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PHILLIPS 66

Nesting Burrowing Owl Survey Report

Santa Maria Refinery Rail Project
San Luis Obispo County, California

APNs: #092-401-011, #092-401-013, #092-411-005, #092-401-005

ARCADIS

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"As a County –approved biologist, I hereby certify that this Biological Resources Assessment was prepared according to the Guidelines established by the County of San Luis Obispo Department of Planning and Building and that the statements furnished in the report and associated maps are true and correct to the best of my knowledge and belief; and I further certify that I was present throughout the site visit(s) associated with this report."

Nesting Burrowing Owl Survey Report

Santa Maria Refinery Project Site, San Luis Obispo County, California

Prepared for:
Phillips 66

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August 25, 2013

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Acronyms and Abbreviations

AOU	American Ornithologists' Union
CDFW	California Department of Fish and Wildlife
cm	centimeter
CNDDB	California Natural Diversity Database
CSC	California Special Concern Species
CT	California-listed Threatened Species
ºF	degrees Fahrenheit
FE	Federally-listed Endangered Species
FSC	Federal Special Concern Species
FT	Federally-listed Threatened Species
ha	hectare
km	kilometer
MBTA	Migratory Bird Treaty Act
m	meter
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey

1. Executive Summary

This breeding burrowing owl survey report presents the findings of a survey of the portion of the Phillips 66 Santa Maria Refinery (SMR) property (Figure 1) proposed for modification of an existing rail spur and construction of an unloading facility designed to facilitate rail delivery of crude oil to the refinery. The survey included the approximately 50-acre construction area (the Site) and the surrounding area. The SMR property is located near Highway 1 on the Nipomo Mesa in Arroyo Grande, San Luis Obispo County, California. The purpose of the ARCADIS surveys was to identify nesting burrowing owls occurring on the Site or in the adjacent areas.

The Site supports degraded central dune scrub habitat that has experienced moderate to heavy disturbance from various land uses; primarily cattle grazing. The existing habitat is suitable for the western burrowing owl, and the species was observed on two occasions in the general project area during winter (2012) biological surveys.

Spring and summer conditions at the Site also appear suitable for potential breeding by this species, however; no evidence of breeding by burrowing owls was found during focused surveys within the prime breeding period for the species; April 15 to July 15. Breeding by burrowing owls along the coast in Santa Barbara and San Luis Obispo Counties has not been documented since the late 1980s. Though not documented in reviewed literature or databases, a burrowing owl nest was reported in the early 1990s near the intersection of Black Road and Highway 1 in the Santa Maria Valley (Brad Schram personal communication). Breeding burrowing owls are now generally restricted to inland locations in these two counties (i.e. Carrizo Plains and Cuyama Valley). ARCADIS is not aware of any records confirming breeding along the coast or near the Site by burrowing owls over the past 20 years.

While burrowing owls are known to over winter on the Site; the Phillips 66 SMR rail project is not expected to affect nesting burrowing owls as the species is not known to breed in the area and because no nests were identified at the Site during focused surveys within the prime breeding period for the species.

2. Introduction

This report provides the results of recent surveys to determine if nesting burrowing owls occur in or nearby the Phillips 66 Santa Maria Refinery (SMR) Rail Project Site (the Site). The Phillips 66 SMR property consists of four assessor's parcels within the South County Planning Area of San Luis Obispo County (APN #092-401-011, #092-401-013, #092-411-005, and #092-401-005). The approximately 1,650-acre (668 ha) SMR property is located on Highway 1 approximately 5 miles (8.05 km) south of the intersection of Highway 1 and Halcyon Road on the Nipomo Mesa in Arroyo Grande, San Luis Obispo County, California (Figure 1). The project Site is a small portion of the

SMR property and the proposed project area is currently used for industrial operations and cattle grazing. The current land use designation is “Industrial”; this designation is not expected to change as a result of the proposed project.

The SMR property is bordered to the north by agriculture fields, industrial facilities, and residential housing. It is bordered to the south by agriculture, by residential development to the east, and by undeveloped coastal dunes to the west

Burrowing owls were observed on two occasions on the Site during surveys in the winter of 2012. While breeding on the coastal site is considered unlikely based on the absence of known coastal breeding locations in the County over the last two decades, the winter sightings prompted focused breeding season surveys be conducted to determine if burrowing owls are presently breeding on the Site.

3. Methods

ARCADIS biologists have been onsite periodically through the winter and spring of 2013 and conducted focused nesting burrowing owl (*Athene cunicularia*) surveys of the project area on July 12th and July 15th, 2013. Surveys were conducted during the day under relatively clear, calm weather conditions and each survey lasted approximately 5 hours. The biologist conducting the July 12 survey consisted of ARCADIS Staff Ecologist Mr. Tom Graham. The July 15 survey was conducted by ARCADIS Wildlife Biologist Mr. Mitch Siemens. Both biologists have extensive experience conducting surveys and monitoring of burrowing owl activity. The surveys focused on the rail spur extension project area including an approximately 150 foot (45.7m) buffer around the project area. The Site was accessed on foot throughout the area shown on Figure 2 and Figure 3 including the buffer area that included adjacent areas. The outer limits and centerline of the proposed rail spur corridor were marked with painted wooden surveyor stakes prior to the survey. Surveying biologists walked transects across the width of the rail spur corridor. The transects were spaced approximately 100-feet (30 m) apart where habitat allowed good visual coverage. Spacing between transects was adjusted (reduced) as necessary to maintain visual coverage of the entire survey area. All burrows large enough to potentially support burrowing owls encountered during the surveys were inspected for sign of burrowing owl activity (i.e. white-wash, prey remains, moulted feathers, castings). Surveyors used Nikon 8X42 roof prism binoculars to aid in identification of birds and other wildlife encountered in the field. Surveyors stopped frequently to scan the landscape in all directions with binoculars in search of burrowing owls that might be seen perched in front of a burrow, on low vegetation, or on fence posts or other such common roost locations. Photographs of the representative habitat within the survey area were taken (see Appendix A).

Desktop Data Search: Prior to performing the field work, ARCADIS reviewed documents concerning the Site and the surrounding areas, including a search of the California Natural Diversity Database (CNDDB; California Department of Fish and Wildlife [CDFW] 2013) for the United States Geological

Survey (USGS) 7.5-minute series Oceano topographic quadrangle and the adjacent quadrangles (Arroyo Grande NE, Guadalupe, Nipomo, Santa Maria, Tar Spring Ridge, Orcutt, Casmalia, and Pismo Beach). Aerial photographs from approximately the last 20 years were also reviewed to better understand the history of the Site. Other resources employed for this assessment included various state and federal regulations, consultation with other local biologists about issues in the area, and ARCADIS's direct experience on the Site and in the surrounding area including a previous biological site assessment conducted for a ConocoPhillips project (LFR 2005) and work on the current project. ARCADIS biologists also interviewed a local rancher who has a long history tending cattle on the Site.

Wildlife Diversity: Although this report is a focused supplement to the more comprehensive wildlife and botanical surveys conducted for the project, all wildlife species observed or assumed present from sign (e.g., tracks, burrows, scat, nests) during the surveys are listed in Table 1. Nomenclature for bird species follows the most recent taxonomy as reflected in the 1983 American Ornithologists' Union (AOU) Check-List of North American Birds and published supplements through 1998.

4. Habitat Description

The Nipomo Mesa and the Central Coast region in general occur in an important biological transition zone between the moister communities of central and northern California and the more arid communities of southern California. The Site and surrounding area supports three main vegetation communities within the boundaries of the study area and depicted in Figures 2 and 3: two upland communities – Central Dune Scrub and Non-native Veldt Grassland, and one small wetland community – Arroyo Willow Scrub. However, no Arroyo Willow Scrub habitat occurs within the actual project area. The entire survey area is currently grazed by cattle resulting in mostly low, sparse vegetation with intermittent open areas supporting sparse vegetation. Rabbit, kangaroo rat, and other small mammal burrows are common throughout the survey area. These habitat conditions are ideal for the western burrowing owl and for the small mammals, lizards, birds, and insects that they prey upon.

5. Burrowing Owl

The western burrowing owl (a California species of special concern) is typically found in dry, open grasslands, scrublands, deserts and agricultural areas. It is a long legged owl, with a short tail and relatively long, narrow wings, yellow eyes and flat head. Adults are generally pale brown with whitish spots and white throat while juveniles are more buffy colored lacking white coloration. It is the only small local owl likely to be observed perched in the open during the daytime (Sibley 2000). Burrowing owls are capable of creating their own burrows, but typically occupy burrows abandoned by medium sized mammals; especially the California ground squirrel (*Otospermophilus beecheyi*). Abandoned pipes and debris piles are also commonly used by burrowing owls for shelter. Burrowing

owls feed on a wide range of animals including insects, small mammals, birds, and reptiles. The breeding season across their range can start as early as late February and is typically over by late August. Up to nine eggs are laid, and incubation is complete in 28 to 30 days. Young owls fledge in about 44 days.

Western burrowing owls commonly winter and historically have nested in San Luis Obispo and Santa Barbara Counties; primarily in the Cuyama Valley and Carrizo Plains but including infrequent breeding events in the Santa Maria Valley up until the late 1980s. Over the past 20 years, documented breeding by burrowing owls along the coast in these two counties has been non-existent. Loss of suitable habitat and pesticide use are reported as major causes for the decline of the western burrowing owl.

6. Survey Results

There were no nesting burrowing owls identified during the peak breeding season surveys and no individual burrowing owls were observed. Burrow locations where owls were observed and recorded during the winter surveys were inspected and no evidence suggesting owl activity was found.

7. Recommended Burrowing Owl Protection Measures

The following measures (and others) are included in the more comprehensive sensitive wildlife report and are reiterated here for reference as they related to protection of burrowing owls.

- Pre-construction wildlife surveys – Preconstruction wildlife surveys should be conducted no more than 14 days prior to the start of anticipated clearing activities. The purpose of the surveys is to identify any wildlife, especially sensitive wildlife species such as burrowing owls, that might occur in the proposed work area and that can be passively or actively relocated away from the area to avoid project-related impacts.

- Work area delineation – The work area, including the proposed rail line route, access roads, and equipment staging areas, should be delineated with orange construction fencing (or equivalent) in order to consolidate anticipated disturbance areas resulting from vehicle and foot traffic by construction personnel entering and leaving the project area, as well as to prevent unnecessary impacts to vegetation and wildlife areas outside of the project footprint.

- Biological monitoring – A biological monitor should be present during initial clearing to assist with implementation of the resource protection measures, to help reduce impacts to sensitive vegetation/habitat where feasible, to identify wildlife in or near the work area and

to help determine impact avoidance measures for such species, and to relocate wildlife species away from the work area if necessary.

8. Conclusion

The Site offers suitable habitat for wintering burrowing owls and burrowing owls were observed on the Site during the winter biological surveys. Spring and summer conditions at the Site also appear suitable for potential breeding by this species, however; no evidence of breeding was found during general and focused surveys within the prime breeding period for the species; April 15 to July 15. Breeding by burrowing owls along the coast in Santa Barbara and San Luis Obispo Counties has not been documented since the late 1980s, and possibly early 1990s (Brad Schram personal communication), and breeding by the species is now considered restricted to inland locations in these two counties (i.e. Carrizo Plains and Cuyama Valley). ARCADIS is not aware of any records confirming breeding along the coast or near the Site by burrowing owls over the past 20 years.

While burrowing owls are known to over winter on the Site; the Phillips 66 SMR rail project is not expected to affect nesting burrowing owls as the species typically breeds in inland locations and because no nests were identified at the Site during focused surveys within the prime breeding period for the species.

Impacts to wintering burrowing owls can be avoided by conducting pre-construction presence/absence surveys, and if owls are found, scheduling work around the occupied area and setting up work exclusion zones to prevent disturbance to owls. As a last resort, passive exclusion techniques utilizing one-way doors may be used under direction from the State Department of Fish and Wildlife that prevent burrowing owls from re-entering an occupied burrow within the project footprint and in turn motivate them to occupy burrows outside of the disturbance area where they are safe.

9. References

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Tables

Table 1: Observed Wildlife Species (2012 and 2013 surveys November – July)

Scientific Name	Common Name
MAMMALS	
Canis latrans	**Coyote**
***Dipodomys* sp.**	**Kangaroo rat**
Lepus californicus	**Black-tailed jackrabbit**
Mephitis mephitis	**Striped skunk**
Mustela frenata	Long tailed weasel
Peromyscus sp.	Deer mouse
Procyon lotor	Raccoon
Sylvilagus audubonii	Cottontail rabbit
Thomomys bottae	**Botta's pocket gopher**
REPTILES AND AMPHIBIANS	
Anniella pulchra	Silvery legless lizard
Crotalus viridis	Pacific rattlesnake
Lampropeltis getula	California king snake
Masticophis lateralis	Striped racer snake
Phrynosoma coronatum	Coast horned lizard
Pituophis catenifer	Gopher snake
Sceloporus occidentalis	**Western fence lizard**
Uta stansburiana	**Side-blotched lizard**
INVERTEBRATES	
Danaus plexippus	**Monarch butterfly**
BIRDS	
Accipiter cooperii	**Cooper's hawk**
Athene cunicularia	**Western burrowing owl**
Bubo virginianus	**Great horned owl**
Buteo Jamaicensis	**Red-tailed hawk**
Buteo regalis	**Ferruginous hawk**
Callipepla californica	**California quail**
Calypte anna	**Anna's hummingbird**
Carduelis lawrencei	**Lesser goldfinch**
Carpodacus mexicanus	**House finch**
Cathartes aura	**Turkey vulture**
Circus cyaneus	**Northern harrier**
Dendroica coronata	**Yellow-rumped warbler**
Falco sparverius	**American kestrel**
Lanius ledovicianus	**Loggerhead shrike**
Passerculus sandwichensis	**savannah sparrow**
Picoides nuttallii	**Nuttall's woodpecker**
Pipilo crissalis	**California towhee**
Sayornis nigricans	**Black phoebe**
Sayornis saya	**Say's phoebe**
Zonotrichia leucophrys	**White-crowned sparrow**

Note:

List includes wildlife species not observed during the survey but anticipated to be found commonly on the Site. Species observed or identified by sign are listed in bold print.

Table 2: Present or CNDDB Recorded Sensitive Elements of Biological Diversity for Site and Surrounding Areas

Scientific Name	Common Name	Status (USFWS/CDFG)	Habitat	Occurrence of Element on Project Site
Amphibians				
Ambystoma californiense	California tiger salamander	FE / CSC	Grasslands, woodland; slow moving or ponded aquatic features for breeding	Not observed. Marginal to poor habitat present / No known breeding ponds in project vicinity
Rana aurora draytonii	California red-legged frog	FT / CSC	Lakes, ponds, marshes, slow-moving streams, riparian environments	Not observed. Species known to occur in aquatic features within one mile of the site. Potentially present in Oso Flaco Creek.
Spea hammondii	Western spadefoot toad	- / CSC	Foothills, woodlands, grasslands; temporary ponds and vernal pools for breeding	Not observed; marginally suitable upland habitat present. Aquatic habitat for breeding unlikely to occur on the site.
Taricha torosa torosa	Coast Range newt	FSC / CSC	Foothills, woodlands, riparian environments; moving clear water streams for breeding	Not observed; suitable habitat absent on site.
Birds				
Accipiter cooperii	**Cooper's hawk**	**- / CSC**	**Variety of habitats suitable; oak woodlands, forests, riparian areas for nesting.**	**Observed on site; Likely to forage on the site and occur intermittently on the site throughout the year.**
Aquila chrysaetos	Golden eagle	- / CSC (Fully Protected)	Open savannahs, grasslands, foothills and woodlands; nests in large trees or on cliff faces	Not observed; Species may occur intermittently on the site. Not likely to nest on the site.
Agelaius tricolor (nesting colony)	Tricolored blackbird	(FSC) MNBMC / CSC	Ponds, marshes, lakes	Not observed; species not likely to occur on the site; no suitable aquatic habitat on the site.
Athene cunicularia	**Western burrowing owl**	**(FSC) MNBMC / CSC**	**Open savannahs, grasslands, foothills and barren areas; nests in small mammal burrows**	**Observed on site during winter surveys only; suitable scrub habitat available on site; not observed during peak breeding season surveys**
Buteo regalis	**Ferruginous hawk**	**(FSC) MNBMC / CSC**	**Open savannahs, grasslands, foothills**	**Observed on site; suitable foraging habitat present.**

Table 2: Present or CNDDB Recorded Sensitive Elements of Biological Diversity for Site and Surrounding Areas

Scientific Name	Common Name	Status (USFWS/CDFG)	Habitat	Occurrence of Element on Project Site
			and fields; may potentially over-winter on the site	
Charadrius alexandrinus nivosus (nesting)	Western snowy plover	FT / CSC	Sandy beaches, open mud-flats and dunes	Not observed; suitable habitat absent for this species.
Circus cyaneus	**Northern harrier**	**- / CSC**	**Open fields, grasslands, savannahs, and scrub habitat**	**Observed on site; suitable foraging habitat on the site for this species**
Elanus leucurus	White-tailed kite	MNBMC / CSC (Fully Protected)	Fields, grasslands, oak woodlands, coastal scrub	Not observed; suitable habitat available for this species; species likely to occur on the site intermittently throughout the year.
Eremophila alpestris	California horned lark	- / CSC	Open fields, agricultural fields, barren areas, coastal dune scrub	Not observed; suitable open scrub and dune habitat present
Falco mexicanus	Prairie falcon	FSC / CSC	Deserts, foothills, grasslands and open savannahs; nests on cliff faces	Not observed; species may occur infrequently on the site while foraging
Gymnogyps californianus	California condor	FE/SE	Mountains, foothills, woodlands, grasslands	Not observed; potential foraging habitat on the site for this species
Laterallus jamaicensis coturniculus	California black rail	ST/ CDFG-FP	Marsh, estuary habitats	Not observed; no suitable habitat present for this species.
Lanius ludovicianus	**Loggerhead shrike**	**- / CSC**	**Deserts, foothills, grasslands and open savannahs; nests on cliff faces**	**Observed on the site; suitable habitat available for this species; species likely to occur on the site intermittently throughout the year.**
Sternula antillarum browni	California least tern	FE/SE	Coastal dunes, estuaries, beaches	Not observed; very limited dune habitat available on Site. No foraging habitat on Site
Fish				
Eucyclogobius newberryi	Tidewater goby	FE / CSC	Coastal lagoons and streams	Not expected; no suitable aquatic habitat present
Gasterosteus aculeatus williamsoni	Unarmored threespine stickleback	FE/SE	Clear water streams	Not expected; no suitable aquatic habitat present
Oncorhynchus mykiss irideus	Steelhead trout	FT / CSC	Coastal streams and rivers	Not expected; no suitable aquatic habitat present

Table 2: Present or CNDDB Recorded Sensitive Elements of Biological Diversity for Site and Surrounding Areas

Scientific Name	Common Name	Status (USFWS/CDFG)	Habitat	Occurrence of Element on Project Site
Invertebrates				
Ablautus schlingeri	Oso Flaco robber fly	- / -	Sand dunes	Not observed; species last reported in 1962
Areniscythris brachypteris	Oso Flaco flightless moth	- / -	Coastal dunes	Not observed; species last reported in 1972
Chlosyne leanira elegans	Oso Flaco patch butterfly	- / -	**Coastal dunes**	Not observed; species last reported in 1983
Cincindela hirticollis gravida	sandy beach tiger beetle	- / -	Coast sand beaches	Not observed; no suitable habitat present
Danaus plexippus	**Monarch butterfly**	**- / -**	**Winter roosts occur in canopy of Monterey pine, eucalyptus and other large tree groves**	**Observed; Species likely to occur intermittently on the site; no winter roost locations known to occur on the site**
Lichnanthe albipilosa	White sand bear scarab beetle	- / -	Coastal dunes	Not observed; species last reported in 1972
Plebejus icarioides moroensis	Morro Bay blue butterfly	- / -	Coastal dunes	Not observed; found at Oso Flaco Lake in 2004; *Lupinus chamissonis* (found at the project site?) is host plant for this butterfly
Mammals				
Antroxous pallidus	Pallid bat	- / CSC	Variety of habitats including woodlands, fields, coastal scrub and grasslands for foraging	Not observed; suitable foraging habitat present
Corynorhinus townsendii	Townsend's big-eared bat	- / CSC	Occurs in a variety of different habitat types; roosts in the open hanging from walls, ceilings	Not observed; suitable foraging habitat present
Lasionycteris noctivagans	Silver-haired bat	- / -	Lower montane coniferous forests; riparian corridors	Not observed; marginal to poor habitat suitability for this species
Lasiurus blossevillii	Western red bat	- / CSC	Cismontane woodland, lower montane coniferous forests, riparian forests - woodlands	Not observed; marginal to poor habitat suitability for this species
Lasiurus cinereus	Hoary bat	- / -	Broadleaved upland forest, cismontane	Not observed; potentially suitable foraging habitat present

Table 2: Present or CNDDB Recorded Sensitive Elements of Biological Diversity for Site and Surrounding Areas

Scientific Name	Common Name	Status (USFWS/CDFG)	Habitat	Occurrence of Element on Project Site
			woodland, lower montane coniferous forests, woodlands	
Myotis yumanensis	Yuma myotis	- / -	Cismontane woodland, lower montane coniferous forests, riparian forests - woodlands	Not observed; potentially suitable foraging habitat present
Taxidea taxus	American badger	- / CSC	Grasslands, woodlands, chaparral, coastal scrub, foothills	Not observed; suitable habitat present; species likely to occur on the site periodically.
Reptiles				
Anniella pulchra	Silvery legless lizard	FSC / CSC	Coastal dune scrub, woodlands with friable soil	Not observed; suitable habitat present on the site. Species is likely to occur within the project area.
Actinemys marmorata	Pacific pond turtle	FSC / CSC	Aquatic environments of lakes, streams, marshes, ponds and riparian systems	Not observed; known to occur in Oso Flaco Creek and other aquatic environments nearby.
Phrynosoma coronatum	Coast horned lizard	FSC / CSC	Coastal scrub, coastal dune scrub, woodlands, chaparral and grasslands	Not observed; suitable habitat present on the site. Species is likely to occur within the project area.
Thamnophis hammondii	Two-striped gartern snake	- / CSC	Marshes, ponds, lakes, streams, riparian systems	Not observed; not suitable aquatic habitat on site

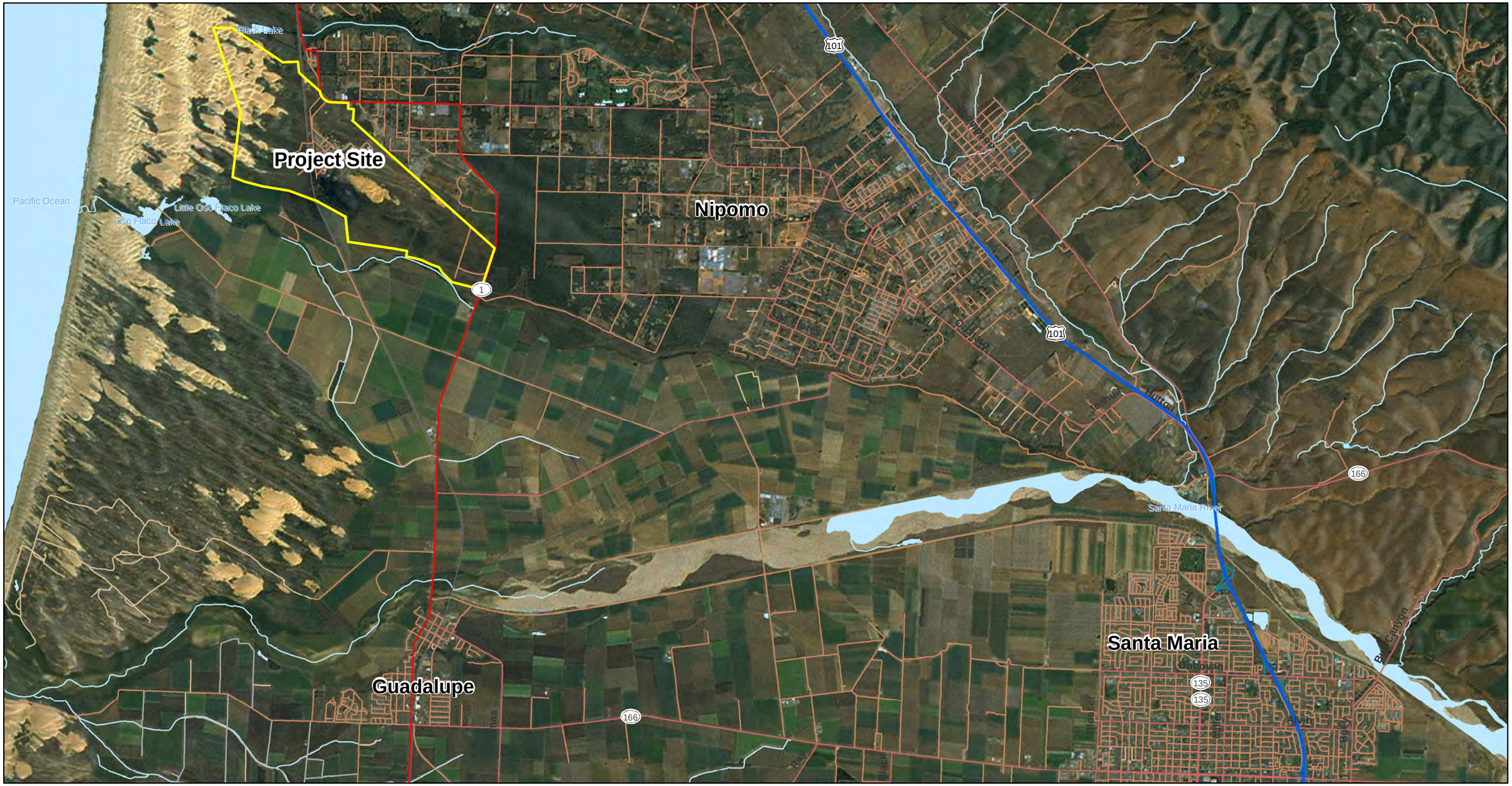
Status Codes

United States Fish and Wildlife Service (USFWS)
FE – Federal Endangered
FT – Federal Threatened
SOC – Species of Concern as Listed by Sacramento Office (USFWS 2004)
MNMBC – Migratory Nongame Bird of Management Concern
FSC – Federal Special Concern Species

California Department of Fish and Wildlife (CDFW)
CE – California Endangered
CT – California Threatened
CR – California Rare
CSC – California Species of Concern
BCC – Birds of Conservation Concern

Extensions to List Categories
.1 – Seriously endangered in California (over 80% of occurrences threatened/high degree and immediacy of threat)
.2 – Fairly endangered in California (20 to 80% occurrences threatened)
.3 – Not very endangered in California (< 20% of occurrences threatened or no current threats known)

Figures



Legend

Property Boundary

NOTES:
1. Imagery accessed through ESRI World Imagery via ArcGIS Online Layer Packages by ESRI (12/1/2010) (c) 2010 Microsoft Corporation and its data suppliers accessed on 03/08/2013 through ArcGIS 10.

N

0 5,000 10,000

SCALE IN FEET

Phillips 66
Santa Maria Refinery Rail Project

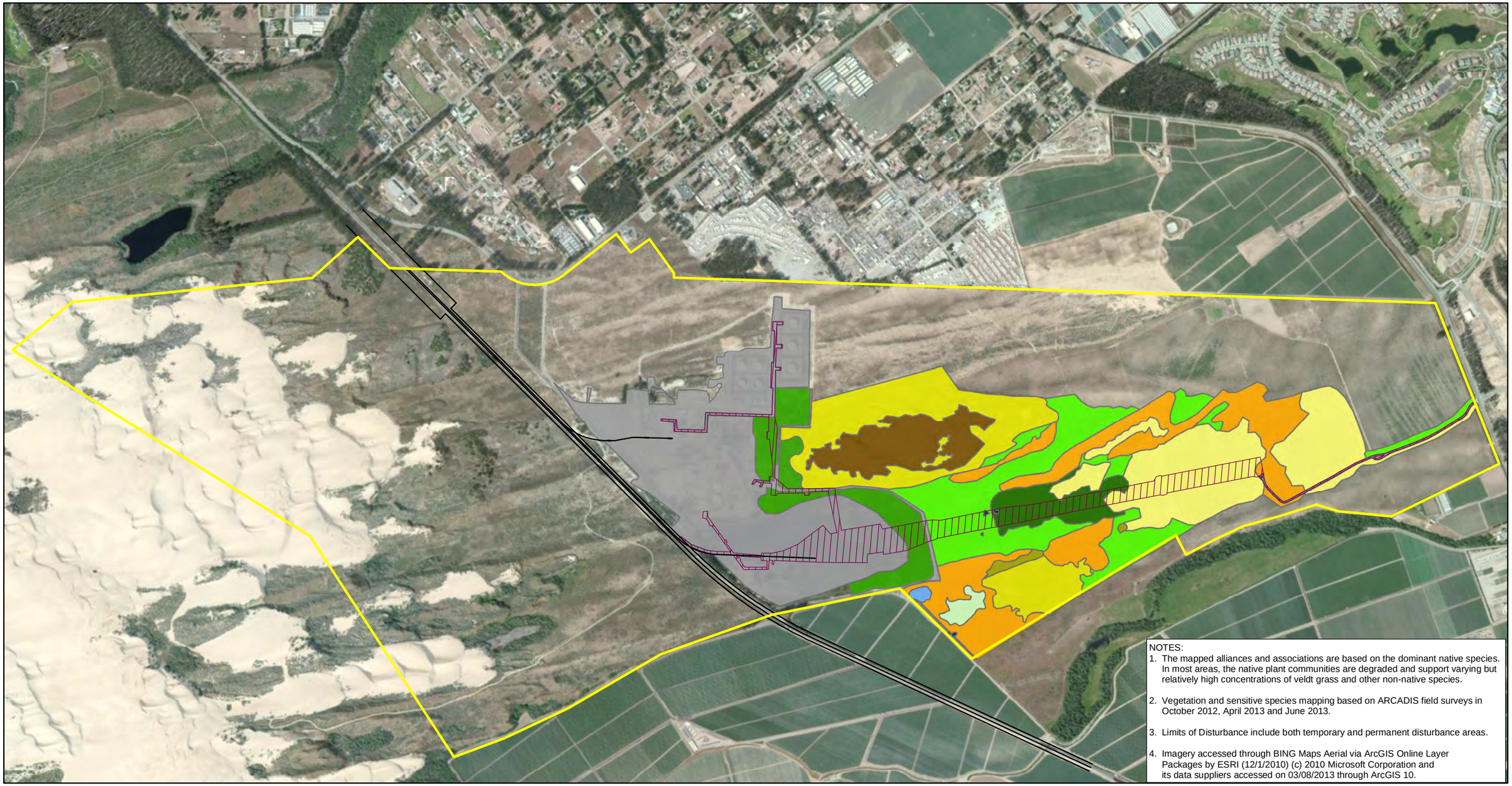
PROJECT AREA

ARCADIS

FIGURE
1

Phillips SMR Rail Project EIR

I:\BCG_Misc\Phillips\GIS\Projects\060613\Fig 1 ProjectArea.mxd 6/14/2013 BGriffith
Coordinate System: NAD 1983 StatePlane California V FIPS 0405 Feet



NOTES:
1. The mapped alliances and associations are based on the dominant native species. In most areas, the native plant communities are degraded and support varying but relatively high concentrations of veldt grass and other non-native species.
2. Vegetation and sensitive species mapping based on ARCADIS field surveys in October 2012, April 2013 and June 2013.
3. Limits of Disturbance include both temporary and permanent disturbance areas.
4. Imagery accessed through BING Maps Aerial via ArcGIS Online Layer Packages by ESRI (12/1/2010) (c) 2010 Microsoft Corporation and its data suppliers accessed on 03/08/2013 through ArcGIS 10.

Legend

- Property Boundary
- Existing Rail Line
- Limits of Disturbance
- Arroyo Willow Scrub (Wetland)
- Central Dune Scrub - Coastal Dune Lupine, Dune-Heather, Silver Bush Lupine Association
- Central Dune Scrub - Dune-Heather Alliance
- Central Dune Scrub - Dune-Heather, Seacliff Buckwheat, Black Sage Association
- Degraded Central Dune Scrub
- Central Dune Scrub - Black Sage, Dune-Heather Association
- Central Dune Scrub - Silver Dune Lupine and Dune-Heather Association
- Central Dune Scrub - Dune-Heather, California Coffeeberry, Blue Elderberry Association
- Dune
- Industrial/Road
- Nonnative Veldt Grassland
- Planted Trees

N

0 1,255 2,510

SCALE IN FEET

Phillips 66
Santa Maria Refinery Rail Project

EXISTING HABITATS

ARCADIS

FIGURE
2

I:\BCG_Misc\Phillips\GIS\Projects\060613\Fig 4 ExistingHabitats.mxd 6/14/2013 BGriffith
Coordinate System: NAD 1983 StatePlane California V FIPS 0405 Feet

NOTES:
1. The mapped alliances and associations are based on the dominant native species. In most areas, the native plant communities are degraded and support varying but relatively high concentrations of veldt grass and other non-native species.
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Legend

- Property Boundary
- Existing Rail Line
- Limits of Disturbance
- California Spineflower *(Mucronea californica)*
- California Spineflower *(Mucronea californica)*
- Sand almond *(Prunus fasciculata* var. *punctata)*
- Blochman's Groundsel *(Senecio blochmaniae)*
- Blochman's Leafy Daisy *(Erigeron blochmaniae)*
- Burrowing Owl *(Athene cunicularia)*
- Bell's Sage Sparrow *(Amphispiza belli* ssp. *belli)*

Sensitive Habitat

- Arroyo Willow Scrub (Wetland)
- Central Dune Scrub - Coastal Dune Lupine, Dune-Heather, Silver Bush Lupine Association
- Central Dune Scrub - Silver Dune Lupine and Dune-Heather Association
- 100-ft Riparian Buffer

N

0 1,255 2,510

SCALE IN FEET

Phillips 66
Santa Maria Refinery Rail Project

SURVEYED SENSITIVE SPECIES AND HABITATS

ARCADIS

FIGURE 3

Phillips SMR Rail Project FIR

H:\GISPROJECTS_ENV\Phillips66\GIS\Projects\060613\Fig 5 SensitiveSpecies_Habitat.mxd 6/18/2013 BGriffith
Coordinate System: NAD 1983 StatePlane California V FIPS 0405 Feet

Appendix A

Photographs

The outer limits and centerline of the proposed rail corridor were marked in the field prior to conducting the breeding burrowing owl survey. Note the dry conditions supporting sparse vegetation cover. This habitat type together with the presence of small mammal burrows and an adequate prey base is well suited for burrowing owls.

View looking east

7-15-2013

Photograph # 1338

This photographs shows one of many burrows found in the survey area that were potentially suitable for harboring burrowing owls. Surveyors inspected each burrow encountered for evidence of white-wash, prey remains, castings, or moulted feathers. No evidence indicating burrowing owl activity was found.

7-15-2013

Photograph # 1339

One of many burrows examined during the nesting burrowing owl survey. Sites where burrowing owls were observed during winter surveys were revisited during the spring/summer surveys. No burrowing owls, signs, or nests were found during the survey.

View looking north

7-15-2013

Photograph # 1341

Coastal scrub habitat at the eastern end of the rail spur corridor becomes more dense as can be seen in this photograph and less suitable for burrowing owl habitation.

View looking west

7-15-2013

Photograph # 1344