	Status (Federal/ State/County) <sup>1</sup>	Habitat Preferences/Requirements	Verified on Rugged and/or Tierra del Sol (direct/indirect evidence)	Potential to Occur within the Mitigation Site and Factual Basis for Determination
<i>Chaetodipus fallax fallax</i> Northwestern San Diego pocket mouse	None/SSC/ Group 2	Coastal sage scrub, grassland, sage scrub-grassland ecotones, sparse mixed and chamise chaparral; rocky and gravelly area with yucca overstory, 500 to 3,000 feet (3).	Not expected to occur within Tierra del Sol due to lack of suitable habitat. High potential to occur within Rugged.	Moderate. Suitable habitat for this species is located throughout the mitigation area. Mitigation area is located just outside of the range for this species. The nearest CNDDDB occurrence for this species is approximately 12 miles west of the mitigation site (6).
<i>Choeronycteris mexicana</i> Mexican long-tongued bat	None/SSC/ Group 2, WBWG: H	Desert and montane riparian, desert succulent scrub, desert scrub, and pinyon-juniper woodland. Roosts in caves, mines, and buildings. Summer resident in San Diego County (2).	Not expected to occur within Tierra del Sol due to lack of suitable habitat. High potential to occur within Rugged.	High. Suitable foraging habitat for this species is located throughout the mitigation area. The nearest CNDDDB occurrence for this species is approximately 40 miles northwest of the mitigation site (6).
<i>Corynorhinus townsendii</i> Townsend's big-eared bat	None/SSC/ Group 2, MSCP, WBWG:H	Mesic habitats; gleans from brush or trees, or feeds along habitat edges. Found in all habitats but subalpine and alpine throughout California (2).	Low potential to occur within Tierra del Sol due to lack of suitable habitat. High potential to occur within Rugged.	High. Suitable foraging habitat for this species is located throughout the mitigation area. The nearest CNDDDB occurrence for this species is approximately 11 miles northwest of the mitigation site (6).
<i>Euderma maculatum</i> Spotted bat	None/SSC/ Group 2, WBWG:H	Foothills, mountains, desert regions of Southern California, including arid deserts, grasslands, and mixed conifer forests. Roosts in rock crevices and cliffs. Feeds over water and along washes (2).	Not expected to occur within Tierra del Sol due to lack of suitable habitat. High potential to occur within Rugged.	High. Suitable foraging habitat for this species is located throughout the mitigation area. The nearest CNDDDB occurrence for this species is approximately 55 miles northwest of the mitigation site (6).

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Scientific Name/ Common Name	Status (Federal/ State/County) <sup>1</sup>	Habitat Preferences/Requirements	Verified on Rugged and/or Tierra del Sol (direct/indirect evidence)	Potential to Occur within the Mitigation Site and Factual Basis for Determination
<i>Eumops perotis californicus</i> Greater western mastiff bat	None/SSC/ Group 2, MSCP, WBWG:H	Roosts in small colonies in cracks and small holes, seeming to prefer man-made structures. All subalpine and alpine habitats; 50 to 10,000 feet (3).	Low potential to occur within Tierra del Sol due to lack of suitable habitat. High potential to occur within Rugged.	High. Suitable foraging habitat for this species is located throughout the mitigation area. The nearest CNDDDB occurrence for this species is approximately 11 miles northwest of the mitigation site (6).
<i>Lasiurus blossevillii</i> Western red bat	None/SSC/ Group 2, WBWG:H	Prefers edges with trees for roosting and open areas for foraging. Roosts in woodlands and forests. Forages over grasslands, shrublands, woodlands, forests, and croplands. Found south of Shasta County to Mexican border, and west of the Sierra Nevada/Cascade Crest. In winter, occupies coastal regions and lowlands south of San Francisco Bay (2).	Not expected to occur within Tierra del Sol due to lack of suitable habitat. High potential to occur within Rugged.	High. Suitable foraging habitat for this species is located throughout the mitigation area. The nearest CNDDDB occurrence for this species is approximately 15 miles west of the mitigation site (6).
<i>Lepus californicus bennettii</i> San Diego black-tailed jackrabbit	None/SSC/ Group 2, MSCP	Arid habitats with open ground; grasslands, coastal sage scrub, agriculture, disturbed area, and rangelands in Southern California (2, 4).	Observed within Tierra del Sol and Rugged.	This species was observed during surveys. The nearest CNDDDB occurrence for this species is less than 1 mile north of the mitigation site (6).
<i>Macrotus californicus</i> California leaf-nosed bat	None/SSC/ Group 2, WBWG:H	Desert riparian, desert wash, desert scrub, desert succulent shrub, alkali desert scrub, and palm oasis. Found from Riverside, Imperial, San Diego, and San Bernardino Counties, south to Mexican border; fairly common along parts of Colorado River, elevation approximately 1,969 feet (2).	Not expected to occur within Tierra del Sol due to lack of suitable habitat. High potential to occur within Rugged.	High. Suitable foraging habitat for this species is located throughout the mitigation area. The nearest CNDDDB occurrence for this species is approximately 14 miles northeast of the mitigation site (6).

**Table 5**  
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Scientific Name/ Common Name	Status (Federal/ State/County) <sup>1</sup>	Habitat Preferences/Requirements	Verified on Rugged and/or Tierra del Sol (direct/indirect evidence)	Potential to Occur within the Mitigation Site and Factual Basis for Determination
<i>Neotoma lepida intermedia</i> San Diego desert woodrat	None/SSC/ Group 2	Joshua tree, pinyon-juniper, mixed and chamise-redshank chaparral, sagebrush, and most desert habitats. Found south of San Luis Obispo County to San Diego County and San Bernardino and Riverside Counties, 0 to 8,530 feet (2, 4).	Observed within Tierra del Sol and high potential to occur within Rugged.	High. Suitable habitat for this species is located throughout the mitigation area. The nearest CNDDDB occurrence for this species is approximately 1 mile west of the mitigation site (6).
<i>Nyctinomops macrotis</i> Big free-tailed bat	None/SSC/ WBWG:MH, Group 2	Rugged, rocky canyons in Riverside, Los Angeles, and San Diego Counties, but scattered records across California to Oakland (2).	Not expected to occur within Tierra del Sol due to lack of suitable habitat. High potential to occur within Rugged.	High. Suitable foraging habitat for this species is located throughout the mitigation area. The nearest CNDDDB occurrence for this species is approximately 16 miles northwest of the mitigation site (6).

<sup>1</sup> **Status Designations:**

**Federal**

BCC U.S. Fish and Wildlife Service: Birds of Conservation Concern  
 WBWG: H Western Bat Working Group: High Priority  
 WBWG: MH Western Bat Working Group: Medium-High Priority

**State Designations:**

SSC California Special Concern Species  
 FP California Department of Fish and Game Fully Protected Species  
 WL California Department of Fish and Game Watch List Species

**County Designations:**

MSCP Draft East County MSCP covered species

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1. Nafis 2012
2. Zeiner et al. 1988, 1990a-b
3. SDNHM 2012
4. NatureServe 2012
5. Brehme, C., D. Clark, C. Rochester, and R. Fisher. 2011.
6. CDFW 2013b. CNDDDB.
7. Dudek 2012. Unpublished data. Bird Utilization Counts (BUC) for Jewell Valley. Conducted June 2010 through June 2012.
8. Unitt 2004.

## CONCLUSION

Based upon vegetation mapping, elevation ranges, soils, and location of the mitigation site, the mitigation site contains suitable habitat to compensate for the loss of special-status plant and wildlife species that will be, or could potentially be impacted by the Tierra del Sol and Rugged solar farm projects. The mitigation lands, as a whole, provide adequate mitigation for most identified impacts, including impacts to vegetation communities, one special-status plant species – sticky geranium – and special-status wildlife species. Additional mitigation will be required for desert beauty, Jacumba milk-vetch and Tecate cypress because the site does not support sufficient populations of these two species. The site has not yet been evaluated for Tecate tarplant, and a survey pass for this species is scheduled for fall 2013.

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