

**APPENDIX 6.13-A – AESTHETIC VIEWSHED STUDY**

## SECTION CONTENTS

<b>1.0</b>	<b>INTRODUCTION .....</b>	<b>6.13-A-1</b>
<b>2.0</b>	<b>METHODOLOGY .....</b>	<b>6.13-A-1</b>
2.1	REGIONAL AND LOCAL LANDSCAPE SETTING .....	6.13-A-1
2.2	VISUAL CHARACTER OF THE PROJECT SITE.....	6.13-A-2
2.3	PROJECT VIEWSHED AND POTENTIALLY AFFECTED PUBLIC VIEW CORRIDORS.....	6.13-A-2
2.4	VIEW FROM THE SOUTH (FIGURE 6.13-13, KOP 1) .....	6.13-A-3
2.4.1	KOP 1 .....	6.13-A-3
2.4.2	Recreational Areas .....	6.13-A-3
2.5	VIEW FROM THE EAST (FIGURE 6.13-14, KOP 2).....	6.13-A-4
2.5.1	Recreational Areas and Historical Sites.....	6.13-A-4
2.5.2	Pala Casino and Spa Resort .....	6.13-A-4
2.6	VIEW FROM THE NORTH (FIGURE 6.13-15, KOP 3).....	6.13-A-4
2.6.1	Recreational Areas .....	6.13-A-5
2.7	VIEWS FROM THE WEST .....	6.13-A-5
2.7.1	Recreational Areas .....	6.13-A-5
<b>3.0</b>	<b>LAWS, ORDINANCES, REGULATIONS AND STANDARDS .....</b>	<b>6.13-A-5</b>
3.1	SAN DIEGO COUNTY GENERAL PLAN .....	6.13-A-6
3.1.1	Scenic Highway Element.....	6.13-A-6
3.1.2	Conservation Element.....	6.13-A-6
3.2	NATIONAL SCENIC BYWAYS PROGRAM.....	6.13-A-6
3.3	CALIFORNIA DEPARTMENT OF TRANSPORTATION.....	6.13-A-7
<b>4.0</b>	<b>IMPACT EVALUATION .....</b>	<b>6.13-A-7</b>
4.1.1	Construction Impacts .....	6.13-A-7
4.1.2	Operation Impacts.....	6.13-A-8
<b>5.0</b>	<b>REFERENCES.....</b>	<b>6.13-A-12</b>

## 1.0 Introduction

The purpose of this study is to document the existing visual resources in the Orange Grove Project (Project) area and to assess the visual impacts that could occur as a result of development the Project. A summary of the public laws, ordinances, regulations, and standards (LORS) pertaining to visual quality in the Project vicinity is also provided.

As described in Section 2.0, Generation Facility Description, Design and Operation, the Project involves siting, constructing, and operating a power plant on land that was used in the past as a citrus orchard. The Project is located in unincorporated San Diego County, California, north of State Route (SR) 76 about 2.0 miles west of the community of Pala.

## 2.0 Methodology

This analysis of Project visual impacts is based on: (1) Site and Project area field reconnaissance; (2) review of relevant data including Project maps and drawings, aerial and ground-level photographs, and local planning documents; and (3) computer modeling to create photo-simulations of the power plant's appearance and affect. Field observations were conducted in May 2007 to document existing visual conditions in the Project area and to identify potentially affected sensitive viewing locations.

This visual study included systematic documentation of the regional and local landscape setting, visual character of the Site, an evaluation of visual changes associated with the Project, and elements incorporated into the Project design to reduce visual impacts. An inventory of existing visual conditions was prepared to characterize the affected environment in terms of its visual character, quality, and location of potentially sensitive viewpoints. A set of photographs showing representative public views of the Project area is provided in Section 6.13.

Three Key Observation Points (KOPs) were identified in consultation with California Energy Commission (CEC) staff to represent views of the Project area by the public. To document the proposed visual change, computer photo-simulations were generated to show what the Project is expected to look like from the three KOPs. The visual simulations are presented as existing views (e.g. before) and visual simulation (e.g. after) images from these KOPs. The visual impact assessment was based, in part, on evaluating the "after" views provided by the computer-generated visual simulations and comparing them to the existing visual environment.

### 2.1 Regional and Local Landscape Setting

The Site is located in unincorporated San Diego County, approximately 4 road miles east of Interstate (I) 15 and 2.0 miles west of the community of Pala (Figure 6.13-A.1). The Project site is situated approximately 5 miles west of Cleveland National Forest, north of SR 76 and the San Luis Rey River, east of Monserate Mountain and Rice Canyon, and approximately 5 miles south of Riverside County. The region is primarily rural, including agriculture, large plot residential, small communities, open space, and large-scale commercial/industrial facilities including the Pala Casino and Spa Resort located on the Pala Indian Reservation.

The Project area (a zone within approximately 0.5 mile of the Project site) is characterized by mix of both natural and man-made elements (Figure 6.13-A.2). Steep hillsides, which are vegetated with native coastal sage scrub and chaparral habitat, lie to the west, north, and east. To the south, most of the area is occupied by a former gravel mine in the San Luis Rey River bed, where ponds have formed where gravel pits extended below the water table. Where vegetation is present in the mining area and river bed, it is mostly described as southern willow riparian forest habitat. Vegetation along SR 76 is variable (both native and non-native) and is often comprised of linear plantings immediately adjacent to the roadway including eucalyptus trees, oleander, prickly pear cactus, and California pepper trees. Disturbed and developed areas proximal to the Site include Pala del Norte Road, SR 76, a fenced storage yard, the Pala electric substation, and the former citrus grove that occupies the Site and adjacent land to the south and east. Single family residences are located approximately 0.3, 0.5, and 0.60-mile northeast and approximately 0.5-mile southeast of the Site. Both 69 kilovolt (kV) and 230 kV transmission lines are located along a ridgeline east of the Site. The 230 kV transmission line runs generally north-south, and the 69 kV transmission line extends generally northward to SR 76 and turns westward and runs along SR 76 past the Site and the Pala substation and onward toward I-15.

## 2.2 Visual Character of the Project Site

The Site comprises approximately 8.5 acres that occupies about half of a former orchard area. The former orchard extends to both sides of the drainage east of the Site. It has not been maintained in at least 5 years and, due to the dry climate, now appears mostly dead. The Site is situated on an old alluvial fan surface that slopes southward towards SR 76 at an approximately 10 percent grade. This alluvial fan is located between two normally dry upland drainages that are slightly to moderately incised into the alluvial fan surface. Both of these drainages are extensively disturbed with land-clearing and orchard debris. The western drainage is lined with scattered remnants of coastal sage scrub vegetation and the eastern drainage is lined with open riparian woodland vegetation. Pala del Norte Road, a paved private road, borders the Site to the west and leads to residences located in the hills to the northeast of the Site.

A linear construction corridor will occur for the underground installations of a natural gas pipeline and an electrical transmission line. Two water pickup stations will be located offsite and owned and operated by Fallbrook Public Utility District (FPUD). The FPUD reclaim water pickup station will be located inside an existing FPUD water treatment plant and not generally visible to the public. The FPUD freshwater pickup station will be a minor facility consisting of a driveway, riser and meter, located in an existing disturbed area adjacent to a public road.

## 2.3 Project Viewshed and Potentially Affected Public View Corridors

The Project viewshed, defined as the area from which the new power plant will be potentially visible, encompasses areas to the north, east, south and west. There are no receptors to the west, and the private Pala del Norte Road is the only identified receptor location identified to the north. The surrounding topography effectively precludes views of the Site, except for views from relatively close to the Site. The primary receptors will be those rural areas including a few single family residences and travelers on SR 76, and upper floors of the Pala Casino and Spa Resort hotel.

Visual details generally become more apparent to the viewer as the scene becomes more foreground. For the purposes of the visual analysis, the foreground viewshed is considered to be the primary potentially affected area and is the focus of the detailed analysis. In addition, sensitive resource areas (recreational facilities and historic sites) extending from the foreground zone up to approximately 5 miles from the Project site, where change could be noticeable, are addressed. Although the Pala Casino and Spa Resort is outside of the foreground view distance and it is a commercial facility, it is also addressed in this analysis because the Site is visible from some of the rooms on the upper floors of the hotel.

From much of the Project viewshed, it is anticipated that the views of the Project facilities will be partially or fully screened by existing vegetation and landform. Figure 6.13-A.3 shows the location of three KOPs used to simulate the visual impact of the project. These KOPs generally represent the three locations with the most prominent views of the power plant: (1) eastbound motorists on SR 76 approaching the Site; (2) westbound travelers on SR 76 approaching the Site; and (3) a representative view from one of the three houses on the ridgeline northeast of the Site. Figure 6.13-A.4 through 6.13-A.6 present three photographs taken from these representative viewpoints documenting existing visual conditions. Figure 6.13-A.7 shows the location of recreational areas and historical sites within approximately 5 miles of the Project. There are no existing or proposed regional trails within 5 miles of the Site. There are also no scenic routes or roadways with views of the Site.

## **2.4 View from the South (Figure 6.13-13, KOP 1)**

### **2.4.1 KOP 1**

KOP 1 is taken from the intersection of SR 76 and Pala del Norte Road approximately 700-feet from Site boundary. This view looks northeast across SR 76 at the storage facility that is on the southwest corner of the Project site. This photograph shows the steep hillsides to the north and east of the Project site that are vegetated with native coastal sage scrub and chaparral habitat.

### **2.4.2 Recreational Areas**

The San Luis Rey River, located south of the Site, flows from Palomar Mountain in Cleveland National Forest to the city of Oceanside, where it empties into the Pacific Ocean. The County of San Diego has embarked on a project to develop a regional park along the San Luis Rey River. The proposed regional park would stretch approximately 9 miles, parallel to SR 76, along the San Luis Rey River from Oceanside to the area surrounding I-15. The easterly boundary of this park is approximately 4 miles west of the Project site. As envisioned, the park would provide recreational opportunities while preserving the San Luis Rey River and surrounding lands. The County has completed the Draft Master Plan document and is now beginning the environmental review process. Because of its distance from the Project site and intervening landforms and vegetation, the Project site would not be visible from this proposed regional park.

## 2.5 View from the East (Figure 6.13-14, KOP 2)

KOP 2 is taken from SR 76 approximately 500 feet east of the Site. This view looks west across SR 76 from a private driveway. The citrus orchard where the Site is located can be seen across the roadway, along with the steep hillsides west of the Site that are vegetated with coastal sage scrub and chaparral habitat.

### 2.5.1 Recreational Areas and Historical Sites

Wilderness Gardens Preserve, a county park, is located approximately 11 miles east of I-15 off SR 76. This 690-acre preserve contains nature trails that traverse oak woodland and riparian habitats. This preserve also has picnic facilities. Because of its distance from the Project site and intervening landforms and vegetation, the Project site is not visible from the preserve.

San Antonio de Pala *asistencia* is located along Pala Mission Road (just north of SR 76) in Pala approximately 1.5 miles east of the Site. This historical site was a sub-mission of Mission San Luis Rey de Francia. It was established in 1816 and is the only surviving *asistencia* in the mission system and the only mission-related structure still ministering to an Indian population. San Antonio de Pala *asistencia* is notable for its bell tower or campanile and is open to the public. Because of its distance from the Project site and intervening buildings, landforms and vegetation, the Project will not be visible from San Antonio de Pala *asistencia*.

The Pala Rey Camp property is a commercial/multiple use property located approximately 0.5-mile southeast from the Site and is rented out to private users for, among other uses, retreat congregations during the summer months. This facility is located on private property and access was not obtained to determine visibility of the Site but it is anticipated that portions of power plant facilities will be visible where breaks occur in intervening existing vegetation and proposed landscaping.

### 2.5.2 Pala Casino and Spa Resort

The Pala Casino and Spa Resort is located on the Pala Indian Reservation approximately 1.5 miles east of the Site off SR 76. This resort includes gaming facilities, approximately 500 hotel rooms and suites, and eight restaurants. The rooms/suites on the upper floors of the hotel that face towards the Site will have views of the power plant over intervening buildings, landforms and vegetation that shelter the plant from view from the ground level in the Pala area. The Project site is not visible from the restaurants, gaming areas, outdoor recreation areas (pool and event lawn), or outdoor terrace.

## 2.6 View from the North (Figure 6.13-15, KOP 3)

Public access north of the Site is prohibited due to posted “No Trespassing” signs on Pala del Norte Road and other unnamed private roads. Because of the access restrictions, there is no public access point northeast of the Site where the power plant could be viewed. However, there are three single family residences on the slopes northeast of the Site that will be able to see portions of the power plant. KOP 3 is a representative photograph of the view toward the Site

from the northeast, taken from an unnamed private roadway (approximately 0.5-mile northwest of the Site) to represent views from the houses in this area. The angle of the view was selected to be worst-case clear line-of-sight and landscaping or other features at the houses may substantially screen views of the Site compared to the view shown. The orchard that encompasses the Site footprint is visible in the middleground, and the San Diego Gas & Electric (SDG&E) storage facility and Pala substation can be seen in the middleground behind the Site location. The former aggregate quarry that dominates the view of the riverbed area can also be seen to the left of SR 76.

### **2.6.1 Recreational Areas**

Agua Tibia Wilderness area in the Cleveland National Forest is located approximately 5 miles northeast of the Project site. This 15,934-acre area is mountainous and cut by many deep canyons containing only intermittent streams. Vegetation is mostly chaparral with oak woodlands and some coniferous forests at higher elevations. Agua Tibia Wilderness has 25 miles of trail. Because of its distance from the Site and intervening landforms, the Site is not visible from Agua Tibia Wilderness.

## **2.7 Views from the West**

Public access with views from west of the Site is limited to several hundred feet along the private Pala del Norte Road. Just northwest of the Site, a gate and “No Trespassing” signs are posted for this private roadway. Due to limited public access along this roadway and because KOP 1 (Figure 6.13-13) is in close proximity to Pala del Norte Road (off SR 76), additional photographs from Pala del Norte Road aren’t included in this study.

### **2.7.1 Recreational Areas**

There are two public golf courses located within 5 miles of the Site. Pala Mesa Resort Golf Course is approximately 2.7 miles from the Site and Fallbrook Golf and Country Club is approximately 4.3 miles. Both golf courses are west of I-15 and do not have views of the Project site due to distance and intervening landforms.

## **3.0 LAWS, ORDINANCES, REGULATIONS AND STANDARDS**

Laws, ordinances, regulations and standards (LORS) relevant to visual resources are addressed in Section 6.9, Land Use, and are detailed in Tables 6.9-3 and 6.9-6.

The Site is within the jurisdiction of San Diego County. The County of San Diego Zoning Ordinance outlines regulations for land use in unincorporated areas of the county. Zoning ordinances related to aesthetics are identified in the Section 6.9, Land Use, and Appendix 6.9-A, Zoning Ordinance Summary. The Site is located on land zoned General Agriculture. A power generation facility is designated as a Civic Use Type in the zoning ordinances and is an allowable use for Site lands with a Major Use Permit (MUP).

### **3.1 San Diego County General Plan**

The San Diego County General Plan is comprised of several elements including Conservation, Housing, Open Space, Regional Land Use Element, and Recreation that contain specific objectives and policies. With the exception of the Scenic Highway Element and the Conservation Element as discussed below, the elements of the San Diego General Plan do not contain relevant visual policies. Community plans for the unincorporated areas of the County sometimes do contain applicable policies, however in reviewing the Pala/Pauma Subregional Plan no relevant visual policies were found.

#### **3.1.1 Scenic Highway Element**

The Scenic Highway Element in the San Diego County General Plan establishes a Scenic Highway Program with the purpose of protecting and enhancing the County's scenic, historic, and recreational resources within a network of scenic highway corridors.

The Scenic Highway Element contains a map of scenic highways and byways and a priority list. The map indicates those routes for which scenic highway corridors, official designation, and protection measures are to be established. The priority list describes each route within the Scenic Highway System and designates the route's priority for which scenic corridor planning and implementation are to be initiated as First, Second, and Third Priority scenic routes. The County is in the process of revising the San Diego County General Plan, and as a result, the Priority Scenic Routes identified on the aforementioned map and priority list are subject to change. The Project site is located along SR 76 between I-15 and the Pala Indian Reservation. This stretch of SR 76 is not a listed or priority scenic route in the Scenic Highway Element.

#### **3.1.2 Conservation Element**

The purpose of the Conservation Element in the San Diego County General Plan is to identify and describe the natural resources of the County and prepare policies and action programs to conserve these resources. The Site falls within one of the Resource Conservation Areas described in the Conservation Element and this is the Astronomical Dark Sky area associated with Palomar Observatory. The County recognizes that it is not reasonable or possible to "turn the lights out" or provide a totally dark sky simply to further astronomical research, but they state that all efforts should be made to minimize this light pollution. The County implements Astronomical Dark Sky protection through the San Diego County Code of Regulatory Ordinances Title 5, Division 9, which sets out requirements for night lighting. The Project will comply with the County night lighting ordinance requirements for "Zone A" areas.

### **3.2 National Scenic Byways Program**

The National Scenic Byways Program is administered through the Federal Highway Administration (FHA) to recognize, protect, and promote America's most outstanding roads. National Scenic Byways designations recognize roads across the country that provides a unique travel experience. There are no national scenic byways in San Diego County.

### **3.3 California Department of Transportation**

The California Scenic Highway Program was created by the Legislature in 1963. The purpose of the program is to preserve and protect scenic highway corridors from changes that will diminish the aesthetic value of lands adjacent to highways. The State Scenic Highway System includes highways that are either eligible for designation as scenic highways or have been designated as such. The status of a state scenic highway changes from “eligible” to “officially designated” when the local jurisdiction adopts a scenic corridor protection program, applies to the California Department of Transportation (Caltrans) for scenic highway approval, and receives designation from Caltrans. A city or county may propose adding routes with outstanding scenic elements to the list of eligible highways, however, state legislation is required. There are four officially designated state scenic highways in San Diego (SR-75, SR-78, SR-163 and SR-125). The Project site is not visible from any of these corridors.

## **4.0 Impact Evaluation**

### **4.1.1 Construction Impacts**

#### **4.1.1.1 Plant**

Temporary construction-related visual impacts will result from the presence of construction materials, heavy equipment, trucks, portable office trailers, parked vehicles and work crews at the Site and facility construction locations. Additionally, visual impacts related to vegetation clearing and grading at the Site and Project access driveways will result during construction. Construction activities would occur during an approximate 6-month period.

Three single family residences located on the hillsides northwest of the Site, and two residences southeast of the Site on the opposite side of the valley will be able to see the construction activities taking place. Distance to the Site from these houses is 0.3 to 0.6 mile, so views will not be in the foreground. Furthermore, at least some of these residences will have partial screening from vegetation and topography. Considering these factors and the low number of receptors and short term of construction impacts, Site construction impacts to visual resources from these homes will be less than significant. Additionally, motorists along SR 76 will have views of construction of the power plant. Motorists’ exposure to construction activities will be for a temporary duration and limited to an area along SR 76 that is approximately 0.25-mile-long. Considering these factors and considering that SR 76 is not a scenic route, visual effects to motorists as a result of Site construction will be less than significant.

#### **4.1.1.2 Transmission Line Interconnection and Gas Pipeline**

Construction of the gas pipeline and transmission line interconnection will be short term. Visual impacts associated with the construction workspace include removal of paved surfaces, trenching activities, stringing of pipe along the pipeline route in advance of the moving area of installation; welding and radiographic inspection; lowering the pipe into the trench and backfilling of the trench. In addition, south of the substation where the pipeline traverses mountainous terrain, some clearing and grading will occur as needed for safe access and efficient work.

Construction-related visual impacts will result from the presence of equipment, materials, excavated piles of dirt and pavement, and construction personnel along the routes for these linear facilities. Visual effects will be less than significant because the impacts will be temporary and short-term, and the roadways along the routes for these linear facilities are not scenic routes.

#### 4.1.2 Operation Impacts

Project linear facilities will be underground and will not impact visual resources during the operational life of the Project. The fresh water pickup station will not be visible to the general public and the reclaim water pickup station will be a minor facility in a public area that will not draw substantial visual attention. The power plant will have facilities within view of the public.

Major power plant facilities and equipment are described in Section 2.0, Generation Facility Description, Design and Operation. Site grading, access, and major plant equipment listed in Table 1 are the major features that will control the visual effects of Site development. The most visually dominant power plant equipment will be the two stacks, each approximately 13 feet in diameter and approximately 80 feet high. Turbine enclosures, the chiller and cooling tower, compressors, and other equipment will be largely blocked from view by sound walls around the equipment. The stacks, the sound walls, and other Site facilities will be painted a color similar to dominant color on the hillsides to the west of the Project site. The dominant color on the surrounding hillsides is the taupe tones of the dried herbaceous vegetation.

**Table 1 – Major Equipment**

EQUIPMENT	HEIGHT (FEET)	LENGTH OR DIAMETER (FEET)	WIDTH (FEET)	MATERIAL TYPE
Combustion Turbine Generator Skid Enclosures (2)	43	57	37	Various
Emission Control System - Selective Catalytic Reduction (SCR )(2)	33	89	32	Carbon & Stainless Steel
Stacks (2)	80	12.5	---	Carbon & Stainless Steel
Aqueous Ammonia Storage Tank (1)	---	8	27	Stainless Steel
Chiller System w/ Enclosure (1)	30	89	32	Various
Fuel Gas Compressors (2)	11	25	14	Various
Demineralized Water Treatment System (1, trailer mounted)	14	32	8	Carbon & Stainless Steel
Demineralized Water Storage Tank (1)	22	31	---	Carbon Steel
Raw Water/Firewater Storage Tank (1)	40	50	---	Carbon Steel
Wastewater Storage Tank	22	19	---	Carbon Steel
Generator Step-Up (GSU) Transformer (2)	19	23	16	Steel / Copper
Switchyard Structures & Bus	19	0.5	0.5	Steel / Copper
CTG Switchgear (2)	9.5	9	11.5	Steel / Copper
CTG Auxiliary Skid (2)	12	17	13	Various

EQUIPMENT	HEIGHT (FEET)	LENGTH OR DIAMETER (FEET)	WIDTH (FEET)	MATERIAL TYPE
CTG Fin-Fan Cooler (2)	15	16	13	Various
Plant Electrical Switchgear (2)	9.5	23	8	Steel / Copper
Black Start Generator (1)	13	32	12	Various
Sound Walls	24 and 48	915	0.5	Column & Panel

Figures 6.13-A.8 through 6.13-A.16 present photographic visual simulations from the three KOPs that depict the expected appearance of the power plant and Project landscaping as it will appear immediately after construction, 10 years after construction, and 20 years after construction, as requested by CEC staff.

In order to evaluate the potential visual impact of the Project from the KOPs, the existing scenic quality was first evaluated. Scenic quality is a measure of the visual appeal of a tract of land. In this evaluation, lands are given a 1, 2, or 3 rating based the apparent scenic quality which is determined using seven key factors: landform, vegetation, water, color, adjacent scenery, scarcity, and cultural (man-made) modifications. The results of this evaluation for the views from the three selected KOPs are provided in Table 2, below. These results are incorporated into Table 3, which evaluates existing views of the KOPs in terms of two additional criteria: viewer exposure and viewer sensitivity, expressed in terms of dependent variables in order to evaluate the overall impact. Each variable is rated on a scale of “1” to “3”, with “3” representing a higher impact. The overall sum of the three criteria gives a visual impact score for each viewpoint. The lowest possible score for the visual impact total in Table 3 is “3” and the highest is “9”. A score of 3 to 5 is considered a potentially low impact, a score greater than 5 to 7 is a potentially moderate impact, and a score greater than 7 to 9 is a potentially high impact.

**Table 2 – Scenic Quality Evaluation**

VIEWER LOCATION NUMBER <sup>1</sup>	SCENIC QUALITY <sup>3</sup>								OVERALL SCENIC QUALITY <sup>2</sup>
	Landform	Vegetation	Water	Color	Influence of Adjacent Scenery	Scarcity	Cultural (man-made) Modifications	Total	
KOP 1 (South)	2	2	2	2	1	1	-1	9	1
KOP 2 (East)	2	2	2	2	1	1	-1	9	1
KOP 3 (North)	2	3	3	2	3	1	-1	12	2

- (1) See Figure 6.13-A.3 for location of KOPs.
- (2) Overall Scenic Quality: 3 (A) = 19 or more total; 2 (B) = 12 to 18 total; 1(C) = 11 or less total
- (3) Rating system is based on the scenic quality inventory and evaluation chart included in Bureau of Land Management (BLM) Manual Handbook 8410-1, Visual Resource Inventory (See Appendix 6.13-B)

**Table 3 – Visual Impact Evaluation**

VIEWER LOCATION <sup>1</sup>	LAND USE <sup>2</sup>	VIEWER EXPOSURE				OVERALL VIEWER EXPOSURE (VD+OP+NV+VO) / 4	VIEWER SENSITIVITY		OVERALL VIEWER SENSITIVITY (VA+DV) / 2	OVERALL SCENIC QUALITY <sup>9</sup>	VISUAL IMPACT TOTAL (OVERALL VE+VS+SQ)	POTENTIAL VISUAL IMPACT RATING <sup>10</sup>
		View Distance <sup>3</sup>	Observer Position <sup>4</sup>	Number of Viewers <sup>5</sup>	Visual Obstruction <sup>6</sup>		Viewer Activity <sup>7</sup>	Duration of View <sup>8</sup>				
KOP 1 (South)	RD	3	1	2	3	2.25	1	1	1	1	4.25	low
KOP 2 (East)	RD	3	1	2	3	2.25	1	1	1	1	4.25	low
KOP 3 (North)	RES	2	3	1	3	2.25	2	3	2.5	2	6.75	moderate

- (4) Refer to Table 1: Scenic Quality Evaluation
- (5) RD = Road; RES = Residential
- (6) View Distance: 3 = Foreground; 2 = Middleground; 1 = Background
- (7) Observer Position: 3 = Superior; 2 = Normal; 1 = Inferior
- (8) Number of Viewers: 3 = High; 2 = Moderate; 1 = Low
- (9) Visual Obstructions: 3 = Unobstructed views; 2 = Views over existing buildings and/or vegetation; 1 = Partially obstructed views seen between buildings or breaks in vegetation or landforms
- (10) Viewer Activity: 3 = Recreation; 2 = Residential; 1 = Traveler on roadway
- (11) Duration of View: 3 = High; 2 = Moderate; 1 = Low
- (12) Scenic Quality: 3 = High; 2 = Moderate; 1 = Low
- (13) Potential Visual Impact Rating: 7 to 9 = High; > 5 to 7 = Moderate; 3 to 5 = Low

The Project will comply with County public policies regarding aesthetic resources as implemented through County ordinances and, therefore, public policy conformance was not included in the table. It was also determined that the Project facilities are not within any County or state scenic view corridor so this was not a factor in the evaluation.

The “after” views of the Site for KOP 1 illustrate what motorists on SR 76 will see as they get close to the Site traveling east. As shown in these simulations, initially after completion of construction, travelers along SR 76 will see the upper portions of power plant structures and noise walls, with the lower part of the facility screened by low shrubs and the existing storage facility. Over time, the proposed native shrub visual screening will reduce visibility of the Project facilities. Additionally, painting of major equipment a color that will tone in with the hillsides in the background will help to minimize their visibility.

The “after” views of the Site for KOP 2 illustrate what motorists on SR 76 will see as they get close to the Site traveling west. As shown in these simulations, initially after completion of construction, travelers along SR 76 will be able to see the upper portions of power plant structures and noise walls, with the lower part screened by existing oak trees and shrubs east of the Site that will not be disturbed. Over time, the native shrub visual screening will provide year round visual screening of most of the Project facilities. Additionally, painting of the stacks a color that will tone in with the hillsides in the background will help to minimize their visibility.

Due to existing landforms along the west and east sides of the Site, views to the Project site are limited to a corridor that is approximately 0.25-mile-long along SR 76. When traveling at the posted speed limit of 35 miles per hour, the duration of the views to the Project site in both travel directions along this 0.25-mile-long corridor will be a very short duration of approximately 0.5 minutes. Annual average daily traffic (AADT) reported by Caltrans for 2006 traffic volumes for this stretch of roadway (located between I-15 and Pala Mission Road) was 13,400. SR 76 is not a scenic route. Existing conditions include a substation, agriculture, a former mining area, and other developments. Considering these factors, the impact of the power plant on visual effects to motorists will be less than significant.

The “after” views of the Site for KOP 3 represent a conservative, relatively unobstructed view of the Site from slopes to the northeast of the Site where three homes are located. Immediately following construction, there will be a visible area of hydroseeding at the Project laydown area that will be temporarily apparent due to coloration. Over time, the hydroseeded area will take on a native landscape appearance, and planted landscaping around the Site perimeter (native oaks and shrubs) will mature and provide some visual screening that will help to break up the visual form of the plant. However, due to the observer’s higher vantage point, much of the power plant facilities will remain visible. Painting of the major Project equipment with a color that will tone in with the hillsides in the background will help to minimize visibility.

As shown in Table 2, the Project will have a potentially moderate visual impact on the surrounding single family residences that overlook the Site. Under existing conditions, the views toward the Site from these residences include prominent man-made features including a large mining area, greenhouses and agricultural activity, an electric substation, and the orchard that the Site will be located on. Furthermore, all or most of these residences will have some screening from vegetation or topography. Considering the current level of anthropogenic activity in the viewshed, the distal character of the views, Project landscaping and other measures included in the Project design, the impact on views from these single family residences will be less than significant.

For guests of the Pala Casino and Spa Resort staying in rooms/suites on the upper floors that face towards the Project site, the power plant will be visible over intervening buildings, landforms and vegetation from a distance of 1.5 miles. Because of the view distance and the fact that the power plant will be backdropped by surrounding hillsides, impacts will be less than significant.

Overall, the power plant will not substantially alter the visual character of the surrounding area as experienced by the public. The Project’s modifications to the existing landscape setting will not result in a substantial negative effect for the following reasons:

- The power plant will not obstruct or substantially affect a scenic vista and it will not substantially alter views of the hillsides and ridgelines that are currently experienced by the general public traveling along SR 76.
- The power plant will not be visible from a designated state scenic highway.
- The power plant will not substantially degrade the existing visual character or quality of the Site and its surroundings. Landscaping will provide visual screening and the

Site is not of unique or outstanding visual character or quality as there are a number of other man-made facilities in the area including the Pala Substation, 69 kV electric transmission line, former gravel quarry, and SDG&E storage site as well as disturbance from former agricultural activities. To the extent the Project is visible from public corridors (i.e. SR 76); it will be seen only for a short duration and will be viewed against a hillside making Project facilities less visible. Also, because the Project incorporates planting native species, and because it will affect few sensitive receptors (i.e., residences), the Project will not substantially degrade the existing visual character or quality of the Site or surroundings.

- Because Project lighting will be directed onsite and because landscaping, once mature, will screen facility lighting from motorists on SR 76, the Project will not create a new source of substantial light that could adversely affect nighttime views in the area. Additionally although single family residences located northeast of the Project will be able to see the facility when lit, the new source of light will not be significant. Exterior lighting will use downward directed fixtures and will comply with night lighting ordinance requirements. Also, new structures will be treated with a non-reflective finish; consequently, the Project will not create a new source of substantial glare.

#### 4.1.2.1 Vapor Plumes

Since there is no heat exchange associated with the simple-cycle gas turbines, the stack exhaust temperature is expected to be above 600 degrees Fahrenheit (°F). At this high temperature and relatively low moisture content, a visible steam plume is not expected from the two primary turbine exhaust stacks.

The air inlet package cooling tower also is not anticipated to generate a visible plume. The water temperature in the cooling tower does not get very high, and the ambient temperature will typically be greater than 60 °F when cooling may be required; therefore, a visible steam plume is not anticipated or expected to be significant in size.

#### 4.1.2.2 Light or Glare

Project operations will not create a new source of substantial light that could adversely affect nighttime views in the area because project lighting will be directed onsite and will utilize non-glare bulbs. Furthermore, visual screening vegetation, once established, will screen facility lighting from SR 76. Lighting contactors and photocells will be used to control exterior lighting. The Project will comply with the County night lighting ordinance requirements for “Zone A” areas. New structures will be treated with a non-reflective finish; consequently, the Project will not create a new source of substantial glare.

## 5.0 REFERENCES

California Department of Transportation, Officially designated Scenic Highway Route Map.  
Online: [http://www.dot.ca.gov/hq/landArch/scenic\\_highways/sdiego.htm](http://www.dot.ca.gov/hq/landArch/scenic_highways/sdiego.htm). Site visited June 2007.

California Department of Transportation, Traffic Operations division, Traffic and Vehicle Data Systems unit. Online: <http://www.dot.ca.gov/hq/traffops/saferesr/trafdata/2006all.htm>. Site visited June 2007

California Energy Commission, Rules of Practice and Procedure and Power Plant Site Certification Regulations, Title 20, Appendix B – Information Requirements for Application. Online: <http://www.energy.ca.gov/2007publications/CEC-140-2007-003/CEC-140-2007-003.pdf>.

*California Environmental Quality Act – Appendix G, Environmental Checklist Form*. Online: [http://ceres.ca.gov/topic/env\\_law/ceqa/guidelines/appendices.html](http://ceres.ca.gov/topic/env_law/ceqa/guidelines/appendices.html).

County of San Diego, Department of Parks and Recreation, *San Luis Rey River Park Master Plan*. Online: <http://www.sdcounty.ca.gov/parks/docs/slr/mpcondensed.pdf>. Site visited June 2007.

David Flores, State of California, California Energy Commission. On-site meeting with K. O’Neill (TRC) on May 23, 2007. (916) 654-3861

National Scenic Byways Program. Online: <http://www.byways.org/explore/states/CA/maps.html?map=409>. Site visited June 2007.

*San Diego County General Plan*. Online: [http://library.ceres.ca.gov/cgi-bin/doc\\_query?where-author=San\\_Diego&rel-author=like&where-doc\\_type=generalplan&rel-doc\\_type>equals&special=ceres&max=15](http://library.ceres.ca.gov/cgi-bin/doc_query?where-author=San_Diego&rel-author=like&where-doc_type=generalplan&rel-doc_type>equals&special=ceres&max=15). Site visited June 2007.

San Diego County Regional Trails Map. Online: [http://www.sangis.org/LibraryService/DownloadedFiles/Regional\\_dpr\\_final.pdf](http://www.sangis.org/LibraryService/DownloadedFiles/Regional_dpr_final.pdf). Site visited June 2007.

Smarden, Richard, Palmer, J. and Fellman, J.P. ed. 1986. *Foundations for Visual Project Analysis*. New York.

US Department of Agriculture, Agriculture Handbook Number 462, National Forest Landscape Management Volume 2-Chapter 1, The Visual Management System, April 1974.

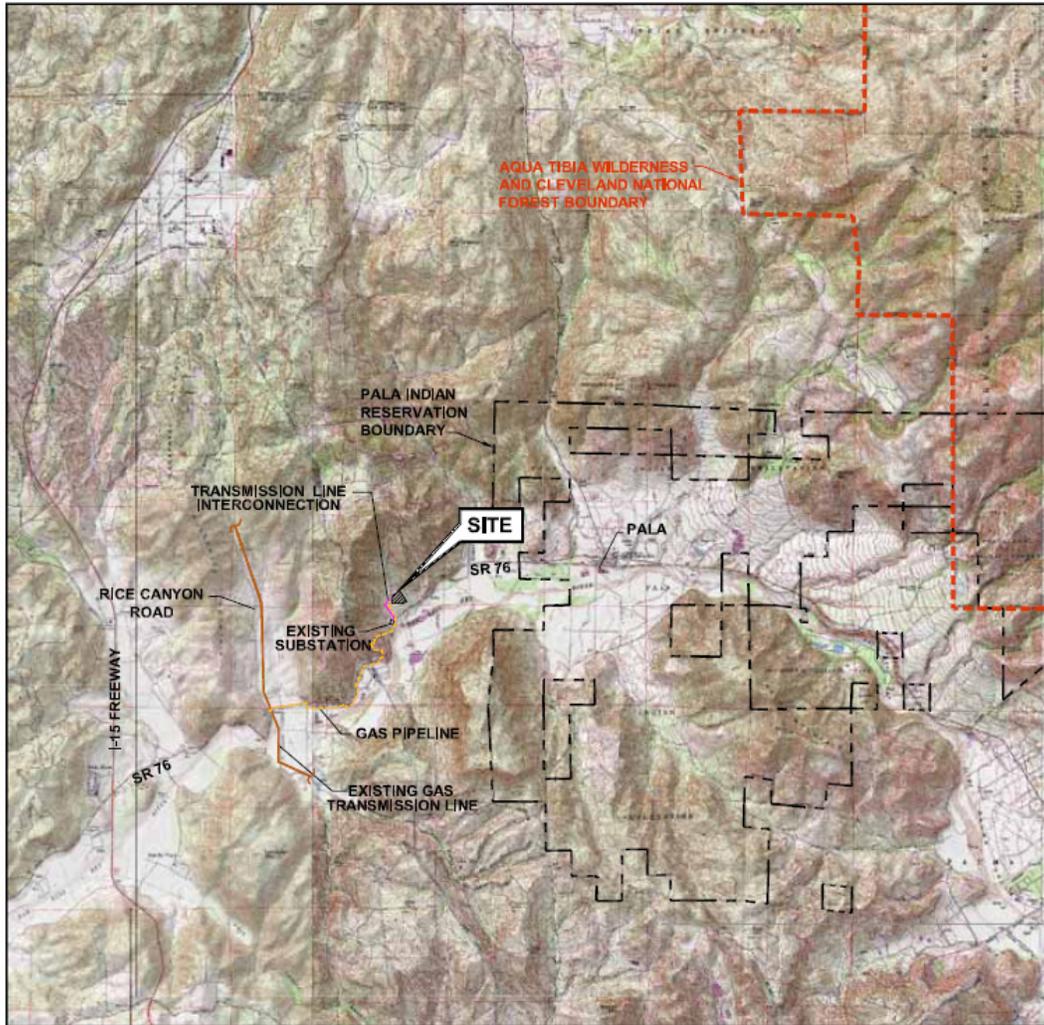
US Department of Agriculture, Cleveland National Forest Map. Online: <http://www.fs.fed.us/r5/forestvisitormaps/cleveland/south/01.php>. Site visited June 2007.

US Department of the Interior, Bureau of Land Management, Coos Bay District, *Coos Bay District Final Proposed Resource Management Plan Environmental Impact Statement*, September 1994.

US Department of the Interior, Bureau of Land Management, Manual Handbook 8410-1, *Visual Resource Inventory*, January 1986.

US Department of Transportation, Federal Highway Administration, *Visual Impact Assessment for Highway Projects*, Publication No. FHWA-HI-88-054.

**Figure 6.13-A.1 – Regional Map**



SOURCE:

United States Geological Survey  
7.5 Minute Topographic Map, 2000:  
Pala, Bonsall, Temecula,  
and Pechanga Quadrangles

0 1 2 3 4 MILES



SCALE 1:96,000



SITE  
LOCATION



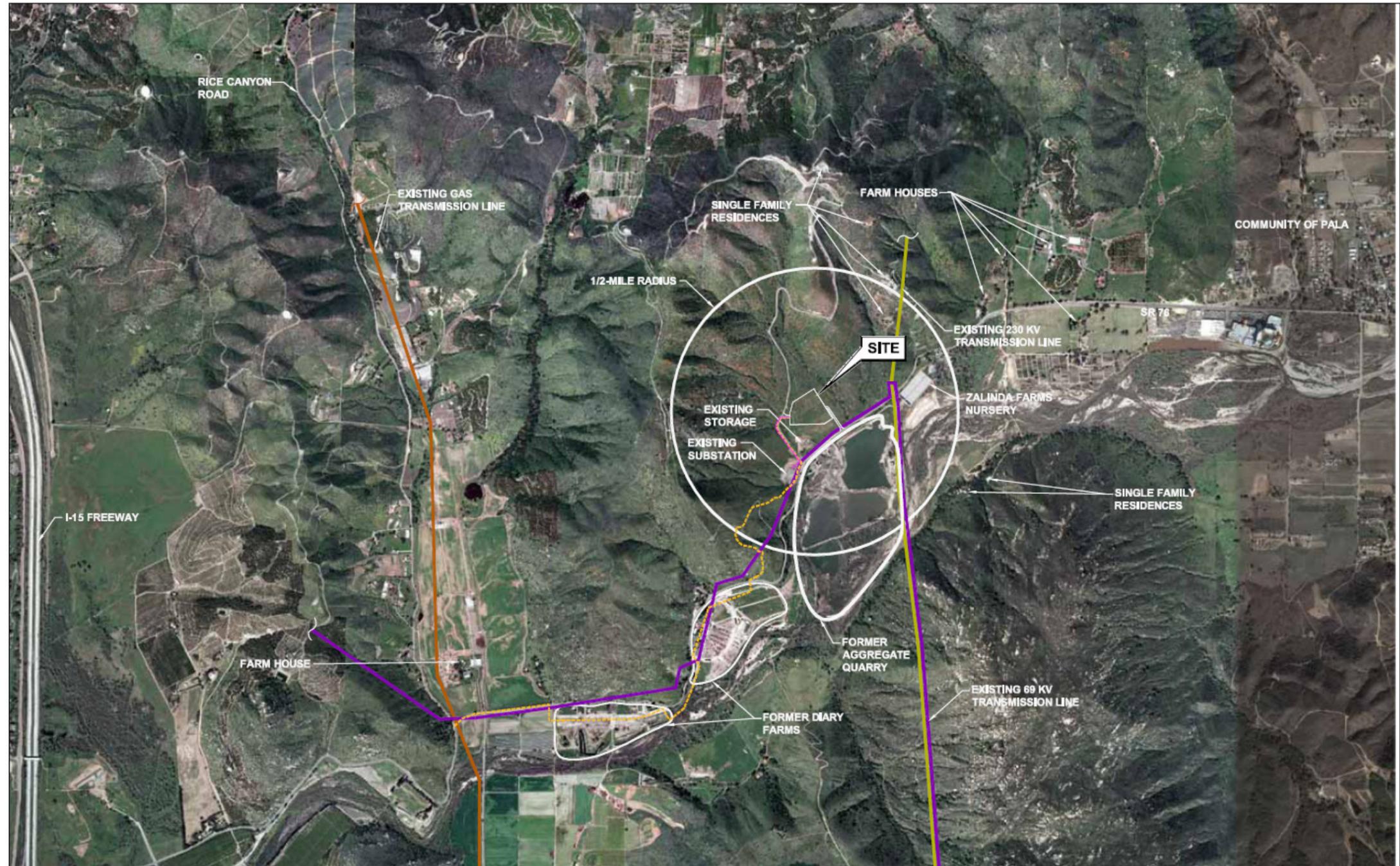
Project: **Orange Grove Project**

Map Source: USGS 7.5 Minute Topographic Map, 2000. Pala, Bonsall, Temecula, and Pechanga Quads.

Figure 6.13-A.2 – Project Area Map

LEGEND

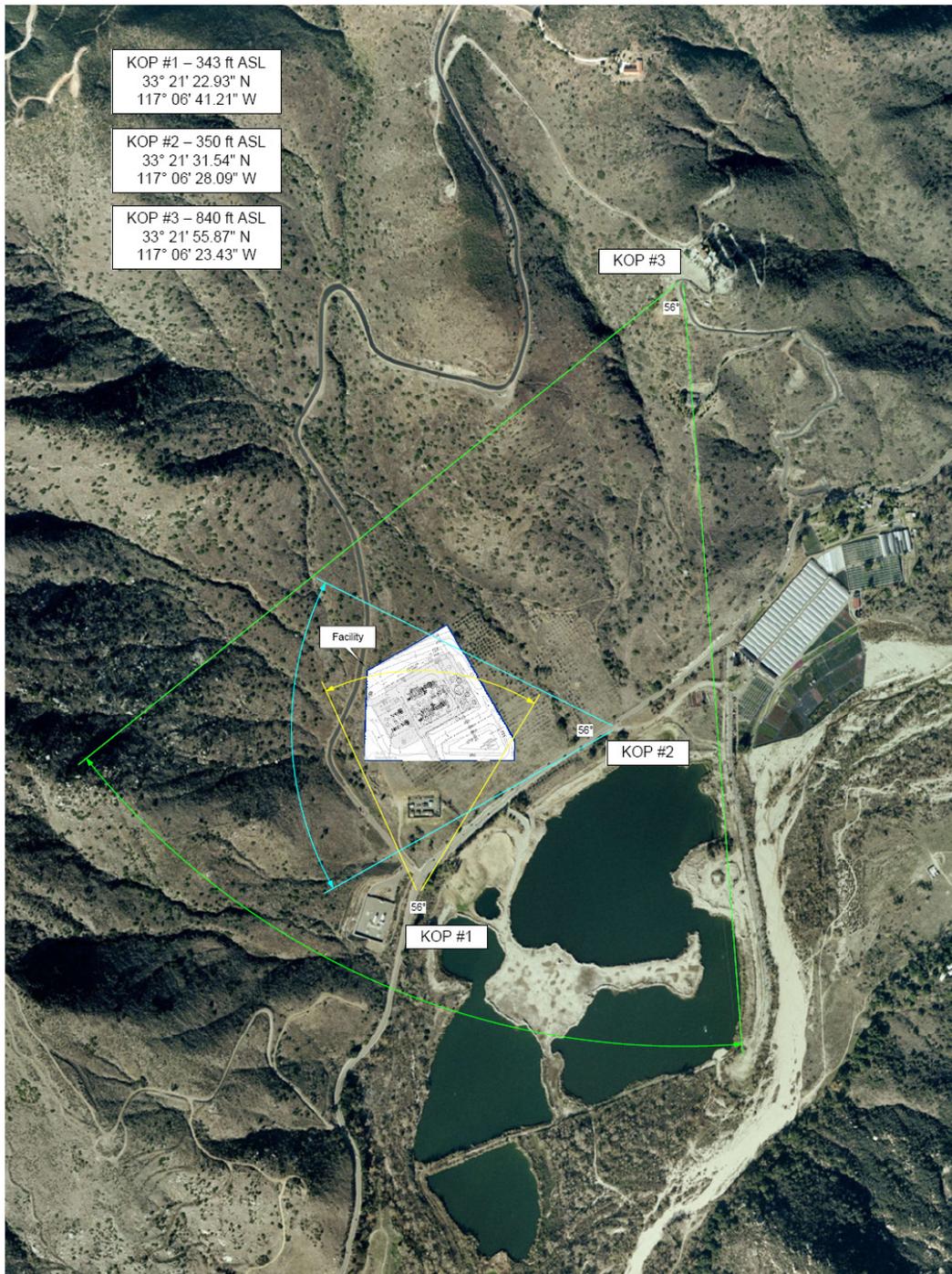
- Transmission Line Interconnection
- Proposed Gas Pipeline Lateral
- Existing Gas Transmission Pipeline



Project: Orange Grove Project

Map Source: Google Earth Professional 2005.

**Figure 6.13-A.3 – KOP Location Map**



Project: **Orange Grove Project**

Map Source: Google Earth – Coordinates NAD27

Figure 6.13-A.4 – KOP 1 Existing Condition



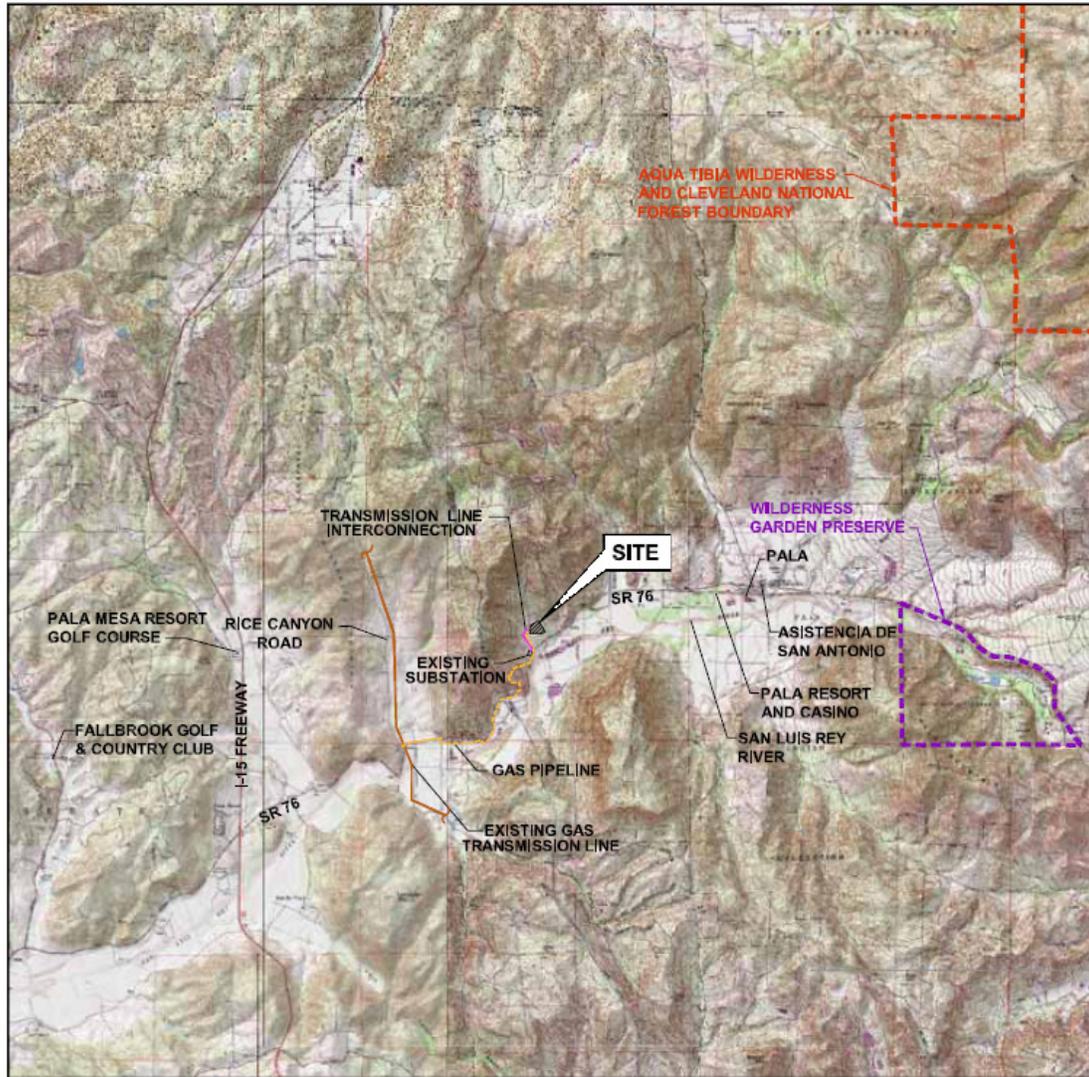
Figure 6.13-A.5 – KOP 2 Existing Condition



Figure 6.13-A.6 – KOP 3 Existing Condition



**Figure 6.13-A.7 – Recreational and Historical Site Location Map**



SOURCE:

United States Geological Survey  
7.5 Minute Topographic Map, 2000:  
Pala, Bonsall, Temecula,  
and Pechanga Quadrangles

0 1 2 3 4 MILES



SCALE 1:96,000



Project: **Orange Grove Project**

Map Source: Google Earth – Coordinates NAD27

Figure 6.13-A.8 – KOP 1 Immediately After Construction



Project: **Orange Grove Project**

Map Source: Sega, Inc. 2008.

Figure 6.13-A.9 – KOP 1 Ten (10) Years After Construction



Project: **Orange Grove Project**

Map Source: Sega, Inc. 2008.

Figure 6.13-A.10 – KOP 1 Twenty (20) Years After Construction



Project: **Orange Grove Project**

Map Source: Sega, Inc. 2008.

Figure 6.13-A.11 – KOP 2 Immediately After Construction



Project: **Orange Grove Project**

Map Source: Sega, Inc. 2008.

Figure 6.13-A.12 – KOP 2 Ten (10) Years After Construction



Project: **Orange Grove Project**

Map Source: Sega, Inc. 2008.

Figure 6.13-A.13 – KOP 2 Twenty (20) Years After Construction



Project: **Orange Grove Project**

Map Source: Sega, Inc. 2008.

Figure 6.13-A.14 – KOP 3 Immediately After Construction



Project: **Orange Grove Project**

Map Source: Sega, Inc. 2008.

Figure 6.13-A.15 – KOP 3 Ten (10) Years After Construction



Project: **Orange Grove Project**

Map Source: Sega, Inc. 2008.

Figure 6.13-A.16 – KOP 3 Twenty (20) Years After Construction



Project: **Orange Grove Project**

Map Source: Segal, Inc. 2008.