Initial Study Biological Assessment

Cover Page

Original ISBA report date: February 18, 2009

Revision report date(s):

Case number: LU08-0100

Permit type: Conditional Use Permit

Applicant: Rock Energy, LLC.

Planning Division case planner: Nicole Doner

Total parcel(s) size: approximately 835 acres but project impact area significantly less.

Assessor Parcel Number(s): 055-0-060-010 and 100; 055-0-120-05 & 06.

Development proposal description: Applicant proposes to drill three exploratory oil wells for a fifteen day period (24 hours per day) at two existing 1-acre each drilling pads (upper and lower pads) during Phase I of the project. During phase 2, the wells would be test produced over a period of several months to determine the commerciality of the project. Project would take 6-8 months to complete.

Prepared for Ventura County Planning Division by:

As an approved and contracted biologist with the Ventura County Planning Division, I hereby certify that this Initial Study Biological Assessment was prepared according to the Planning Division's requirements 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 associated with this report.

Approved Biologist (signature):			Date
Name (printed): Carl Wishner	Title: Principal Biologist	Company: Envicom Corporation	
Phone: 818 879-4700	email: cwishner@envicomcorporation.com		
Other Biologist (signature):			Date:
Name (printed): James Anderson	Title: Staff Biologist	Company: Envicom Corporation	
Phone: 818 879-4700	email: janderson@envicomcorporation.com		
Role: Biologist			

Initial Study Checklist

This Biological Assessment DID provide adequate information to make CEQA findings regarding potentially significant impacts.

		Project Impact Degree of Effect				Cumulative Impact Degree of Effect			
		N	**LS**	**PS-M***	**PS**	**N**	**LS**	**PS-M***	**PS**
A	Endangered, threatened or rare species (includes nests)			X			X		
B	Wetland habitat			X			X		
C	Coastal habitat	X				X			
D	Wildlife movement routes		X				X		
E	Locally important species/communities			X			X		

N: No impact
LS: Less than significant impact
PS-M: Potentially significant unless mitigation incorporated.
PS: Potentially significant
* DO NOT check this box unless the Biological Assessment provided information adequate enough to develop mitigation measures that reduce the level of impact to less than significant.

Contents

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Summary

The project site is located in Modelo Canyon, a rugged mountainous terrain approximately 2 miles north of Piru and 2 miles west of Piru Canyon Road. The project impact area includes two existing 1-acre pads (upper and lower), an unpaved access road, and 14 turnouts and turnarounds along the access road. The access road passes through oak woodland, riparian, scrub, and chaparral communities, and crosses Modelo Creek and a dry ephemeral drainage within the survey area. The project impact area has been previously disturbed and vegetation generally consists of non-native grasses and forbs with some native shrubs, forbs, and grasses.

Special-status natural communities found during the biological survey within the Survey Area included California Walnut Woodland. Grading would only impact areas characterized by previous disturbance and a significant component of non-native species. The stream crossing and dry ephemeral drainage would not be graded. A 1-foot earthen berm around the graded area and operations on the lower pad would prevent sediment, pollutants, or oil in the unlikely event of an oil spill at the lower pad from reaching Modelo Creek.

Modelo Creek and riparian habitat would be significantly impacted if recommended fuel modification was completed around the lower drilling pad adjacent to the stream.

A small population of smooth flatsedge (*Cyperus laevigatus*), a Ventura County Locally Important Plant Species, was found adjacent to the access road growing on wet soil from a small tar seep. Impacts to this species and the seep are avoidable when using the access road or when maintaining the road at 12 feet in width. However, the Applicant should be aware of the location of this species and take measures to avoid inadvertent impacts.

It is necessary to remove a coast live oak tree (*Quercus agrifolia*), a large limb of a second coast live oak tree, and several smaller branches on additional coast live oaks and sycamores (*Platanus racemosa*) to clear the road to a width of 12 feet and height of 15 feet to ensure adequate clearance for the required vehicles. An arborist has determined that the necessary pruning of oak and sycamore trees would not harm or jeopardize the health of these trees if done properly in accordance with the current International Society of Arboriculture pruning standards and guidelines.

The potential exists for special status animal species, which were not found during the survey, to be present on the site during grading, tree removal, or fuel modification, including nesting bird species. There are potentially significant, but mitigable, impacts to Endangered, Threatened and Locally Important Species, as a result of possible disruption of nesting birds.

Although the project is within an important landscape-level linkage, the project would not significantly impact wildlife movement or landscape connectivity.

Section 1: Construction Footprint Description

Construction Footprint Definition (per the Ventura County Planning Division): The construction footprint includes the proposed maximum limits of temporary or permanent direct land or vegetation disturbance for a project including such things as the building pad(s), roads/road improvements, grading, septic systems, wells, drainage improvements, fire hazard brush clearance area(s), tennis courts, pools/spas, landscaping, storage/stockpile areas, construction staging areas, fire department turnarounds, utility trenching and other grading areas. The construction footprint on some types of projects, such as mining, oil and gas exploration or agricultural operations, may be quite different than the above.

Development Proposal Description:

The project site is at the upper end of Modelo Canyon, and is accessed by an existing unpaved private road off of Piru Canyon Road. The access road partly follows Modelo Creek, the main, intermittent drainage in the Modelo Canyon drainage basin.

The applicant proposes to drill three exploratory oil wells for a fifteen day period (24 hours per day) at two existing 1-acre each drilling pads (upper and lower pads) during Phase I of the project. The wells would be directionally drilled at a total depth of approximately 2,500 feet below ground surface using a portable drilling rig. Grading of 370 cyd would be proposed for maintenance grading on the lower pad only. An earthen containment berm of approximately 1-foot high would be placed around operations (including temporary tanks) on the lower pad during the testing phase. A well servicing rig would be moved in to equip the wells with tubing, rods and a downhole pump. A small counter balance pumping unit would be installed to power the pumping units from casing gas. Steel flowlines would be installed on the lower pad between the wells and a portable tank. During Phase 2, the wells would be test produced over a period of several months to determine the commerciality of the project. No buildings are proposed. Parking and staging would be accommodated at the existing well pads. The project would take 6-8 months to complete. Drilling sumps would be backfilled and compacted after drilling operations are completed.

The maintenance grading for the lower grading pad would involve cutting up to 2 feet from the uphill side and moving the material over to the downhill side with fill of up to 2 feet. The entire pad would be compacted. The upper pad would have annual weed scraping completed to clear the site. No grading is needed on the upper drilling pad as the site is entirely level. Maintenance grading would be performed on the access road to a width of 12 feet and a height of 15 feet. Tree limbs would be cut to ensure sufficient room for moving the drilling rig in and out. Turnouts and turnarounds required by the fire department would also be cleared and graded. Fuel modification would be required to a distance of 100 feet around drilling rigs on each pad.

A gravity-fed oil pipeline would be installed between the upper and lower pads, within the alignment of an existing, defunct railroad “tramway” that was used during the early years of oil production. To install this section of pipe, 30 foot pieces would be threaded together at the top of the hill and pulled downhill by a steel cable and winch. This area was not included in the survey area. The biologist determined that location and method of installation of this pipeline would not impact biological resources, and therefore a closer inspection was not considered necessary.

Construction Footprint Size

The total area impacted by the proposed project by both grading and fuel clearance requirements would be 14.13 acres. The proposed grading limits include 1 acre at the lower pad, the access road to a width of 12 feet, and turnouts and turnarounds along the access road. Additionally, vegetation would be cleared on the upper pad (1 acre) and to a distance of 100 feet around the drilling rigs on the upper and lower pads.

Project Design for Impact Avoidance or Minimization

The design and operating parameters of the pipeline would be based on requirements in the Vaquero Energy Pipeline Management Plan, including line type, line grade, age of pipeline, and design and operation pressures standards. The project design utilizes existing disturbed areas, and does not propose significant new grading in natural areas that have not been previously disturbed. The access road would be periodically wetted with water for dust control. Scraped material from road grading and maintenance would be scraped out over the existing bed and would not be pushed into the Modelo Creek bed. There would be no permanent grading to alter the existing roadway where it crosses Modelo Creek and a dry gulch that feeds into Modelo Creek. The roadway across the dry gulch may be temporary altered with a portable bridge, conduit, and/or temporary fill during the time of drilling activities.

During grading of the lower pad, no material would be pushed into the existing creek bed. The creek bed would be protected with a berm around the location to keep all displaced dirt material and storm water runoff out of the

creek bed. Dirt berms would be placed around temporary storage tanks reducing the potential risk to biological resources in case of accidental leaks or spills.

Coastal Zone/Overlay Zones

The project site is not located in an overlay zone.

Zoning

The zoning is OS-160ac

Elevation

The elevation of the project impact area ranges from approximately 1200 feet at the access road at the southeast end of parcel A.P.# 055-0-120-06 to approximately 2400 feet at the upper pad. The lower pad is located at approximately 1600 feet.

Other

There is an access easement for the private access road through neighboring land to the east.

Section 2: Survey Information

2.1 Survey Purpose

Discretionary actions undertaken by public agencies are required to demonstrate compliance with the California Environmental Quality Act (CEQA). The purpose of this Initial Study Biological Assessment (ISBA) is to gather enough information about the biological resources associated with the proposed project, and their potential to be impacted by the project, to make a CEQA Initial Study significance finding for biological resources. In general, ISBA's are intended to:

- Provide an inventory of the biological resources on a project site and the values of those resources.
- Determine if a proposed project has the potential to impact any significant biological resources.
- Recommend project redesign to avoid, minimize or reduce impacts to significant biological resources.
- Recommend additional studies necessary to adequately assess potential impacts and/or to develop adequate mitigation measures.
- Develop mitigation measures, when necessary, in cases where adequate information is available.

2.2 Survey Area Description

Survey Area Definition (per the Ventura County Planning Division): The physical area a biologist evaluates as part of a biological assessment. This includes all areas that could potentially be subject to direct or indirect impacts from the project, including, but not limited to: the construction footprint; areas that would be subject to noise, light, dust or runoff generated by the project; any required buffer areas (e.g., buffers surrounding wetland habitat). The construction footprint plus a 100-foot buffer—beyond the required fire hazard brush clearance boundary—(or 20-foot from the cut/fill boundary or road fire hazard brush clearance boundary – whichever is greater) is generally the minimum size of a survey area. Required off-site improvements—such as roads or fire hazard brush clearance—are included in the survey area. Survey areas can extend off the project's parcel(s) because indirect impacts may cross property lines. The extent of the survey area shall be determined by the biologist in consultation with the lead agency.

Survey Area 1 (SA1)

Location

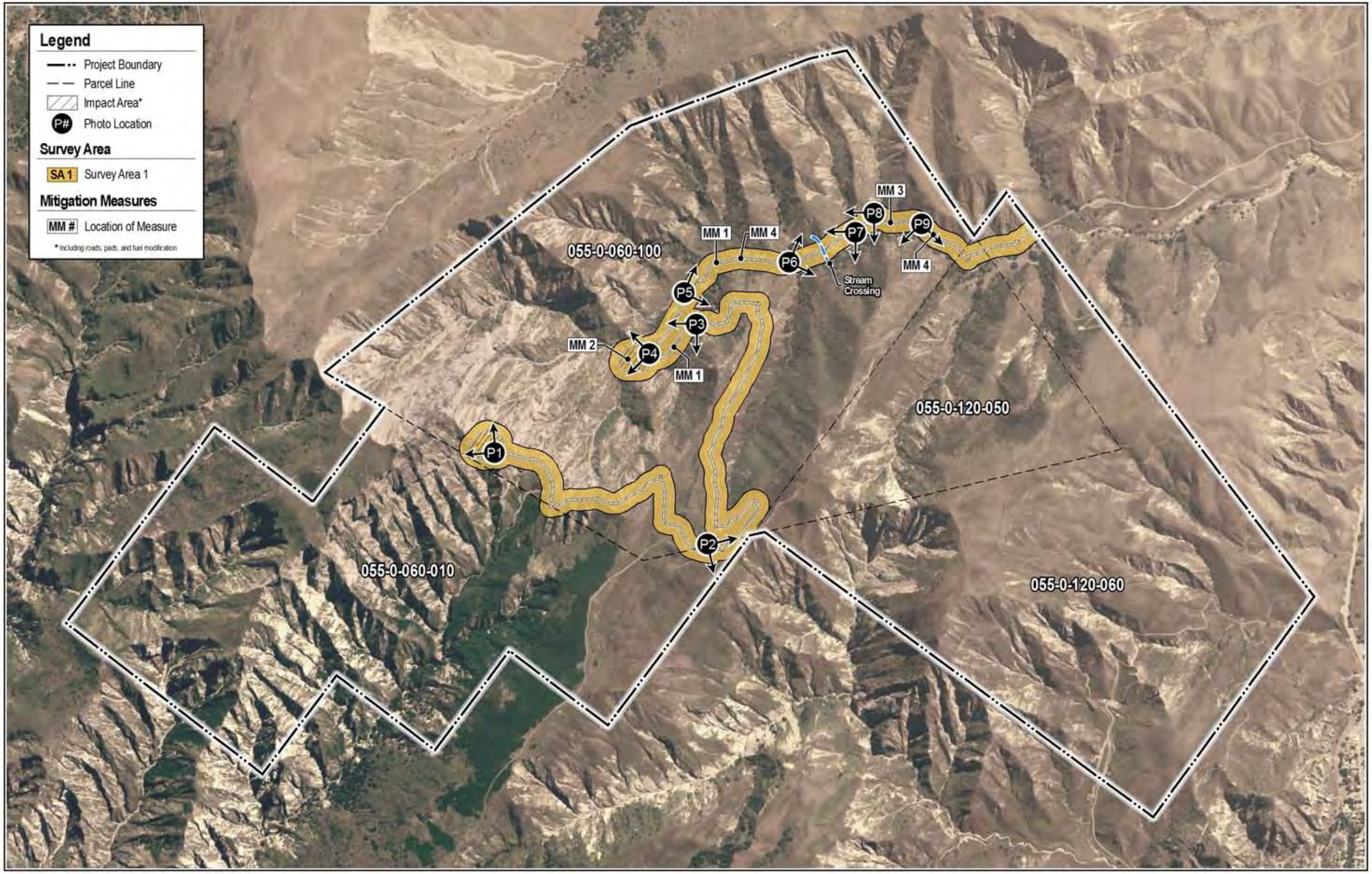
Survey Area 1 (SA1) includes an access road, turnouts and turnarounds along the access road, two drilling pads, and areas of fire clearance around the pads (See **Figure 1**). SA1 is located along and adjacent to an unpaved private access road that runs through Modelo Canyon. The upper drilling pad is located on a ridge marking the western boundary of Modelo Canyon at approximately 2,400 feet at the terminus of the unpaved private access road. The lower drilling pad is located adjacent to the unpaved private road at the bottom of Modelo Canyon. The lower pad is located where Modelo Creek changes from flowing generally south to flowing generally east. The slope between the two pads is located between the bottom of Modelo Canyon and a saddle on a ridgeline at the western boundary of Modelo Canyon. It is the same ridgeline that the access road follows before reaching the upper drilling pad.

Survey Area Boundaries

SA1 includes the access roadbed and roadsides to a width of 12 feet and 15 feet in height, and turnouts and turnarounds along the access road. SA1 also includes the upper and lower pads and 100-foot fuel clearance zones around the proposed location of the drilling rigs. Surveying was conducted within the boundaries of parcels A.P. # 055-0-060-010 & 100 and 055-0-120-05 & 06. Only the project impact zones and areas for fuel clearance (not the entire parcels) were surveyed. The vegetated slope between the north end of the saddle and the lower pad was not surveyed because the proposed method of pipeline installation would not cause a significant impact to biological resources.

Survey Area Environmental Setting

SA1 contains gradual to steep slopes ranging from canyon bottoms to exposed ridgelines. Vegetation reflects previous grading and disturbance, containing a combination of native and non-native invasive species. While the surrounding topography is steep, many of the slopes within the survey area are gradual to moderate because they have been previously graded or are along the access road. The access road follows Modelo Creek before climbing into steeper terrain on predominately exposed south-facing slopes and exposed ridgelines. The upper pad is located on an exposed, dry site along a ridgeline. The upper pad is flat but the fuel clearance zone includes steep slopes vegetated by chaparral or scrub. There is a small hill just SE of the pad that is within the survey area. The lower pad is at the bottom of Modelo Canyon at approximately 1,600 feet in elevation. This site receives some shade because of steep canyon walls. Modelo Creek is a short distance to the east of the lower pad within the fuel modification zone, and a small ephemeral tributary of Modelo Creek runs just northwest of the pad. The upper and lower pads have been previously graded and used for oil extraction, and therefore contain several non-native herbaceous species. There are moderately steep chaparral and scrub-covered slopes within the fuel modification zone of the lower pad and there is a small oil seep. Modelo Creek contained a small amount of flowing water at the time of the survey. The only existing land use is cattle grazing, although the impact from grazing to vegetation on SA1 is insignificant.



Aerial Source: USDA-FSA, 2005. Boundary Source: Ventura County, 2009.

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Site and Survey Map

0 500 1,000 Feet

FIGURE 1

Surrounding Area Environmental Setting

SA1 is within Modelo Canyon, a rugged, dry drainage basin in the Topatopa Mountains. Modelo Canyon contains intermittent Modelo Creek and several ephemeral drainages. Slopes in Modelo Canyon are primarily moderately steep to very steep and are vegetated by chaparral, scrub, riparian, and herbaceous plant communities. Areas surrounding Modelo Canyon have similar terrain. A broader valley with Piru Creek is 1 to 2 miles to the east Existing land use includes cattle grazing. Land ownership is private.

Cover

86% native vegetation
8% non-native vegetation
5% bare ground/cleared/graded
1% litter, small rocks.

2.3 Methodology

References

- Boyd, Steve, and Orlando Mistretta. 2006. *Lepechinia rossii* (Lamiaceae), a narrow endemic from the Western Transverse Ranges of Southern California. Madrono 53(1):77-84.
- California Department of Fish and Game. 2003 (September). List of California Terrestrial Natural Communities Recognized by the California Natural Diversity Database (CDFG September 2003).
- California Department of Fish and Game, BIOS. (November 2007). BIOS is an internet-based biological data map server.
- California Department of Fish and Game, Vegetation Classification and Mapping Program, List of California Vegetation Alliances, October 22, 2007. www.dfg.ca.gov/biogeodata/vegcamp/pdfs/NaturalCommunitiesList_Oct07.pdf
- CNPS Inventory of Rare and Endangered Plants database, v7-08a 2-01-08, http://cnps.web.aplus.net/cgi-bin/inv/inventory.cgi/Html?item=checkbox_9.htm#q9
- Hickman, J. (ed.). 1993. The Jepson Manual: Higher Plants of California. University of California Press, Berkeley, Los Angeles, CA. and London, England.
- Holland, R.F. 1986. Preliminary classification of the terrestrial natural communities of California. California Dept. Fish and Game, Sacramento, CA.
- Johnson, Leigh. 2006. Two new species and a reassessment of synonymy of the *Navarretia pubescens* complex (Polemoniaceae) in Western North America, Novon 17(4):454-461.
- Jennings, M.R., and M.P. Hayes. 1994. Amphibian and Reptile Species of Special Concern in California. Final Report to the California Department of Fish and Game, Inland Fisheries Division, Rancho Cordova, California.
- Munz, P.A., and D.D. Keck. A California Flora. University of California Press, Berkeley, California.
- Rock Energy LLC. Oil and Gas Drilling Production Application Project Description Questionnaire (for CUP), Addendum to Project Description Questionnaire, and Third Addendum to Project Description Questionnaire, Summary of Project Plans completed by the Applicant, Rock Energy LLC.
- Sawyer, J.O. and T. Keeler-Wolf. 1995. Manual of California Vegetation. California Native Plant Society, Sacramento, CA.

- South Coast Wildlands. No date. South Coast Missing Linkages; A Wildlands Network for the South Coast Ecoregion. http://www.scwildlands.org/reports/SCMLRegionalReport.pdf
- Sweet, S.S. 1991. Ecology and status of the arroyo toad (*Bufo microscaphus californicus*) on the Los Padres National Forest of Southern California. Contract report to Los Padres National Forest.
- US Fish and Wildlife Service. 2000. Biological opinion on the effects of ongoing National Forest activities that may affect listed riparian species on the Cleveland National Forest, the Los Padres National Forest, the San Bernardino National Forest, and the Angeles National Forest in Southern California. (1-6-99-F-21).
- Ventura County Planning Division, GIS Biology Map Packet (December 2008). Consists of mapped resource information for the project site, including: wetlands and waterbodies; special status species per the California Department of Fish and Game, California Natural Diversity Database (CNDDB) species lists; wildlife corridors/connectivity areas; vegetation; and high resolution aerial imagery.
- Zeiner, D.C, W.F. Laudenslayer, Jr., K.E. Mayer, and M. White. 1988 (May). California's Wildlife. Vol. I Amphibians and Reptiles. California Statewide Wildlife Habitat Relationships System, California Department of Fish and Game, Sacramento, Calif.
- Zeiner, D.C, W.F. Laudenslayer, Jr., K.E. Mayer, and M. White. 1990a (April). California's Wildlife. Vol. III Mammals. California Statewide Wildlife Habitat Relationships System, California Department of Fish and Game, Sacramento, Calif.
- Zeiner, D.C, W.F. Laudenslayer, Jr., K.E. Mayer, and M. White. 1990b (November). California's Wildlife. Vol. II Birds. California Statewide Wildlife Habitat Relationships System, California Department of Fish and Game, Sacramento, Calif.

Survey Details Table

Survey Date & Details							
Survey Key (1)	**Survey Date (2)**	**Survey Area Map Key(s) (3)**	**Survey Type (4)**	**Time Period (5)**	**Methods/Constraints (6)**	**GPS (7)**	**Surveyors**
SD1	01/13/2009	SA1	ISBA	9:00 am—4:00 pm	Thorough survey for species on upper and lower pads, turnouts, and turnarounds. The road was surveyed by driving slowly and stopping for closer inspection if necessary. Some slopes within 100 ft fuel modification zones of upper pad and lower pad were too steep to survey.		Carl Wishner, James Anderson
ISBA..... Initial Study Biological Assessment Botanical..... Botanical Survey							

Section 3: The Biological Inventory

See Appendix One for an overview of the types of biological resources that are protected in Ventura County.

3.1 Habitats: Plant Communities, Physical Features and Wetlands
(Initial Study Checklist A, B, C & E)

Plant Communities

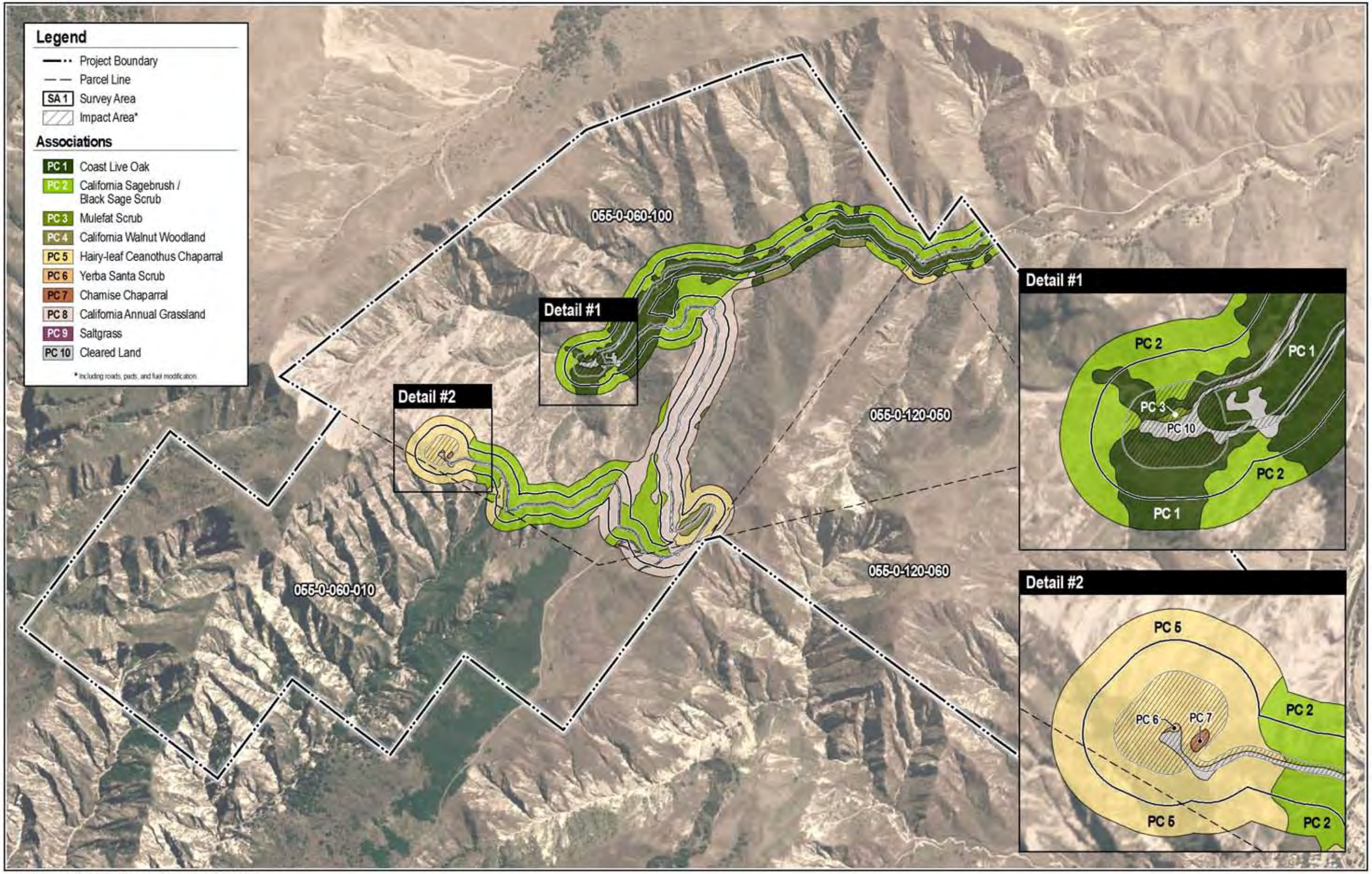
Locally important or rare plant communities were found within the survey area(s).

Major Plant Communities Summary

The *List of California Vegetation Alliances* (CDFG October 22, 2007) and the *List of California Terrestrial Natural Communities Recognized by the California Natural Diversity Database* (CDFG September 2003) were used to determine plant community alliances and associations present at the site. Several plant community alliances present onsite do not have corresponding associations, or currently recognized associations do not adequately describe the plant community. In these cases only a plant community alliance is provided. Global and state rarity ranks are also included for each alliance. Alliances and associations with global or state rarity ranks of G3 or S3 or less are considered sensitive communities. See **Figure 2** for a map of plant communities within the survey area.

Coast Live Oak (*Quercus agrifolia*) Alliance [71.060.00 G5S4]
Coast Live Oak (*Quercus agrifolia* –California Sagebrush (*Artemisia californica*)– Grass Association (71.060.08).
The best "generic description" is for Coast Live Oak Series: "Coast live oak sole, dominant, or important tree in canopy; bigleaf maple, blue oak, box elder, California bay, Engelmann oak, laurel sumac, and/or madrone may be present. Shrubs occasional, or common. Ground layer grassy or absent." This is a poor description of the situation here in Modelo Canyon. None of the other species included in the generic description are present.

California Sagebrush (*Artemisia californica*) – Black Sage (*Salvia mellifera*) Alliance [32.120.00, G5S4]
California Sagebrush (*Artemisia californica*) – Black Sage (*Salvia mellifera*) Scrub Association [32.120.01].
The closest "generic description" is provided in the Manual of California Vegetation (Sawyer and Keeler-Wolf 1995) for the California Sagebrush Series, as follows: "California sagebrush sole or dominant shrub; black sage, brittlebush, bush monkeyflower, California encelia, chamise, chaparral yucca, coast goldenbush, coyote brush, deerweed, poison oak, purple sage, and/or white sage may be present. Emergent lemonade berry or Mexican elderberry may be present." This description is generally adequate for this site, with California sagebrush, black sage being dominant. However, California encelia (*Encelia californica*), brittlebush (*Encelia farinosa*), bush monkeyflower (*Mimulus aurantiacus*), chamise (*Adenstoma fasciculatum*), and lemonade berry (*Rhus integrifolia*) are not present. Bladderpod (*Isomeris arborea*), chaparral yucca (*Yucca whipplei*), and coastal isocoma (*Isocoma menziesii*) are moderately abundant. Purple sage (*Salvia leucophylla*), white sage (*Salvia apiana*) and poison oak (*Toxicodendron diversilobum*) are very infrequent. Sugarbush (*Rhus ovata*), and Mexican elderberry (*Sambucus mexicanus*) are sparse.



Aerial Source: USDA-FSA, 2005. Boundary Source: Ventura County, 2009

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Plant Communities

0 500 1,000 Feet

FIGURE 2

Mulefat (*Baccharis salicifolia*) Alliance [63.510.00, G5S4].
The closest "generic description" is provided in the Manual of California Vegetation (Sawyer and Keeler-Wolf 1995) for the Mulefat Series, as follows: "Mulefat sole or dominant shrub in canopy, arroyo willow, and or narrowleaf willow may be present.". This description is generally adequate for this site.

California Walnut (*Juglans californica*) Alliance [72.100.00, G3S3]
California Walnut Woodland Association (72.100.01).
The closest "generic description" is provided in the Manual of California Vegetation (Sawyer and Keeler-Wolf 1995) for the California Walnut Series, as follows: "California walnut sole or dominant tree in the canopy; California bay, coast live oak, foothill ash, Mexican elderberry, and or toyon may be present." This description is generally adequate for the site, although, the associated species mentioned in the description are generally absent.

Hairy-leaf Ceanothus (*Ceanothus oliganthus*) Alliance [37.207.00, G4S4].
There is no closest "generic description" of any corresponding Series provided in the Manual of California Vegetation (Sawyer and Keeler-Wolf 1995). The Alliance present here at this site consists of relatively pure stands of hairyleaf ceanothus (*Ceanothus oliganthus sorediatus*).

Yerba Santa (*Eriodictyon crassifolium*) Proposed Alliance [37.090.00, G4S4].
There is no closest "generic description" of any corresponding Series provided in the Manual of California Vegetation (Sawyer and Keeler-Wolf 1995). The Alliance present here at this site consists of relatively pure stands of yerba santa (*Eriodictyon crassifolium nigrescens*).

Chamise (*Adenostoma fasciculatum*) Alliance [37.101.00, G5S5].
The closest "generic description" is provided in the Manual of California Vegetation (Sawyer and Keeler-Wolf 1995) for the Chamise Series, as follows: "Chamise sole or dominant shrub in canopy, black sage, ceanothus, chaparral yucca, manzanita, poison-oak, interior live oak, red shank, scrub oak, toyon, and/or white sage may be present." "Emergent trees may be present." This description is generally adequate, however, the stand as mapped here is relatively pure, without the other species mentioned in the "generic description." Futhermore, interior live oak, red shank, and scrub oak were not observed anywhere on the subject property.

California Annual Grassland Alliance [42.040.00, G5S5].
The closest "generic description" is provided in the Manual of California Vegetation (Sawyer and Keeler-Wolf 1995) for the California Annual Grassland Series, as follows: "Annual grasses and herbs dominant in ground layer; bromes, California poppy, filarees, goldfields, lupines, mustards, oats, owl's-clovers, ryegrasses, and/or star-thistles may be present." "Emergent shrubs and trees may be present." This description is adequate for this site.

Saltgrass (*Distichlis spicata*) Alliance [41.200.00, G5S4].
The closest "generic description" is provided in the Manual of California Vegetation (Sawyer and Keeler-Wolf 1995) for the Saltgrass Series, as follows: "Saltgrass sole or dominant grass in ground canopy; alkali cordgrass, alkali muhly, alkali sacaton, Baltic rush, common pickleweed, Cooper rush, one-sided bluegrass, saltgrass, sea lavender, slender arrow grass, and or yerba mansa may be present." "Emergent alkali rabbitbrush or iodine bush may be present." This description is not adequate for this site. None of the other mentioned codominant species are present. In fact, only a small amount of saltgrass is present, with the remainder of the area dominated by smooth flatsedge (*Cyperus laevigatus*). The area is a small tar seep with saturated soils, and evidently sulfurous water. The small area is degraded by cattle, which have trampled and grazed the sedge.

Plant Communities Table

Plant Communities								
Map Key (1)	**SVC Alliance**	**SVC Association**	**Misc. (2)**	**Status (3)**	**Condition (4)**	**Acres Total[1]**	**Acres Impacted**	**Comments (5)**
PC1	Coast live oak *(Quercus agrifolia)*	Coast Live Oak Woodland 71.060.02	N/A		Intact		1.16 [within lower pad 100' fuel mod zone only]	(1) 0.29 ac located mostly within riparian area of Modelo Creek: would not require fuel mod. See MM2. (2) 0.19 ac across roadway: understory mostly already cleared, may need minor herbaceous understory veg clearance. (3) 0.68 ac on uphill slopes to west of pad; no large oaks, may need 30' clearance and adjacent, understory shrub thinning 30-70' – no oak removals needed for fuel modification around the lower pad.
PC2	California sagebrush-black sage *(Artemisia californica-Salvia mellifera)*	California Sagebrush-Black Sage Scrub 32.120.01	N/A		Intact		0.2 [within lower pad 100' fuel mod zone only]	(1) Approx 0.13 acres on northeast side of Modelo Creek: would not require fuel mod. (2) Approx 0.07 acres to north of pad, beyond 30' clearance area, possible thinning req'd.
PC3	Mulefat *(Baccharis salicifolia)*	NONE RECOGNIZED	N/A		Intact		0.06 [within lower pad 100' fuel	Located adjacent to pad in Modelo Creek, on

[1] The total acreage of each plant community was not calculated as the survey area did not include the entire property.

Plant Communities								
							mod zone only]	northeast, below bank; already sparse cover and would not require fuel mod - See MM2
PC4	Southern California black walnut *(Juglans californica)*	California Walnut Woodland 72.100.01	N/A	CDFG Rare (G3S3)	Intact		0	
PC5	Hairy-leaf ceanothus (*Ceanothus oliganthus)*	NONE RECOGNIZED	N/A		Intact		1.8 [within upper pad 100' fuel mod zone only]	Located mostly on slopes below drill pad; 30' clearance, and thinning between 30-70 feet.
PC6	Yerba santa (*Eriodictyon crassifolium)*	NONE RECOGNIZED	N/A		Intact		0.02 [upper pad direct grading areal only]	
PC7	Chamise (*Adenostoma fasciculatum)*	No currently recognized association adequately describes plant community..	N/A		Intact		0.07 [within upper pad 100' fuel mod zone only]	substantially elevated above pad, near barren slopes unlikely to need fuel mod.
PC8	California Annual Grassland	No currently recognized association adequately describes plant community.	N/A		Intact		0	
PC9	Saltgrass (*Distichlis spicata)*	No currently recognized association adequately describes plant community..	N/A		Intact		0	
PC10			Cleared Land		Disturbed		14.13	Existing dirt roads and drill pads.

LIC ..... Locally Important Plant Community
ESHA..... Environmentally Sensitive Habitat Areas (Coastal Zone)
CDFG Rare:
G1 or S1 ..... Critically Imperiled Globally or Subnationally (state)
G2 or S2 ..... Imperiled Globally or Subnationally (state)
G3 or S3 ..... Vulnerable to extirpation or extinction Globally or Subnationally (state)
Cal OWA..... Protected by the California Oak Woodlands Act

Physical Features

Physical Features Table

Physical Features		
Map Key (1)	**Physical Feature (2)**	**Comments (3)**
PF1	Rocky roadcuts	Roadcuts and steep rocky cliff faces along a stretch of the access road on a generally northeast-facing slope are providing relatively shaded, rocky habitat. Numerous non special-status *Dudleya lanceolata* are growing along this roadcut.
PF2	Modelo Creek	Intermittent Modelo Creek provides riparian habitat and a source of water in a dry region for many wildlife species. Also, more birds were seen or heard at the lower pad than elsewhere during the survey.
PF3	Seep (brine associated with oil seep) adjacent to roadbed and close to location where access road crosses Modelo Creek.	This seep is providing habitat for a Ventura County Locally Important Species (LIS) smooth flatsedge (*Cyperus laevigata*). The small population has been trampled and grazed by livestock.

Waters and Wetlands

See Appendix One for an overview of the local, state and federal regulations protecting waters, wetlands and riparian habitats. Wetlands are complex systems; delineating their specific boundaries, functions and values generally takes a level of effort beyond the scope of an Initial Study Biological Assessment (ISBA). The goal of the ISBA with regard to waters and wetlands is simply to identify whether they may exist or not and to determine the potential for impacts to them from the proposed project. This much information can be adequate for designing projects to avoid impacts to waters and wetlands. Additional studies are generally warranted to delineate specific wetland boundaries and to develop recommendations for impact minimization or impact mitigation measures.

Protected waters and/or wetlands were found within the survey area(s).

Waters and Wetlands Summary

Waters 1 (W1)

Intermittent Modelo Creek (W1) originates several hundred feet north of the proposed impact area and flows generally south before passing just east of the proposed graded area of the lower pad (**Figure 3**). Modelo Creek then turns and runs generally east and southeast. The access road alignment is within 300 feet of Modelo Creek on upland terrain from the lower pad to the end of the survey area at

Aerial Source: USDA-FSA, 2005. Boundary Source: Ventura County, 2009.

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Waters and Wetlands Map

0 300 600 Feet

FIGURE 3

the northeast edge of A.P. # 055-0-120-06. The access road crosses Modelo Creek at one point within the survey area. During the survey, this stream crossing contained a small amount of flowing water.

Modelo Creek is a significant source of water and riparian habitat in the area supporting willows (*Salix* spp.) within the stream channels, and coast live oaks (*Quercus agrifolia*) and sycamores (*Platanus racemosa*) on stream terraces. The region is generally dry, with little permanent water and few intermittent streams. Streams like Modelo Creek are important for maintaining healthy ecological processes and survival and reproduction of some wildlife species over a wider area. Modelo Creek was only investigated close to the lower pad and the stream crossing, but is probably lightly to moderately impacted by livestock. Some stretches of the creek contain sulfur. Modelo Creek connects to Piru Creek to the east, which connects to the Santa Clara River near the town of Piru.

The section of Modelo Creek near the lower pad is narrow with steep cut banks and a sandy bottom. This section of the creek contains low vegetation cover and relatively low plant species diversity. However, other sections of Modelo Creek contain higher vegetation cover and likely have higher species diversity.

Waters 2 (W2)

A small seep is located on a bank adjacent to the access roadbed just east of the point where the access road crosses Modelo Creek. It is supporting a population of smooth flatsedge (*Cyperus laevigata*), a Ventura County Locally Important Species (LIS). There is a shallow embankment between the roadbed and the seep, with the seep being elevated approximately 3 feet above the roadbed.

Other

The dry ephemeral drainage that crosses the access road about 500 feet north of the southeast boundary of A.P.# 055-0-060-100 and the small ephemeral tributary of Modelo Creek just northwest of the lower pad were determined not to be “Waters or Wetlands” because of lack of riparian vegetation.

Waters and Wetlands Table

Waters and Wetlands						
Map Key (1)	**Wetland Type (2)**	**Wetland Name (if any)**	**Wetland Status (3) (if known)**	**Wetland Size (4)**	**Hydrologic Status (5)**	**Primary Water Source (6)**
W1	Stream /drainage	Modelo Creek	USACE, CDFG, General Plan	Entire feature approx 14,000 linear feet;, approx 5,600 feet in Survey Area	Flowing	Natural runoff
W2	Seep	No name	USACE, CDFG, General Plan	Approximately 50 square feet; entirely within Survey Area	Saturated	Groundwater
USACE .....U.S. Army Corps of Engineers regulated CDFG.....California Department of Fish & Game regulated County .....County General Plan protected wetland WPD .....Co. Watershed Protection District (red-line stream)						

Waters and Wetlands (continued)			
Map	**County**	**Wetland**	**Comments (9)**

Waters and Wetlands (continued)			
Key	**Wetland Significance (7)**	**Distance from Project (8)**	
W1	Significant	0 feet	Stream crosses access road and is within the fuel modification zone of the lower pad. It is an intermittent stream within 300 feet of proposed impacted area.
W2	Significant	<5 feet	Seep is adjacent to access road and is significant wetland habitat within 100 feet of proposed impacted area.

Water/Wetland Buffers Table

Water/Wetland Buffers		
Map Key (1)	**Recommended Buffer (2)**	**Comments**
W1B1	Distances between proposed impact zones and Modelo Creek provide sufficient buffers to protect Modelo Creek.	A full 100-foot buffer is not required to ensure adequate protection of riparian areas given the current project plan. A distance between the access road and Modelo Creek would serve as a sufficient buffer between the access road grading and the creek provided that the roadbed is only re-graded to 12 feet, the road is not realigned, and other precautions are taken as outlined in the project plan to avoid disturbance to the creek. At the lower pad, the proposed graded area and location of an earthen berm between the stream and the project operation would provide a sufficient buffer between the impact zone at the lower pad and Modelo Creek.
W2B1	The distance between the existing roadbed and the seep and LIS would be sufficient to protect the seep and LIS.	Re-grading and maintenance of the roadbed should not impact the seep or the locally important species population.

Other Areas/Observations

No unpermitted stockpiled materials, buried materials, chemical spills, etc. were observed.

Other Observations		
Map Key (1)	**Describe Features (Violations, other observations, etc.)**	**Comments**
-		

3.2 Species

Observed Species

See Appendix 2 for a complete list of species observed within SA1.

Endangered, Threatened, Rare, and Locally Important Species and Nests
(Initial Study Checklist A & E)

See Appendix One for definitions of the types of special status species that have federal, state or local protection and for more information on the regulations that protect birds' nests.

Endangered, threatened, rare, or locally important species were observed or have a moderate to high potential to occur within the survey area(s).

Habitat suitable for nests of birds protected under the Migratory Bird Treaty Act does exist within the survey area(s).

Special Status Species Summary

One special-status species was observed during the field survey, smooth flatsedge (*Cyperus laevigata*). Smooth flatsedge is a Ventura County Locally Important Species (LIS). A small population of this species was found growing in waters and saturated soils from an alkaline seep adjacent to the access road. See **Figure 4** for a map of special-status species found in SA1.

Background research of Special-Status species potentially occurring within a 5 to 10 mile radius of the Survey Areas was undertaken using the current edition of the California Natural Diversity Database (CNDDB) and Ventura County's Planning Division GIS layer in BIOS. In addition, the County's List of Locally Important Species was assessed in the context of the potential for their occurrence at the project site. The CNDDB search in the 5 to 10 mile radius indicated occurrence of numerous species for which there is no potential to occur on the project site, based mainly upon habitat considerations. These latter species are not included in the following tables of Observed and Potential Special Status Species. However, some other unobserved special status species considered to have a low potential to be present are included when, in the biologist's opinion, the discussion of why the potential is low is warranted (as required in guidelines p. 22; i.e., western spadefoot, arroyo toad, western pond turtle, western yellow-billed cuckoo, San Diego desert woodrat, Palmer's grappling hook, Ross's pitcher sage, Davidson's bush mallow, Ojai navarretia, and Greata's aster).

Aerial Source: USDA-FSA, 2005. Boundary Source: Ventura County, 2009.

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Sensitive Species Map

0 80 160 Feet

Observed and Potential Special Status Species Table

Special Status Species						
Map Key (1)	**Survey/Source (2)**	**Scientific Name (3)**	**Common Name**	**Species' Status (4)**	**Potential to Occur (5)**	**Habitat Requirements (6)**
SSO1	SD1	*Cyperus laevigata*	smooth flatsedge	VC LIS	Observed	Alkaline or brackish, wet soils, hot springs, permanent pools in arroyos between 30 to 1000 meters (Hickman, 1993).
SSP1	CNDDB	*Accipiter cooperii*	Cooper's hawk	S3	Moderate	Woodland, chiefly of open, interrupted or marginal type. Nest sites mainly in riparian growths of deciduous trees, as in canyon bottoms on river flood-plains; also, live oaks (CDFG 2009 [Rarefind]).
SSP2	CNDDB	*Athene cunicularia*	burrowing owl	SSC	Moderate	Open, dry annual or perennial grasslands, deserts and scrublands characterized by low-growing vegetation. Subterranean nester, dependent upon burrowing mammals, most notably, the California ground squirrel (CDFG 2009 [Rarefind]).
SSP3	CNDDB	*Coccyzus americanus occidentalis*	western yellow-billed cuckoo	SE	Low	Riparian forest nester, along the broad, lower flood-bottoms of larger river systems. Nests in riparian jungles of willow, often mixed with cottonwoods, w/ lower story of blackberry, nettles, or wild grape (CDFG 2009 [Rarefind]).
SSP4	CNDDB	*Dendroica petechia brewsteri*	yellow warbler	SSC	Moderate	Riparian plant associations, prefers willows, cottonwoods, aspens, sycamores, and alders for nesting and foraging. Also nests in montane shrubbery in open conifer forests (CDFG 2009 [Rarefind]).
SSP5	CNDDB	*Gymnogyps californianus*	California condor	FE, SE	Low	Requires vast expanses of open savannah, grasslands, and foothill chaparral in mountain ranges of moderate altitude. Deep canyons containing clefts in rocky walls provide nesting sites. Forages up to 100 miles from roost/nest (CDFG 2009 [Rarefind]).
SSP6	CNDDB	*Icteria virens*	yellow-breasted chat	SSC	Moderate	Summer resident; inhabits riparian thickets of willow and other brushy tangles near watercourses. Nests in low, dense riparian, consisting of willow, blackberry, wild grape; forages and nests within 10 ft of ground (CDFG 2009 [Rarefind]).
SSP7	CNDDB	*Vireo bellii*	least Bell's	FE, SE	Moderate	Summer resident of Southern

Special Status Species						
Map Key (1)	**Survey/Source (2)**	**Scientific Name (3)**	**Common Name**	**Species' Status (4)**	**Potential to Occur (5)**	**Habitat Requirements (6)**
		pusillus	vireo			California in low riparian in vicinity of water or in dry river bottoms; below 2000 feet. Nests placed along margins of bushes or on twigs projecting into pathways, usually willow, Baccharis, mesquite (CDFG 2009 [Rarefind]).
SSP8	CNDDB	*Anaxyrus californicus* [formerly *Bufo californicus*]	arroyo toad	FE	Low	Semi-arid regions near washes or intermittent streams, including valley-foothill and desert riparian, desert wash, etc.; rivers with sandy banks, willows, cottonwoods, and sycamores; loose gravelly areas of streams in drier parts of the range (CDFG 2009 [Riparian]).
SSP09	CNDDB	*Spea hammondii*	Western spadefoot	SSC	Low	Occurs primarily in grassland habitats, but can be found in valley-foothill hardwood woodlands (CDFG 2009 [Rarefind]).
SSP10	CNDDB	*Actinemys marmorata pallida*	Southwestern pond turtle	SSC	None	Inhabits permanent or nearly permanent bodies of water in many habitat types; below 6000 feet elevation; requires basking sites such as partially submerged logs, vegetation mats, or open mud banks; needs suitable nesting sites (CDFG 2009 [Rarefind]).
SSP11	CNDDB	*Aspidoscelis tigris stejnegeri*	Coastal western whiptail	S2S3	High	Found in deserts and semiarid areas with sparse vegetation and open areas. Also found in woodland and riparian areas. Ground may be firm soil, sandy, or rocky (CDFG 2009 [Rarefind]).
SSP12	CNDDB	*Phrynosoma coronatum (blainvillii population)*	coast (San Diego) horned lizard	SSC	High	Inhabits coastal sage scrub and chaparral in arid and semi-arid climate conditions. Prefers friable, rocky, or shallow sandy soils (CDFG 2009 [Rarefind]).
SSP13	CNDDB	*Phrynosoma coronatum (frontale population)*	coast (California) horned lizard	SSC	High	Frequents a wide variety of habitats, most common in lowlands along sandy washes with scattered low bushes. Open areas for sunning, bushes for cover, patches of loose soil for burial, and abundant supply of ants and other insects (CDFG 2009 [Rarefind]).
SSP14	CNDDB	*Thamnophis hammondii*	two-striped garter snake	SSC	Moderate	Coastal California from vicinity of Salinas to northwest Baja California. From sea to about 7,000 feet elevation (CDFG 2009

Special Status Species						
Map Key (1)	**Survey/Source (2)**	**Scientific Name (3)**	**Common Name**	**Species' Status (4)**	**Potential to Occur (5)**	**Habitat Requirements (6)**
						[Rarefind]).
SSP15	CNDDB	*Antrozous pallidus*	pallid bat	SSC	Moderate	Deserts, grasslands, shrublands, woodlands and forests. Most common in open, dry habitats with rocky areas for roosting (CDFG 2009 [Rarefind]).
SSP16	CNDDB	*Euderma maculatum*	spotted bat	SSC	Low	Occupies a wide variety of habitats from arid deserts and grasslands through mixed conifer forests. Feeds over water and along washes. Feeds almost entirely on moths. Needs rock crevices in cliffs or caves for roosting (CDFG 2009 [Rarefind]).
SSP17	CNDDB	*Eumops perotis californicus*	Western mastiff bat	SSC	Moderate	Many open, semi-arid to arid habitats, including conifer and deciduous woodlands, coastal scrub, grasslands, chaparral, etc. Roosts in crevices in cliff faces, high buildings, trees and tunnels (CDFG 2009 [Rarefind]).
SSP18	CNDDB	*Lasiurus cinereus*	Hoary bat	S4?	Moderate	Prefers open habitats or habitat mosaics, with access to trees for cover and open areas or habitat edges for feeding (CDFG 2009 [Rarefind]).
SSP19	CNDDB	*Neotoma lepida intermedia*	San Diego desert woodrat	SSC	Low	Coastal scrub of Southern California from San Diego County to San Luis Obispo County. Moderate to dense canopies preferred. They are particularly abundant in rock outcrops and rocky cliffs and slopes (CDFG 2009 [Rarefind]).
SSP20	CNDDB	*Taxidea taxus*	American badger	SSC	Moderate	Most abundant in drier open stages of most shrub, forest, and herbaceous habitats, with friable soils. Needs sufficient food, friable soils and open, uncultivated ground. Preys on burrowing rodents. Digs burrows (CDFG 2009 [Rarefind]).
SSP21	CNDDB	*Catostomus santaanae*	Santa Ana sucker	FT	None	Endemic to Los Angeles Basin south coastal streams. Habitat generalists, but prefer sand-rubble-boulder bottoms, cool, clear water and algae (CDFG 2009 [Rarefind]).
SSP22	CNDDB	*Gasterosteus aculeatus williamsoni*	unarmored threespine stickleback	FE, SE	None	Weedy pools, backwaters, and among emergent vegetation at the stream edge in small Southern California streams. Cool (<24 C) clear water with abundant

Special Status Species						
Map Key (1)	**Survey/Source (2)**	**Scientific Name (3)**	**Common Name**	**Species' Status (4)**	**Potential to Occur (5)**	**Habitat Requirements (6)**
						vegetation (CDFG 2009 [Rarefind]).
SSP23	CNDDB	*Gila orcuttii*	arroyo chub	SSC	None	General habitat is Los Angeles Basin south coastal streams. Slow water stream sections with mud or sand bottoms. Feeds heavily on aquatic vegetation and associated invertebrates (CDFG 2009 [Rarefind]).
SSP24	CNDDB	*Calochortus clavatus* var. *gracilis*	slender mariposa lily	CNPS 1B.2	Moderate	Found in chaparral and coastal scrub habitats in shaded foothill canyons; often on grassy slopes within other habitat. Occurs between 420 and 760 meters (CDFG 2009 [Rarefind]).
SSP25	CNDDB	*Calochortus plummerae*	Plummer's mariposa lily	CNPS 1B.2	Moderate	Found in coastal scrub, chaparral, valley and foothill grassland, cismontane woodland, and lower montane coniferous forest. Occurs on rocky and sandy sites, usually of granitic or alluvial material. Can be very common after fire. Occurs between 90 meters and 1610 meters (CDFG 2009 [Rarefind]).
SSP26	CNDDB	*Harpagonella palmeri*	Palmer's grabbling hook	CNPS 4.2	Low	Found in open grassy areas with clay soils within shrubland between 15 and 830 meters in chaparral, coastal scrub, and valley and foothill grassland habitats (CDFG 2009 [Rarefind]).
SSP27	CNDDB	*Lepechinia rossii*	Ross' pitcher sage	CNPS 1B.2	Low	Found in chaparral on soils derived from fine-grained, reddish sedimentary rock. 305 to 788 meters in elevation (CDFG 2009 [Rarefind]).
SSP28	CNDDB	*Malocothamnus davidsonii*	Davidson's bush-mallow	CNPS 1B.2	Low	Sandy washes in coastal scrub, riparian washes, and chaparral between 180 to 855 meters (CDFG 2009 [Rarefind]).
SSP29	CNDDB	*Navarretia ojaiensis*	Ojai navarretia	CNPS 1B.1	Low	Openings in shrublands and grasslands in chaparral, coastal scrub and valley and foothill grassland habitats between 275 and 620 meters (CDFG 2009 [Rarefind]).
SSP30	CNDDB	*Symphyotrichum greatae*	Greata's aster	1B.3	Low	Found in mesic canyons between 800 and 1500 meters in chaparral

Special Status Species						
Map Key (1)	**Survey/Source (2)**	**Scientific Name (3)**	**Common Name**	**Species' Status (4)**	**Potential to Occur (5)**	**Habitat Requirements (6)**
						and cismontane woodland (CDFG 2009, [Rarefind]).

Special Status Species				
Map Key	**Adequate Habitat Onsite**	**Adequate Habitat Size (7)**	**Acreage Impacted**	**Comments (8)**
SS01	Yes	Yes	None	Current population on brine tar seep. Habitat supports only a very small population.
SSP1	Yes	Yes	0.01 (estimated acreage of oak tree to be removed)	Small and marginal coast live oak and riparian woodlands present and riparian deciduous trees for nesting. One oak tree,and a large branch of second oak tree would be removed. Some limbing of oaks and sycamores would be necessary along the roadway. Survey conducted outside of nesting season (Mar-Aug).
SSP2	Yes	Yes	None	Open, dry annual grasslands and scrublands present. Curiously, the range map in Zeiner et al (1990b) indicates only winter occurrence in entirety of Ventura Co, and virtually all of Santa Barbara Co., yet year-round in San Luis Obispo and Los Angeles cos. Survey conducted outside of nesting season (Mar-Aug).
SSP3	No	No	None	Preferred habitat larger watercourses with large areas of riparian willow woodlands, which are not present in Modelo Canyon. Survey conducted outside of nesting season (Mar-Aug).
SSP4	Yes	Yes	None	Willows and sycamores for potential nesting and foraging present along Modelo Creek, however, site, if utilized, expected only during migration. No summer range indicated in Ventura or adjacent cos (Zeiner et al. 1990). Survey conducted outside of nesting season (Jun-Aug).
SSP5	Yes	Yes	None	Very low potential to nest or forage in Modelo Canyon despite close proximity of condor refuge and recorded observations within 1 mile of site, due to extreme rarity of this species. Survey conducted outside of nesting season (Feb-Sep).
SSP6	Yes	Yes	None	Willows and riparian habitat available for nesting, although, preferred habitat is denser and more abundant riparian vegetation. Survey conducted outside of nesting season (May-Aug).
SSP7	Yes	Yes	None	Riparian vegetation present including willows and *Baccharis* in vicinity of water or dry river bottoms below 2000 feet. However, preferred habitat larger watercourses with more abundant riparian vegetation. Survey conducted outside of nesting season (May-Jun).
SSP8	No	No	None	Modelo Canyon is intermittent, without sufficient breeding pools and sandy terraces considered necessary preferred habitat. Species has not been recorded within 5 miles of the site. Occurs at Castaic Mine in upper Piru Creek. Conditions discussed below generally lacking: "Arroyo toads have perhaps the most specialized habitat requirements of any amphibian in California. Adults require overflow pools adjacent to the inflow channel of 3rd- to greater-order streams free of predatory fishes. Exposed pools that are shallow, sand or gravel based and have low current velocity are favored. [Breeding] pools with a

Special Status Species				
Map Key	**Adequate Habitat Onsite**	**Adequate Habitat Size (7)**	**Acreage Impacted**	**Comments (8)**
				minimum of silt within 10-100m of juvenile and adult habitat consisting of shoreline or central bar and sandy, stable terraces, dampened by capillarity and some emergent vegetation (e.g. *Veronica*) preferred" (Sweet 1991 op cit Jennings and Hayes 1994). "Substantial areas of fine sand [on terraces] into which adult [and juvenile] toads burrow must be present [for overwintering]" (USFWS 2000). Survey conducted during diurnal period; adults primarily nocturnal.
SSP9	No	No	None	Survey area within range reported by Zeiner et al (1988). However conditions discussed below generally lacking: "Require temporary rainpools with water temperatures 9-30C lasting more than 3 weeks, lacking fishes, bullfrogs, crayfishes" (Jennings and Hayes 1994). "Grasslands with shallow temporary pools are optimal habitats" (Zeiner et al. 1988). Survey conducted during dry winter period when surface movements and breeding would not be expected to occur.
SSP10	No	No	None	Modelo Creek is intermittent and dry for too long to retain permanent pools of water required by this species. Survey Area involved limited segments of Modelo Creek, and no pools were present.
SSP11	Yes	Yes	None	Not observed, but very likely present.
SSP12	Yes	Yes	None	Not observed, but very likely present.
SSP13	Yes	Yes	None	Not observed, but very likely present.
SSP14	Yes	Yes	None	Not expected because species generally aquatic and normally found in immediate vicinity of permanent or semi-permanent water sources. Survey Area involved limited segments of Modelo Creek, and no pools were present.
SSP15	Yes	Yes	None	"Locally common species of low elevations in CA. Day roosts are in caves, crevices, mines, and occasionally in hollow trees and buildings" (Zeiner et al. 1990a). Potentially roosting on cliffs in Modelo Canyon. Survey diurnal; activities primarily nocturnal. Survey requires specialized techniques and equipment.
SSP16	Yes	Yes	None	"One of North America's rarest mammals. Apparently prefers to roost in rock crevices, occasionally found in caves and buildings" (Zeiner et al. 1990a). Potentially roosting on cliffs in Modelo Canyon. Survey diurnal; activities primarily nocturnal. Survey requires specialized techniques and equipment.
SSP17	Yes	Yes	None	"Uncommon resident in … Southern California. [Roosts] in crevices in cliff faces, high buildings, trees and tunnels. Nursery roosts are tight rock crevices, or crevices in buildings" (Zeiner et al. 1990a). Potentially roosting on cliffs in Modelo Canyon. Survey diurnal; activities primarily nocturnal. Survey requires specialized techniques and equipment.
SSP18	Yes	*Yes*	0.01 (estimated crown of two oak trees to be removed)	"Most widespread North American bat" (Zeiner et al. 1990a). Potentially roosting in dense foliage of medium to large trees. Survey diurnal; activities primarily nocturnal. Survey requires specialized techniques and equipment.
SSP19	Yes	Yes	None	Limited potential habitat at drilling pad #1 but sufficient rocky outcrops and rocky slopes in scrub vegetation in vicinity of SA1. No dens of woodrats, either *N. lepida* or *N. fuscipes* were observed in SA1.
SSP20	Yes	Yes	None	Dry, open shrub and grassland habitat present in SA1 and abundant in immediate vicinity of SA1. No diggings or burrows attributable to badgers were observed in SA1.

Special Status Species				
Map Key	**Adequate Habitat Onsite**	**Adequate Habitat Size (7)**	**Acreage Impacted**	**Comments (8)**
SSP21	No	No	None	Permanent water not available. No survey necessary.
SSP22	No	No	None	Permanent water not available. No survey necessary.
SSP23	No	No	None	Permanent water not available. No survey necessary.
SSP24	Yes	Yes	None	Patchy chaparral and scrub present with grassy slopes in shaded foothill canyon. Survey conducted outside flowering period (May-Jun). No leaves or senescent inflorescences of any *Calochortus* species were observed in SA1.
SSP25	Yes	Yes	None	Rocky and sandy alluvial soils and cismontane woodland, chaparral, scrub and grassland habitats present. Survey conducted outside flowering period (May-Jul). No leaves or senescent inflorescences of any *Calochortus* species were observed in SA1.
SSP26	No	No	None	Soils not clay, at least within SA1. Survey conducted outside flowering period (Mar-Apr). All senescent plants of annual Boraginaceae observed in SA1 were attributed to *Phacelia*, *Cryptantha*, *Nemophila*.
SSP27	Yes	Yes	None	"Shrub, often forming clonal stands following disturbance after fire" (Boyd and Mistretta 2006). . Survey conducted outside flowering period (unspecified). No shrubs referable to *Lepechinia* were observed in SA1.
SSP28	Yes	Yes	None	"Erect coarse shrub 2-5m high, densely shaggy, with thick round-cordate leaves" (Munz and Keck 1963). Survey conducted outside flowering period (Jun-Sep). *Malacothamnus* was observered infrequently in SA1, and was collected and verified as *M. fasciculatus*.
SSP29	No	No	None	Taprooted annuals of openings in scrub and chaparral, characteristic branching pattern easily discernable from other species of *N. pubescens* complex (except *N. mitracarpa*, of the North Coastal Range). Wishner has observed senescent plants in Agoura area, verified by authorities Johnson (BYU), and Porter (RSA), are persistent and recognizable through fall and winter. Contrary to original description (Johnson 2007), plants have both white and blue flowers often in mixed populations, with no intermediates (Wishner, pers. obs. 2008). Survey conducted outside flowering period (May-Jul). Not observed in SA1.
SSP30	No	No	None	Perennial, from elongate rhizomes, 0.5 to 1.2m high (Munz and Keck 1963; Allen *in* Hitchcock [ed.] 1993), Species typically found at higher elevations than Modelo Canyon. Survey conducted outside flowering period (Aug-Oct).

FE ..... Federal Endangered
FT..... Federal Threatened
FC ..... Federal Candidate Species
FSC..... Federal Species of Concern
SFP ..... California Fully Protected Species
SE ..... California Endangered
ST ..... California Threatened
SR..... California Rare
SSC ..... California Species of Special Concern
CDFG/NatureServe Rank
G1 or S1 - Critically Imperiled Globally or Subnationally (state)
G2 or S2 - Imperiled Globally or Subnationally (state)
G3 or S3 - Vulnerable to extirpation or extinction Globally or Subnationally (state)
CNPS 1A ..... California Native Plant Society listed as presumed to be extinct
CNPS 1B ..... California Native Plant Society listed as rare or endangered in California and elsewhere

Special Status Species				
Map Key	**Adequate Habitat Onsite**	**Adequate Habitat Size (7)**	**Acreage Impacted**	**Comments (8)**
CNPS 2..... California Native Plant Society listed as rare or endangered in California but more common elsewhere CNPS 3..... **A review list only.** California Native Plant Society listed as in need of more information. CNPS 4..... **A watch list only**. California Native Plant Society listed as of limited distribution or infrequent throughout a broader area in California; vulnerability to threat appears relatively low. LIS ..... Locally Important Species				

Nesting Bird Summary

There is potential for the nesting of birds protected under the federal Migratory Bird Treaty Act to be present in the survey area. This is because there are a large number of species listed by MTBA, and many of these are known to nest in coastal Ventura County. The potential varies with the many species involved. The following is a list of potentially nesting bird species of the Survey Area (even if low potential), which are protected by the Migratory Bird Treaty Act, and that are reported as nesting bird species of coastal Ventura County, derived from California's Wildlife Volume II Birds (Zeiner et al. [eds.] 1990.). Typical locations of nests are also provided.

Turkey vulture: cliffs, ledges, trees
Cooper's hawk: trees
Red-shouldered hawk, trees
Red-tailed hawk: trees
Golden eagle: cliffs
American kestrel: trees, crevices, cliffs, buildings.
Killdeer: on ground, pastures, riverbeds, roadsides, golf courses, etc.
Band-tailed pigeon: trees
Mourning dove: trees, ground
Greater roadrunner: low trees, shrubs
Barn owl: ledges, crevices, buildings, culverts, burrows, trees, nest boxes
Western screech-owl: trees (obligate secondary cavity nester)
Great horned owl: caves, crevices, cliffs, trees
Burrowing owl: burrows, pipes, culverts, nest boxes
Common poorwill: ground
White-throated swift: deep crevices on rocky cliff, tall buildings
Black-chinned hummingbird: trees, shrubs
Anna's hummingbird: trees, shrubs
Costa's hummingbird: shrubs, trees
Allen's hummingbird: trees
Nuttall's woodpecker: trees
Downy woodpecker: trees
Northern flicker: trees, poles, banks
Western wood pewee: trees
Pacific slope and Cordilleran flycatcher: trees, cliffs, buildings
Black phoebe: cliffs, buildings, bridges, eaves
Ash-throated flycatcher: trees, nest boxes, posts, pipes, culverts, etc.
Cassin's kingbird: trees
Western kingbird: trees, shrubs
Horned lark: ground
Tree swallow: trees, cliffs, nest boxes, buildings, etc.
Violet-green swallow: trees, cliffs, rocks, nest boxes, structures
Northern rough-winged swallow: banks, cliffs

Cliff swallow: buildings, bridges, cliffs, trees
Barn swallow: bridges, cliffs, banks, buildings, etc.
Western scrub-jay: trees, shrubs
American crow: trees, poles, shrubs, ground
Common raven: trees, cliffs
Oak titmouse: trees, nest boxes
Bushtit: trees, shrubs
White-breasted nuthatch: trees
Brown creeper: trees
Rock wren: rocks, cliffs, banks
Canyon wren: cliffs, banks, ledges, structures
Bewick's wren: ground, cavity, cliffs, ledges, structures
House wren: cavity, crevice, trees, buildings
Blue-gray gnatcatcher: shrubs, low trees
Western bluebird: trees, cavity, nest boxes
Swainson's thrush: trees
American robin: trees, large shrubs, ground
Northern mockingbird: trees: shrubs
California thrasher: shrubs, trees
Phainopepla: trees, shrubs
Loggerhead shrike: trees, shrubs
Least Bell's vireo: shrubs, trees
Hutton's vireo: trees, shrubs
Warbling vireo: shrubs, trees
Orange-crowned warbler: shrubs, trees
Yellow warbler: trees, shrubs
Black-throated gray warbler: shrubs, small trees
Common yellowthroat: ground, shrubs
Yellow-breasted chat: shrubs
Western tanager; trees, shrubs
Black-headed grosbeak: trees, shrubs
Blue grosbeak: trees, shrubs
Lazuli bunting: shrubs, low trees
Spotted towhee: ground, shrubs
California towhee: shrubs, trees
Rufous-crowned sparrow: ground, shrubs
Lark sparrow: ground, shrubs, trees
Sage sparrow: ground, shrubs
Savannah sparrow: ground
Grasshopper sparrow: ground
Song sparrow: ground, shrubs, small trees
Dark-eyed junco: ground, shrubs, trees
Western meadowlark: ground
Brewer's blackbird: meadow, grassland, cropland, urban, ground, trees,
Brown-headed cowbird: trees, shrubs, ground
Hooded oriole: trees
Bullock's oriole: trees
House finch: trees, shrubs, structures
Lesser goldfinch: shrubs, trees
Lawrence's goldfinch: trees, shrubs
American goldfinch: trees, shrubs

3.3 Wildlife Movement and Connectivity
(Initial Study Checklist D)

Wildlife movement or connectivity features, or evidence thereof, were found within the survey area(s).

Mapped Corridors or Linkages

The project site is within the critical Santa Susana Mountains to Sierra Madre Mountains linkage described in *South Coast Missing Linkages Project: A Linkage Design for the Santa Monica Mountains-Sierra Madre Connection* (2006) (**Figure 5**). This linkage contains areas identified for conservation that maintain large-scale connectivity between large protected core areas of the Santa Monica Mountains, Simi Hills, Santa Susana Mountains, and Los Padres National Forest. The Santa Susana Mountains to Sierra Madre Mountains linkage includes, in part, Piru Creek and large areas of private land west and east of Piru Creek. The linkage design is based on the habitat requirements of many species, areas best suited to facilitate species movement, areas of sufficient size for healthy ecological processes to operate, and many other factors.

Connectivity Feature 1 (C1)

C1 is the Santa Susana Mountains to Sierra Madre Mountains linkage.

Connectivity Feature

The feature is mapped as a Linkage.

Description

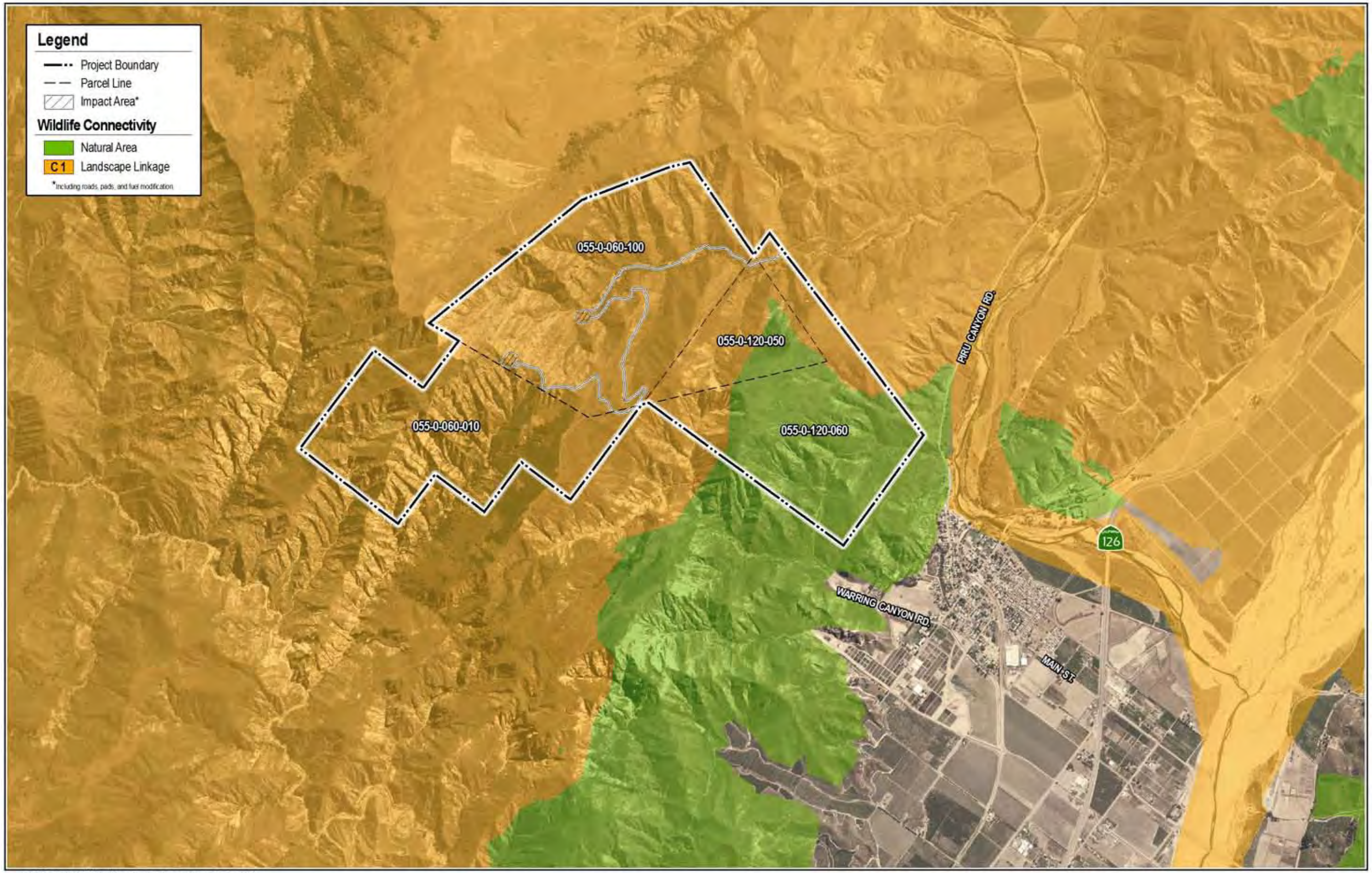
The linkage is a large-scale swath of land with variable characteristics to accommodate movement and habitat requirements of many species.

Species Observed

It is not possible to determine if species identified during the survey are using the linkage to move from one large core area to another large core area.

Evidence

See Species Observed.



Aerial Source: USDA-FSA, 2005. Boundary Source: Ventura County, 2009

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ENVICOM CORPORATION

Wildlife Connectivity Map

0 1,000 2,000 Feet

FIGURE 5

Functional Group/Species Expected

Landscape level linkages are concerned with movement of species and connectivity not only over large distances, but over long time periods. The Santa Susana Mountains to Sierra Madre Mountains linkage is expected to benefit species from every functional group in the long term. For example, a mountain lion may use the linkage to move from core area to core area within the same year, and plant species may spread from core area to core area in response to climate change over time. However, the species that would use the linkage in the short term are those that can move over larger distances: large mammals, medium mammals, bats, and birds.

Habitats Connected

The linkage connects coastal and inland habitats between the Santa Monica Mountains and the Sierra Madre Mountains. The linkage contains a wide range of habitats and was designed in part to accommodate the habitat needs of a wide range of species.

Discussion

No additional relevant information about the connectivity feature is provided.

Crossing Structures Table

No existing or proposed crossing structures are located within or adjacent to the survey area.

Crossing Structures						
Map Key (1)	**Type of Crossing Structure (2)**	**Passable? (3)**	**Functional Group/Species Expected (4)**	**Species Observed (5)**	**Evidence**	**Comments**
None						

No connectivity barriers are identified as a result of the present study.

Barriers			
Map Key (1)	**Barrier Type (2)**	**Species/Functional Groups Affected (3)**	**Comments (4)**

Section 4: Impact Assessment & Mitigation

4.1 Sufficiency of Biological Data

No Additional information is needed to make CEQA findings and develop mitigation measures.

4.2 Impacts and Mitigation

A. Endangered, Threatened, or Rare Animal or Plant Species, or Their Habitats

Project: PS-M; Cumulative: LS

Potentially Significant, But Mitigable Impacts to Endangered, Threatened and Locally Important Species, could result from possible disruption of nesting birds.

The Federal Migratory Bird Treaty Act (MBTA) and the California Department of Fish and Game (CDFG) Code (3503, 3503.5, 3511, 3513 and 3800) protect most native birds. In addition, the federal and state endangered species acts protect some bird species listed as threatened or endangered. Project-related impacts to birds protected by these regulations would occur during the breeding season, because unlike adult birds, eggs and chicks are unable to escape impacts.

The MBTA implements various treaties and conventions between the U.S. and Canada, Japan, Mexico, and Russia for the protection of migratory birds, which occur in two of these countries over the course of one year. The Act maintains that it is unlawful to pursue, hunt, take, capture or kill; attempt to take, capture or kill; possess, offer to or sell, barter, purchase, deliver or cause to be shipped, exported, imported, transported, carried or received any migratory bird, part, nest, egg or product, manufactured or not. Bird species protected under the provisions of the MBTA are identified by the List of Migratory Birds (Title 50 of the Code of Federal Regulations, Section 10.13 as updated by the 1983 American Ornithologists' Union (AOU) Checklist and published supplements through 1995 by the USFWS).

CDFG Code 3513 upholds the MBTA by prohibiting any take or possession of birds that are designated by the MBTA as migratory nongame birds except as allowed by federal rules and regulations promulgated pursuant to the MBTA. In addition, there are CDFG Codes (3503, 3503.5, 3511, and 3800), which further protect nesting birds and their parts, including passerine birds, raptors, and state “fully protected” birds.

NOTE: These regulations protect almost all *native nesting birds*, not just sensitive status birds.

MM1:

Impact & Mitigation Goal:

Avoidance of the potentially significant impacts to nesting birds

Mitigation Action:

Appropriate timing of grading and construction to the period between August 16 and January 31, or by pre-construction surveys to detect and avoid nesting birds during the nesting season between February 1 and August 15.

Monitoring & Timing:

Pre-grading and construction nesting bird surveys shall be conducted in all areas within 500 feet of impact areas, and performed by qualified persons not more than fourteen (14) days prior to tree/vegetation removal or grading. The Biologist shall provide recommendations for avoidance of

impacts to nesting birds for County approval not less than seven (7) days prior to commencement of planned tree/vegetation removal or grading.

Standard of Success:

No harm or disruption of nesting birds shall occur in violation of Fish and Game Code (3503, 3503.5, 3511, 3513 and 3800.

Mapped Information:

The implementation and monitoring of this mitigation necessitates that any nests found during pre-grading and construction surveys shall be spatially referenced. Such nests and surrounding buffer for avoidance of impacts shall be mapped on the Site Map, and provided to grading and construction contractors prior to commencement of their work. Biologist shall be on-site at the beginning of the day of grading, and throughout that period, to monitor that activity.

B. Wetland Habitats Project: PS-M; Cumulative: LS

The Army Corps of Engineers has evaluated the proposed project and concluded that the project would not discharge fill or dredge material into U.S. Waters or associated wetlands. Also, the CDFG has stated the project may continue without a streambed alteration agreement.

W1 (Modelo Creek)

The lower pad would be graded in close proximity to the significant waters of W1 (Modelo Creek). Should sediment or pollutants enter the creek, the impact could potentially disrupt the ecological condition of the creek or be harmful to aquatic species. However, the grading plan has been designed to avoid the placement of sediment into Modelo Creek. Furthermore, the applicant has proposed to construct a 1-foot high earthen berm between the graded area and Modelo Creek to prevent stormwater runoff, which could contain sediment and pollutants, from entering the creek.

The lower pad, access road, turnouts, and turnarounds would be graded and maintained in close proximity (in specific locations) to significant waters of Modelo Creek. The proposed project would only impact existing roadbed, turnouts, and turnarounds, and the applicant has proposed a grading plan that prevents disturbance of Modelo Creek and riparian areas. The current distance between the access road and Modelo Creek would serve as a sufficient buffer to protect the creek, riparian habitat, and biological resources.

At one point, the access road crosses Modelo Creek. This section of the road would not be graded and the passage of vehicles through the creek would not cause a significant disturbance to biological resources or riparian habitat. A temporary structure could be used, if feasible, to reduce the impact to the creek and biological resources as vehicles cross, provided the structure does not disturb the steam, stream banks, or riparian vegetation.

The possibility of the occurrence of accidental oil spills or leakage from piping and storage tanks cannot be discounted. Accidental oil spills would have the potential to impact not only Modelo Creek, but other downstream water bodies such as Piru Canyon Creek and the Santa Clara River which contain special-status species. Installation of the earthen berm would serve to protect the creek from oil spills or leakage during the exploration operations on the lower pad. It would be essential that the berm be carefully and solidly constructed with consideration of flow direction and quantity of potential runoff and spills. The proposed locations for grading and the earthen berm would provide a sufficient buffer for protection of Modelo Creek. The project grading and location of the berm should not be closer to Modelo Creek than as described in the project plan.

Fuel modification would be required within a 100-foot radius around the drilling rigs at the lower pad, which would encompass wetland habitat. However, fuel modification activities within wetland habitats are typically limited to the removal of deadwood, debris and non-organic material. Implementation of a Ventura County Fire Department approved fuel modification plan, which avoids riparian and wetland habitat would reduce the **potentially significant** impact to a less than significant level[2].

MM2:

Impact & Mitigation Goal:

Potentially significant impacts to Modelo Creek by Fuel Modification at Lower Drill Pad

Mitigation Action:

The applicant shall implement a Ventura County Fire Protection District approved Fuel Modification Plan, that DOES NOT require the removal of riparian vegetation from within the bed, banks and channel of the stream located adjacent to the drill pad.

Monitoring & Timing:

Prior to the initiation of the exploratory operations, the fuel modification activities shall be complete.

Standard of Success:

No removal of vegetation shall occur within the banks or channel of Modelo Creek.

Mapped Information:

The mapped information on the location of MM2 is provided on Figure 1 (Site and Survey).

W2 is a small seep adjacent to the access road supporting a small population of smooth flatsedge (*Cyperus laevigata*), a Locally Important Species (LIS). It is possible to grade and maintain the access road to 12 feet without harming the species or disturbing the seep. However, there remains a remote possibility that grading or maintenance would cause an impact, or a vehicle would be driven up onto the seep (e.g., to allow another truck to pass). For this reason, it is necessary that the Applicant and those grading and maintaining the road are made aware of the seep and the LIS to ensure it is protected. Impacts to W2 would be **potentially significant**.

MM3:

Impact & Mitigation Goal:

Incidental damage to the brine tar seep and associated smooth flatsedge.

Mitigation Action:

The brine tar seep area shall be demarcated by durable “CAUTION” tape, affixed to posts along the north edge of the roadway, adjacent to the seep, and in such a manner to alert personnel of the presence of this sensitive area, and prevent any incidental damages from occurring thereto. Such cautions shall remain in place throughout the duration of the exploratory operation.

Monitoring & Timing:

Installation of the cautionary tape shall be performed prior to commencement of vegetation clearing or grading activities on the access road. The County Biologist shall be notified immediately upon the installation and prior to vegetation clearing or grading activities.

Standard of Success:

Avoidance of the brine tar seep.

[2] Per personal communication with Christina Danko, the Fire Protection District has agreed to reduce the fuel modification zone to avoid impacts to riparian habitat along Modelo Creek.

Mapped Information:

The location of this Mitigation is spatially referenced on the Site and Survey Map by the map key MM3.

C. Coastal Habitats Project: N; Cumulative: N

The project site is not located within or adjacent to the coastal zone, nor is there significant habitat connectivity between the survey area and the coastal zone.

D. Wildlife Movement and Connectivity (migration corridors) Project: LS; Cumulative: LS

The proposed project is located within an important landscape-level linkage for wildlife movement and connectivity.

The proposed project is within the Santa Susana Mountains to Sierra Madre Mountains landscape linkage. However, the proposed project would not reduce the value of this linkage for wildlife movement or connectivity. Because the project would use existing roads and disturbed sites, it would not increase road density or add to fragmentation of habitats within the linkage. Impacts to wildlife movement and connectivity would be **less than significant**.

E. Locally Important Species/Communities Project: PS-M; Cumulative: LS

Locally Important Species and Communities were observed or have a moderate to high potential to occur within the survey area.

Smooth flatsedge (*Cyperus laevigatus*) occurs very localized, along the roadway immediately east of the stream crossing, in association with a brine tar seep. This species is included on the Ventura County list of Locally Important Plants. Inquiry of collections among the Consortium of California Herbaria yields no records of this species in Ventura County. The present restricted location is one of only two known occurrences, and possibly the only specimen-vouchered occurrence for the County (approximately 6 herbarium sheets of material from this location are now available for distribution to California herbaria). Although the proposed project involves no specific modification that would affect the location of this plant, incidental damages by an inadvertent or unplanned activity, such as using the location as a vehicle turnout, or mechanical damage while maintaining the road could result in a **potentially significant** impact. However, implementation of mitigation measure MM3 (See Section B) would reduce potential impacts to a less than significant level.

As described in Section 3.1, oak woodlands and other riparian deciduous trees occur adjacent to the access road. It would be necessary to remove one (1) coast live oak tree (*Quercus agrifolia*), a large limb of a second coast live oak tree, and several smaller branches on additional coast live oaks and sycamores (*Platanus racemosa*) to clear the road to a width of 12 feet and height of 15 feet to ensure adequate clearance for the required vehicles. *Quercus agrifolia* and *Platanus racemosa* with trunks greater than 3" diameter @ 4.5' (dbh) are protected by the Ventura County Tree Protection Ordinance. However, the Ventura County Tree Protection Ordinance does not require mitigation for the removal of a single oak tree. An arborist has determined that the necessary pruning of smaller branches of oak and sycamore trees would not harm or jeopardize the health of these trees if done properly in accordance with the current International Society of Arboriculture pruning standards and guidelines. Impacts to individual oak trees would be **less than significant**.

Section 5: Conditions of Approval

Conditions of Approval

No conditions are necessary to be applied independent of mitigating specific impacts under Items A, B, and E, above.

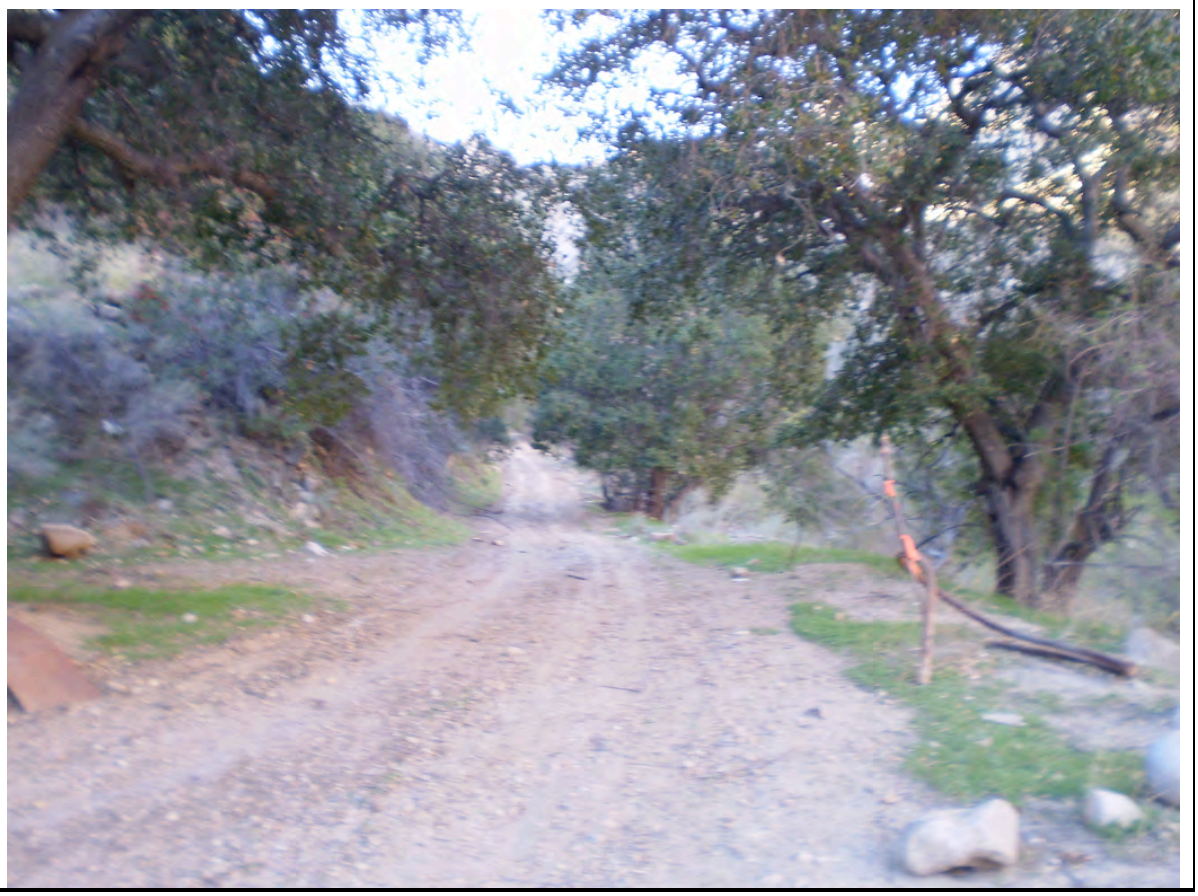
Section 6: Photos

Photos	
Location	
Map Key	
P1	
View Direction	
North	
Description	
Upper drilling pad.	

Location	
Map Key	
P2	
View Direction	
Southeast	
Description	
Turnout #4 (Helicopter Pad)	

Location	
Map Key	
P3	
View Direction	
West	
Description	
Slope (center of photo in background) where pipeline would run from ridge to lower pad.	

Location	
	
Map Key	
P4	
View Direction	
Northwest	
Description	
Lower drilling pad.	

Location	
	
Map Key	
P5	
View Direction	
East	
Description	
Coast live oak trees with low hanging branches.	

Location	
	
Map Key	
P6	
View Direction	
East	
Description	
Turnout #10	

Location	
	
Map Key	
P7	
View Direction	
West	
Description	
Modelo Creek crossing	

Location	
Map Key	
P8	
View Direction	
West	
Description	
Brine tar seep with smooth flatsedge (*Cyperus laevigata*)	

P9	
View Direction	
South	
Description	
Coast live oak tree to be removed.	

Appendix 1

Summary of Biological Resource Regulations

Appendix One

Summary of Biological Resource Regulations

The Ventura County Planning Division, as “lead agency” under CEQA for issuing discretionary land use permits, uses the relationship of a potential environmental effect from a proposed project to an established regulatory standard to determine the significance of the potential environmental effect. This Appendix summarizes important biological resource regulations which are used by the Division’s biologists (consultants and staff) in making CEQA findings of significance:

- Sensitive Status Species Regulations
- Nesting Bird Regulations
- Plant Community Regulations
- Waters and Wetlands Regulations
- Coastal Habitat Regulations
- Wildlife Migration Regulations
- Locally Important Species/Communities Regulations

Sensitive Status Species Regulations

Federally Protected Species

Ventura County is home to 29 federally listed endangered and threatened plant and wildlife species. The U.S. Fish and Wildlife Service (USFWS) regulates the protection of federally listed endangered and threatened plant and wildlife species.

FE (Federally Endangered): A species that is in danger of extinction throughout all or a significant portion of its range.

FT (Federally Threatened): A species that is likely to become endangered in the foreseeable future.

FC (Federal Candidate): A species for which USFWS has sufficient information on its biological status and threats to propose it as endangered or threatened under the Endangered Species Act (ESA), but for which development of a proposed listing regulation is precluded by other higher priority listing activities.

FSC (Federal Species of Concern): A species under consideration for listing, for which there is insufficient information to support listing at this time. These species may or may not be listed in the future, and many of these species were formerly recognized as "Category-2 Candidate” species.

The USFWS requires permits for the ‘taking’ of any federally listed endangered or threatened species. Take is defined by the USFWS as “to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct; may include significant habitat modification or degradation if it kills or injures wildlife by significantly impairing essential behavioral patterns including breeding, feeding, or sheltering.”

The Endangered Species Act (ESA) does not provide statutory protection for candidate species or species of concern, but USFWS encourages conservation efforts to protect these species. USFWS can set up voluntary Candidate Conservation Agreements and Assurances, which provide non-Federal landowners (public and private) with the assurance that if they implement various conservation activities to protect a given candidate species, they will not be subject to additional restrictions if the species becomes listed under the ESA.

State Protected Species

The California Department of Fish and Game (CDFG) regulates the protection of endangered, threatened, and fully protected species listed under the California Endangered Species Act. Some species may be jointly listed under the State and Federal Endangered Species Acts.

SE (California Endangered): A native species or subspecies which is in serious danger of becoming extinct throughout all, or a significant portion, of its range due to one or more causes, including loss of habitat, change in habitat, overexploitation, predation, competition, or disease.

ST (California Threatened): A native species or subspecies that, although not presently threatened with extinction, is likely to become an endangered species in the foreseeable future in the absence of the special protection and management efforts required by this chapter. Any animal determined by the commission as "rare" on or before January 1, 1985, is a "threatened species."

SFP (California Fully Protected Species): This designation originated from the State's initial effort in the 1960's to identify and provide additional protection to those animals that were rare or faced possible extinction. Lists were created for fish, mammals, amphibians, reptiles, and birds. Most fully protected species have also been listed as threatened or endangered species under the more recent endangered species laws and regulations.

SR (California Rare): A species, subspecies, or variety of plant is rare under the Native Plant Protection Act when, although not presently threatened with extinction, it is in such small numbers throughout its range that it may become endangered if its present environment worsens. Animals are no longer listed as rare; all animals listed as rare before 1985 have been listed as threatened.

SSC (California Species of Special Concern): Animals that are not listed under the California Endangered Species Act, but which nonetheless 1) are declining at a rate that could result in listing, or 2) historically occurred in low numbers and known threats to their persistence currently exist.

The CDFG requires permits for the taking of any State-listed endangered, threatened, or fully protected species. Section 2080 of the Fish and Game Code prohibits "take" of any species that the California Fish and Game Commission determines to be endangered or threatened. Take is defined in Section 86 of the Fish and Game Code as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill."

The California Native Plant Protection Act protects endangered and rare plants of California. Section 1908, which regulates plants listed under this act, states: “no person shall import into this state, or take, possess, or sell within this state, except as incident to the possession or sale of the real property on which the plant is growing, any native plant, or any part or product thereof, that the commission determines to be an endangered native plant or rare native plant, except as otherwise provided in this chapter.”

The California Endangered Species Act does not provide statutory protection for California species of special concern, but they should be considered during the environmental review process.

California Native Plant Society Listed Species

Plants with CNPS listings 1A, 1B and 2 should always be addressed in CEQA documents. Plants with CNPS listings 3 and 4 do not explicitly qualify for legal protection, but can be addressed in CEQA documents depending on the circumstances and opinion of the biologist conducting the assessment.

CNPS 1A: Plants presumed to be extinct because they have not been seen or collected in the wild in California for many years. This list includes plants that are both presumed extinct in California, as well as those plants which are presumed extirpated in California. A plant is extinct in California if it no longer occurs in or outside of California. A plant that is extirpated from California has been eliminated from California, but may still occur elsewhere in its range.

CNPS 1B: Plants that are rare throughout their range with the majority of them endemic to California. Most of the plants of List 1B have declined significantly over the last century.

CNPS 2: Plants that are rare throughout their range in California, but are common beyond the boundaries of California. List 2 recognizes the importance of protecting the geographic range of widespread species.

Plants identified on CNPS Lists 1A, 1B, and 2 meet the definitions of Sec. 1901, Chapter 10 (Native Plant Protection Act) or Secs. 2062 and 2067 (California Endangered Species Act) of the California Department of Fish and Game Code, and are eligible for state listing. They should be fully considered during preparation of environmental documents relating to CEQA.

CNPS 3: A review list for plants for which there is inadequate information to assign them to one of the other lists or to reject them.

CNPS 4: A watch list for plants that are of limited distribution or infrequent throughout a broader area in California and their vulnerability or susceptibility to threat appears relatively low at this time.

Global and Subnational Rankings

Though not associated directly with legal protections, species have been given a conservation status rank by NatureServe, an international non-profit conservation organization that is the leading source for information about rare and endangered species and threatened ecosystems. The Ventura County Planning Division considers the following ranks as sensitive for the purposes of CEQA impact assessment (G = Global, S = Subnational or State):

G1 or S1 - Critically Imperiled
G2 or S2 – Imperiled
G3 or S3 - Vulnerable to extirpation or extinction

Locally Important Species

Locally important species' protections are addressed in a separate Appendix document, "Locally Important Species/Communities Regulations."

For lists of some of the species in Ventura County that are protected by the above regulations, go to www.ventura.org/rma/planning/bio_resources/index.htm.

Nesting Bird Regulations

The Federal Migratory Bird Treaty Act (MBTA) and the California Department of Fish and Game (CDFG) Code (3503, 3503.5, 3511, 3513 and 3800) protect most native birds. In addition, the federal and state endangered species acts protect some bird species listed as threatened or endangered. Project-related impacts to birds protected by these regulations would occur during the breeding season, because unlike adult birds, eggs and chicks are unable to escape impacts.

The MBTA implements various treaties and conventions between the U.S. and Canada, Japan, Mexico, and Russia for the protection of migratory birds, which occur in two of these countries over the course of one year. The Act maintains that it is unlawful to pursue, hunt, take, capture or kill; attempt to take, capture or kill; possess, offer to or sell, barter, purchase, deliver or cause to be shipped, exported, imported, transported, carried or received any migratory bird, part, nest, egg or product, manufactured or not. Bird species protected under the provisions of the MBTA are identified by the List of Migratory Birds (Title 50 of the Code of Federal Regulations, Section 10.13 as updated by the 1983 American Ornithologists' Union (AOU) Checklist and published supplements through 1995 by the USFWS).

CDFG Code 3513 upholds the MBTA by prohibiting any take or possession of birds that are designated by the MBTA as migratory nongame birds except as allowed by federal rules and regulations promulgated pursuant to the MBTA. In addition, there are CDFG Codes (3503, 3503.5, 3511, and 3800) which further protect nesting birds and their parts, including passerine birds, raptors, and state "fully protected" birds.

NOTE: These regulations protect almost all *native nesting birds*, not just sensitive status birds.

Plant Community Regulations

Plant communities are provided legal protection when they provide habitat for protected species, when the community is in the coastal zone and qualifies as environmentally sensitive habitat area (ESHA), or when the community qualifies as locally important.

Global and Subnational Rankings

Though not associated directly with legal protections, plant communities have been given a conservation status rank by NatureServe, an international non-profit conservation organization that is the leading source for information about rare and endangered species and threatened ecosystems. The Ventura County Planning Division considers the following ranks as sensitive for the purposes of CEQA impact assessment (G = Global, S = Subnational or State):

G1 or S1 - Critically Imperiled
G2 or S2 - Imperiled
G3 or S3 - Vulnerable to extirpation or extinction

CDFG Rare

Rare natural communities are those communities that are of highly limited distribution. These communities may or may not contain rare, threatened, or endangered species. Though the Native Plant Protection Act and the California Endangered Species Act provide no legal protection to plant communities, CDFG considers plant communities that are ranked G1-G3 or S1-S3 (as defined above) to be rare or sensitive, and therefore these plant communities should be addressed during CEQA review.

Environmentally Sensitive Habitat Areas

The Coastal Act specifically calls for protection of "environmentally sensitive habitat areas" or ESHA, which it defines as: "Any area in which plant or animal life or their habitats are either rare or especially valuable because of their special nature or role in an ecosystem and which could be easily disturbed or degraded by human activities and developments" (Section 30107.5).

ESHA has been specifically defined in the Santa Monica Mountains. For projects in this location, the Coastal Commission, the agency charged with administering the Coastal Act, has developed a specific three-part test for determining whether habitat there should be considered coastal sage scrub/chaparral ESHA. A memo from a Coastal Commission biologist outlining this test can be found at: www.ventura.org/rma/planning/pdf/bio_resources/ESHA_Santa_Monica_Mountains.pdf.

Locally Important Communities

The Ventura County Initial Study Assessment Guidelines defines a locally important community as one that is considered by qualified biologists to be a quality example characteristic of or unique to the County or region, with this determination being made on a case-by-case basis. The County has not developed a list of locally important communities, but has deemed oak woodlands to be a locally important community.

Waters and Wetlands Regulations

Numerous agencies control what can and cannot be done in or around streams and wetlands. If a project affects an area where water flows, ponds or is present even part of the year, it is likely to be regulated by one or more agencies. Many wetland or stream projects will require three main permits or approvals (in addition to CEQA compliance). These are:

- 404 Permit (U.S. Army Corps of Engineers)

- 401 Certification (Regional Water Quality Control Board)
- Streambed Alteration Agreement (California Department of Fish and Game)

In addition, the Ventura County General Plan calls for protection of wetlands and there are several other federal, state and local permits that could be required when a project involves disturbance to wetlands or waters. For a more thorough explanation of wetland permitting, see the Ventura County's "Wetland Project Permitting Guide" at www.ventura.org/rma/planning/pdf/prog_servs/bio_resources/FinalPDF.pdf.

404 Permit (U.S. Army Corps of Engineers)

Most projects that involve streams or wetlands will require a 404 Permit from the U.S. Army Corps of Engineers (USACE). Section 404 of the federal Clean Water Act is the primary federal program regulating activities in wetlands. The Act regulates areas defined as "waters of the United States." This includes streams, wetlands in or next to streams, areas influenced by tides, navigable waters, lakes, reservoirs and other impoundments. For nontidal waters, USACE jurisdiction extends up to what is referred to as the "ordinary high water mark" as well as to the landward limits of adjacent Corps-defined wetlands, if present. The ordinary high water mark is an identifiable natural line visible on the bank of a stream or water body that shows the upper limit of typical stream flow or water level. The mark is made from the action of water on the streambank over the course of years.

Permit Triggers: A USACE 404 Permit is triggered by moving (discharging) or placing materials—such as dirt, rock, geotextiles, concrete or culverts—into or within USACE jurisdictional areas. This type of activity is also referred to as a "discharge of dredged or fill material."

401 Certification (Regional Water Quality Control Board)

If your project requires a USACE 404 Permit, then you will also need a Regional Water Quality Control Board (RWQCB) 401 Certification. The federal Clean Water Act, in Section 401, specifies that states must certify that any activity subject to a permit issued by a federal agency, such as the USACE, meets all state water quality standards. In California, the state and regional water boards are responsible for certification of activities subject to USACE Section 404 Permits.

Permit Trigger: A RWQCB 401 Certification is triggered whenever a USACE 404 Permit is required, or whenever an activity could cause a discharge of dredged or fill material into waters of the U.S. or wetlands.

Streambed Alteration Agreement (California Department of Fish and Game)

If your project includes alteration of the bed, banks or channel of a stream, or the adjacent riparian vegetation, then you may need a Streambed Alteration Agreement from the California Department of Fish and Game (CDFG). The California Fish and Game Code, Sections 1600-1616, regulates activities that would alter the flow, bed, banks, channel or associated riparian areas of a river, stream or lake—all considered "waters of the state." The law requires any person, state or local governmental agency or public utility to notify CDFG before beginning an activity that will substantially modify a river, stream or lake.

Permit Triggers: A Streambed Alteration Agreement (SAA) is triggered when a project involves altering a stream or disturbing riparian vegetation, including any of the following activities:

- Substantially obstructing or diverting the natural flow of a river, stream or lake
- Using any material from these areas
- Disposing of waste where it can move into these areas

Some projects that involve routine maintenance may qualify for long-term maintenance agreements from CDFG. Discuss this option with CDFG staff.

Ventura County General Plan

The Ventura County General Plan contains policies which also strongly protect wetland habitats.

Biological Resources Policy 1.5.2-3 states**:**

Discretionary development that is proposed to be located within 300 feet of a marsh, small wash, intermittent lake, intermittent stream, spring, or perennial stream (as identified on the latest USGS 7_ minute quad map), shall be evaluated by a County approved biologist for potential impacts on wetland habitats. Discretionary development that would have a significant impact on significant wetland habitats shall be prohibited, unless mitigation measures are adopted that would reduce the impact to a less than significant level; or for lands designated "Urban" or "Existing Community", a statement of overriding considerations is adopted by the decision-making body.

Biological Resources Policy 1.5.2-4 states:

Discretionary development shall be sited a minimum of 100 feet from significant wetland habitats to mitigate the potential impacts on said habitats. Buffer areas may be increased or decreased upon evaluation and recommendation by a qualified biologist and approval by the decision-making body. Factors to be used in determining adjustment of the 100 foot buffer include soil type, slope stability, drainage patterns, presence or absence of endangered, threatened or rare plants or animals, and compatibility of the proposed development with the wildlife use of the wetland habitat area. The requirement of a buffer (setback) shall not preclude the use of replacement as a mitigation when there is no other feasible alternative to allowing a permitted use, and if the replacement results in no net loss of wetland habitat. Such replacement shall be "in kind" (i.e. same type and acreage), and provide wetland habitat of comparable biological value. On-site replacement shall be preferred wherever possible. The replacement plan shall be developed in consultation with California Department of Fish and Game.

Coastal Habitat Regulations

Ventura County's Coastal Area Plan and the Coastal Zoning Ordinance, which constitute the "Local Coastal Program" (LCP) for the unincorporated portions of Ventura County's coastal zone, ensure that the County's land use plans, zoning ordinances, zoning maps, and implemented actions meet the requirements of, and implement the provisions and polices of California's 1976 Coastal Act at the local level.

Environmentally Sensitive Habitats

The Coastal Act specifically calls for protection of "environmentally sensitive habitat areas" or ESHA, which it defines as: "Any area in which plant or animal life or their habitats are either rare or especially valuable because of their special nature or role in an ecosystem and which could be easily disturbed or degraded by human activities and developments" (Section 30107.5).
Section 30240 of the Coastal Act states:

(a) "Environmentally sensitive habitat areas shall be protected against any significant disruption of habitat values, and only uses dependent on such resources shall be allowed within such areas."

(b) "Development in areas adjacent to environmentally sensitive habitat areas and parks and recreation areas shall be sited and designed to prevent impacts which would significantly degrade such areas, and shall be compatible with the continuance of such habitat areas."

There are three important elements to the definition of ESHA. First, a geographic area can be designated ESHA either because of the presence of individual species of plants or animals or because of the presence of a particular habitat. Second, in order for an area to be designated as ESHA, the species or habitat must be either rare or it must be especially valuable. Finally, the area must be easily disturbed or degraded by human activities.

Protection of ESHA is of particular concern in the southeastern part of Ventura County, where the coastal zone extends inland (~5 miles) to include an extensive area of the Santa Monica Mountains. The Coastal Commission, the agency charged with administering the Coastal Act, developed a specific three-part test for determining whether habitat in the Malibu area of the Santa Monica Mountains should be considered coastal sage scrub/chaparral ESHA. Given that Malibu is immediately adjacent to the Ventura County part of the Santa Monica Mountains, this three-part test can be used for assessing whether coastal sage scrub and chaparral habitat in the Ventura County coastal zone meets the definition of ESHA. A memo from a Coastal Commission biologist outlines this test and can be found at: www.ventura.org/rma/planning/pdf/bio_resources/ESHA_Santa_Monica_Mountains.pdf.

The County's Local Coastal Program outlines other specific protections to environmentally sensitive habitats in the Coastal Zone, such as to wetlands, riparian habitats and dunes. Protections in some cases are different for different segments of the coastal zone.

Copies of the Coastal Area Plan and the Coastal Zoning Ordinance can be found at: www.ventura.org/rma/planning/programs_services/local_coast/local_coast.htm.

Wildlife Migration Regulations

The Ventura County General Plan specifically includes wildlife migration corridors as an element of the region's significant biological resources. In addition, protecting habitat connectivity is critical to the success of special status species and other biological resource protections. Potential project impacts to wildlife migration are analyzed by biologists on a case-by-case basis. The issue involves both a macro-scale analysis—where routes used by large carnivores connecting very large core habitat areas may be impacted—as well as a micro-scale analysis—where a road or stream crossing may impact localized movement by many different animals.

Locally Important Species/Communities Regulations

Locally important species/communities are considered to be significant biological resources in the Ventura County General Plan, thus one of the County's threshold criteria for the evaluation of impacts to biological resources is whether the project impacts locally important species/communities.

Locally Important Species

The following criteria were developed with the assistance of local biologists:

Locally Important Animal Species Criteria

1. Taxa for whom habitat in Ventura County is crucial for their existence either globally or in Ventura County. This includes taxa for whom:
    - Populations in Ventura County represents 10% or more of the known extant global distribution; or
    - In Ventura County, there are less than 6 element occurrences, or less than 1,000 individuals, or less than 2,000 acres.
2. Native taxa that are generally declining throughout their range and/or are in danger of extirpation in Ventura County.

Locally Important Plant Species Criteria

A locally important plant is a taxon that is declining throughout the extent of its range AND has a maximum of five (5) element occurrences in Ventura County.

Locally Important Animal and Plant Species Criteria

In some cases, to be determined on an individual basis, there are taxa whose population(s) do not qualify as locally important species; however, certain locations where a taxon occurs will be defined as locally important. This includes:

- If known, the published type locality for a holotype specimen.
- The edge of a taxon's range. This criteria does not apply to non-native taxa or those taxa whose range and population(s) size is expanding.

The County maintains a list of locally important species, which can be found on the Planning Division website at: www.ventura.org/rma/planning/programs_services/bio_resources/bio_resources.htm. *This list should not be*

considered comprehensive. Any species that meets the criteria qualifies as locally important, whether or not it is included on this list.

Locally Important Communities

The Ventura County Initial Study Assessment Guidelines defines a locally important community as one that is considered by qualified biologists to be a quality example characteristic of or unique to the County or region, with this determination being made on a case-by-case basis. The County has not developed a list of locally important communities. Oak woodlands have however been deemed by the Ventura County Board of Supervisors to be a locally important community.

The state passed legislation in 2001, the Oak Woodland Conservation Act, to emphasize that oak woodlands are a vital and threatened statewide resource. In response, the County of Ventura prepared and adopted an Oak Woodland Management Plan that recommended, among other things, amending the County's Initial Study Assessment Guidelines to include an explicit reference to oak woodlands as part of its definition of locally important communities. The Board of Supervisors approved this management plan and its recommendations.

Appendix 2
Observed Species Tables

Observed Species Tables

Species Observed			
Scientific Name (Species or Genus)	Common Name	Native (1)	Notes (2)
MOSSES			Nomenclature follows published and provisional treatments of the Flora of North America
BRYACEAE			
Bryum argenteum	silver moss	N	
FISSIDENTACEAE			
Fissidens sublimbatus	fissidens	N	
FUNARIACEAE			
Funaria hygrometrica	cord moss	N	
POTTIACEAE			
Aloina aloides ambiguua	aloe-like aloina	N	Collection: CW (number not yet assigned)
Didymodon brachyphyllus	short-leaved didymodon	N	Collection: CW (number not yet assigned)
Syntrichia sp. undetermined	screw moss	N	Collection: CW (number not yet assigned)
Tortula atrovirens	dark-green screw moss	N	Collection: CW (number not yet assigned)
BRACHYTHECIACEAE			
Scleropodium sp. undet'd	scleropodium	N	Collection: CW (number not yet assigned)
LIVERWORTS			
AYTONIACEAE			
Asterella californica	California asterella	N	
TARGIONIACEAE			
Targionia hypophylla	targionia	N	
VASCULAR PLANTS			Nomenclature follows Hickman [ed.] (1993) with recent name changes and familial assignments reflected in the Jepson Online Interchange.
FERNS AND ALLIES			
POLYPODIACEAE			
Polypodium californicum	California polypody	N	
PTERIDACEAE			
Pellaea andromedifolia	coffee fern	N	
Pentagramma triangularis triangularis	goldenback fern	N	
SELAGINELLACEAE			

Species Observed			
Selaginella bigelovii	Bigelow's spike-moss	N	
FLOWERING PLANTS - DICOTS			
ADOXACEAE			
Sambucus mexicanus	Mexican elderberry	N	
ANACARDIACEAE			
Rhus ovata	sugarbush	N	
Toxicodendron diversilobum	poison-oak	N	
AMARANTHACEAE			
Chenopodium cf.*berlandeiri*	pitseed goosefoot	N	
Salsola tragus	Russian-thistle	I	
APIACEAE			
Foeniculum vulgare	fennel	I	
ASTERACEAE			
Acourtia microcephala	sacapellote	N	
Artemisia californica	California sagebrush	N	
Baccharis pilularis consanguinea	coyote brush	N	
Baccharis salicifolia	mulefat	N	
Brickellia californica	California Brickellbush	N	
Carduus pycnocephalus	Italian thistle	I	
Centauria melitensis	tocalote	I	
Conyza bonariensis	Buenos Aires horseweed	I	
Corethrogyne filaginifolia filaginafolia	California-aster	N	
Eriophyllum confertiflorum confertiflorum	golden-yarrow	N	
Gnaphalium bicolor	Bioletti's everlasting	N	
Gnaphalium californicum	California everlasting	N	
Gutierrezia californica	California matchweed	N	
Hazardia squarrosa obtusa	sawtooth goldenbush	N	
Heterotheca sessiflora echioides	hairy golden-aster	N	Collection: CW11126
Isocoma menziesii vernonioides	coastal isocoma	N	
Malacothrix saxatilis tenuifolia	cliff-aster	N	
Pseudognaphalium microcephalum	white everlasting	N	
Rafinesquia californica	California chicory	N	
Senecio flaccidus douglasii	bush senecio	N	

Species Observed			
Senecio vulgaris	common groundsel	I	
Sonchus asper	prickly sow-thistle	I	
Stephanomeria virgata virgata	wand chicory	N	
BORAGINACEAE			
Crypthantha intermedia	intermediate popcorn flower	N	
Cryptantha muricata	muricate popcorn flower	N	
Eriodictyon crassifolium nigrescens	yerba santa	N	
Nemophila menziesii var. undet'd	baby blue-eyes	N	
Phacelia cicutaria hispida	caterpillar phacelia	N	
Phacelia ramosissima var. undet'd	branching phacelia	N	
BRASSICACEAE			
Brassica nigra	black mustard	I	
Descurainia pinnata ssp. undet'd	descurainia	N	
Erysimum capitatum capitatum	western wall flower	N	
Hirschfeldia incana	hoary mustard	I	
Isomeris arborea	bladderpod	N	
Sisymbrium irio	London-rocket	I	
Sisymbrium officinale	western hedge-nettle	I	
Sisymbrium orientale	Oriental mustard	I	
CONVOLVULACEAE			
Calystegia macrostegia cyclostegia	chaparral morning-glory	N	
CRASSULACEAE			
Dudleya lanceolata	lance-leaf dudleya	N	
CUCURBITACEAE			
Marah cf. *macrocarpus macrocarpus*	wild cucumber	N	
ERICACEAE			
Arctostaphylos glauca	bigberry manzanita	N	
EUPHORBIACEAE			
Croton setigerus	doveweed	N	
FABACEAE			
Astragalus trichopodus phoxus	Santa Barbara locoweed	N	
Lotus scoparius scoparius	deerweed	N	
Lotus cf. *wrangelianus*	lotus	N	
Lupinus succulentus	arroyo lupine	N	

Species Observed			
Medicago polymorpha	bur-clover	I	
FAGACEAE			
Quercus agrifolia agrifolia	coast live oak	N	
GERANIACEAE			
Erodium cicutarium	red-stem filaree	I	
Erodium moschatum	white-stem filaree	I	
GROSSULARIACEAE			
Ribes malvaceum	chaparral currant	N	
JUGLANDACEAE			
Juglans californica	California walnut	N	
LAMIACEAE			
Marrubium vulgare	horehound	I	
Salvia apiana	white sage	N	
Salvia columbariae	chia	N	
Salvia leucophylla	purple sage	N	
Salvia mellifera	black sage	N	
MALVACEAE			
Malacothamnus fasciculatus	bush mallow	N	Collection: CW11127
Malva parvifolia	cheeseweed	I	
NYCTAGINACEAE			
Mirabilis laevis crassifolia	wishbone bush	N	
ONAGRACEAE			
Camissonia californica	mustard evening-primrose	N	
Clarkia unguiculata	elegant clarkia	N	
Epilobium canum canum	hoary California-fuchsia	N	
PAPAVERACEAE			
Eschscholzia californica	California poppy	N	
PHRYMACEAE			
Mimulus aurantiacus	orange bush monkeyflower	N	
PLANTAGINACEAE			
Antirrhinum kelloggii	twining snapdragon	N	
Keckiella cordifolia	heart-leaf penstemon	N	
PLATANACEAE			
Platanus racemosa	western sycamore	N	

Species Observed			
POLEMONIACEAE			
Leptodactylon californicum californicum	prickly-phlox	N	
POLYGONACEAE			
Eriogonum elongatum elongatum	long-stem buckwheat	N	
Eriogonum fasciculatum foliolosum	California buckwheat	N	
Eriogonum gracile gracile	slender buckwheat	N	
PORTULACEAE			
Claytonia perfoliata perfoliata	miner's-lettuce	N	
RANUNCULACEAE			
Clematis lasiantha	pipestems	N	
Delphinium cardinale	scarlet larkspur	N	
RHAMNACEAE			
Ceanothus oliganthus sorediatus	hairy-leaf ceanothus	N	
Rhamnus ilicifolia	holly-leaf redberry	N	
ROSACEAE			
Adenostoma fasciculatum	chamise	N	
Cercocarpus betuloides betuloides	birch-leaf mountain-mahogany	N	
Heteromeles arbutifolia	toyon	N	
RUBIACEAE			
Galium angustifolium angustifolium	narrow-leaf bedstraw	N	
Galium aparine	annual bedstraw	I	
SALICACEAE			
Salix laevigata	red willow	N	
Salix lasiolepis	arroyo willow	N	
SCROPHULARIACEAE			
Castilleja foliolosa	woolly paintbrush	N	
SOLANACEAE			
Nicotiana glauca	tree tobacco	I	
Solanum douglasii	white nightshade	N	
Solanum xanti	purple nightshade	N	
FLOWERING PLANTS-MONOCOTS			
AGAVACEAE			
Yucca whipplei	Whipple's yucca	N	

Species Observed			
CYPERACEAE			
Cyperus laevigatus	smooth sedge	N	Coll: CW11125
POACEAE			
Achnatherum coronatum	giant stipa	N	
Avena barbata	slender wild oat	I	
Bromus diandrus	ripgut grass	I	
Bromus hordeaceus	soft chess	I	
Bromus madritensis rubens	red brome	I	
Distichlis spicata	saltgrass	N	
Hordeum murinum ssp. undet'd	barley	I	
Leymus condensatus	giant wildrye	N	
Melica imperfecta	coast melic	N	
Muhlenbergia microsperma	littleseed muhly	N	
Nassella lepida	foothill needlegrass	N	
Piptatherum miliaceum	mountain-millet	I	
Poa secunda secunda	one-sided bluegrass	N	
THEMIDACEAE			
Dichelostemma capitatum capitatum	blue dicks		
ANIMALS-VERTEBRATES			
AMPHIBIANS			Nomenclature follows that of Center for North American Herpetology website portal
HYLIDAE			
Hyla regilla	Pacific treefrog		call
REPTILES			
IGUANIDAE			
Sceloporus occidentalis longipes	Great Basin fence lizard		visual
Uta stansburiana elegans	California side-blotched lizard		visual
BIRDS			
CATHARTIDAE			
Cathartes aura	turkey vulture		visual
ACCIPITRIDAE			
Buteo jamaicensis	red-tailed hawk		visual

Species Observed			
ODONTOPHORIDAE			
Callipepla californica	California quail		visual, call
COLUMBIDAE			
Zenaida macroura	mourning dove		visual
TROCHILIDAE			
Calypte anna	Anna's hummingbird		visual, call
PICIDAE			
Picoides nuttallii	Nuttall's woodpecker		visual, call
Sphyrapicus ruber	red-breasted sapsucker		linear arrangement of holes in trees
Colaptes auratus	northern flicker		visual, call
TYRANNIDAE			
Sayornis nigricans	black phoebe		visual, call
CORVIDAE			
Aphelocoma californica	western scrub-jay		visual, call
Corvus corax	common raven		visual, call
PARIDAE			
Baeolophus inornatus	oak titmouse		visual, call
AEGITHALIDAE			
Psaltriparus minimus	bushtit		visual, call
SITTIDAE			
Sitta carolinensis	white-breasted nuthatch		visual, call
TROGLODYTIDAE			
Salpinctes obsoletus	rock wren		visual, call
Catherptes mexicanus	canyon wren		call
Thryomanes bewickii	Bewick's wren		visual, call
REGULIDAE			
Regulus calendula	ruby-crowned kinglet		visual, call
TURDIDAE			
Sialia mexicana	western bluebird		visual
TIMALIIDAE			
Chamaea fasciata	wrentit		visual, call
MIMIDAE			
Toxostoma redivivum	California thrasher		call
PARULIDAE			

Species Observed			
Dendroica coronata	yellow-rumped warbler		visual, call
EMBERIZIDAE			
Pipilo crissalis	California towhee		visual, call
Pipilo maculata	spotted towhee		visual, call
Zonotrichia leucophrys	white-crowned sparrow		visual, call
Zonotrichia atricapilla	golden-crowned sparrow		visual
Junco hyemalis oreganos	dark-eyed junco		visual, call
FRINGILLIDAE			
Carduelis psaltria	lesser goldfinch		visual, call
Carpodacus mexicanus	house finch		visual, call
MAMMALS			
LEPORIDAE			
Sylvilagus audubonii	desert cottontail		scat, visual
SCIURIDAE			
Spermophilus beecheyi beecheyi			call, burrows
GEOMYIDAE			
Thomomys bottae bottae	Botta's pocket gopher		burrows
CANIDAE			
Canus latrans	coyote		scat, track
CERVIDAE			
Odocoileus hemionus	mule deer		scat, track
BOVIDAE			
Bos taurus			scat, track, visual