SECTION CONTENTS

1.1 PROJECT OVERVIEW 1-1.1-1
1.2 PROJECT OBJECTIVE AND NEED 1-1.2-1
1.3 PROJECT SCHEDULE 1-1.3-2
1.4 PROJECT OWNERSHIP 1-1.4-3
1.5 SITE LOCATION AND DESCRIPTION 1-1.5-3
1.6 PROJECT ALTERNATIVES 1-1.6-5
1.7 ENVIRONMENTAL CONSIDERATIONS 1-1.7-7
1.7.1 AIR QUALITY 1-1.7.1-7
1.7.2 GEOLOGIC RESOURCES AND HAZARDS 1-1.7.2-7
1.7.3 AGRICULTURE AND SOILS 1-1.7.3-8
1.7.4 WATER RESOURCES 1-1.7.4-8
1.7.5 BIOLOGICAL RESOURCES 1-1.7.5-8
1.7.6 CULTURAL RESOURCES 1-1.7.6-9
1.7.7 PALEONTOLOGICAL RESOURCES 1-1.7.7-9
1.7.8 LAND USE 1-1.7.8-10
1.7.9 SOCIOECONOMICS 1-1.7.9-10
1.7.10 TRAFFIC AND TRANSPORTATION 1-1.7.10-11
1.7.11 NOISE 1-1.7.11-11
1.7.12 VISUAL RESOURCES ANALYSIS 1-1.7.12-12
1.7.13 WASTE MANAGEMENT 1-1.7.13-12
1.7.14 HAZARDOUS MATERIALS HANDLING 1-1.7.14-12
1.7.15 PUBLIC HEALTH 1-1.7.15-13
1.7.16 WORKER SAFETY 1-1.7.16-13
1.8 SUMMARY 1-1.8-13

SECTION FIGURES

Figure 1.1-1 – Site Location Map ..... End of Section
Figure 1.1-2 – Project Vicinity Map ..... End of Section
Figure 1.1-3 – Project Site Aerial Photo ..... End of Section
Figure 1.1-4 – Facility Plot Plan ..... End of Section

SECTION APPENDICES

APPENDIX 1-A Adjacent Parcel Owners Names And Addresses

SECTION ACRONYMS/ABBREVIATIONS

ACRONYM/ ABBREVIATION	DEFINITION
AFC	Application for Certification
APN	Assessor's Parcel Number
BACT	Best Available Control Technology
CAISO	California Independent System Operator
Cal-OSHA	California Division of Occupational Safety and Health
CCR	California Code of Regulations
CFR	Code of Federal Regulations
CDC	California Department of Conservation
CEC	California Energy Commission
CEQA	California Environmental Quality Act
CO	Carbon Monoxide
CTGs	Combustion Turbine Generators
DPLU	San Diego County Department of Planning and Land Use
EPA	United States Environmental Protection Agency
FPUD	Fallbrook Public Utility District
GE	General Electric
HDD	Horizontal Directional Drill
HLP	Habitat Loss Permit
I	Interstate
J-Power	J-Power USA Development Co., LTD
kV	Kilovolt
LAFCO	Local Agency Formation Commission
LARA	Local Agricultural Resource Assessment
LORS	Laws, Ordinances, Regulations and Standards
MS4	Municipal Separate Storm Sewer System
MW	Megawatt
NAHC	Native American Heritage Commission
NCFPD	North County Fire Protection District
NO_x	Nitrogen Oxide
OSHA	Occupational Safety and Health Administration

ACRONYM/ ABBREVIATION	DEFINITION
Orange Grove Energy	Orange Grove Energy, L.P.
PRIMMP	Paleontological Resource Impact Monitoring and Mitigation Program
Project	Subject of this AFC, Orange Grove Project
Project Site	Approximately 8.5 acre parcel to be leased for the power plant Site (a.k.a. "Site")
Property	Approximately 202-acres owned by SDG&E that encompasses the approximately 8.5 acre Project Site and surrounding lands
RFO	Request for Offers
RMP	Risk Management Plan
RO	Reverse Osmosis
Site	Approximately 8.5 acre parcel to be leased for the power plant Site (a.k.a. "Site")
SCR	Selective Catalytic Reduction
SDAPCD	San Diego Air Pollution Control District
SDG&E	San Diego Gas & Electric
SPCC	Spill Prevention, Control and Countermeasures
SR	State Route
VOC	Volatile Organic Compound

1.0 EXECUTIVE SUMMARY

1.1 PROJECT OVERVIEW

This Application for Certification (AFC) is submitted to the California Energy Commission (CEC) pursuant to California Code of Regulations Title 20, Division 2, Chapter 5, seeking approval from the CEC for the construction and operation of the Orange Grove Project (the "Project"), a 96 megawatt (MW) simple-cycle electric generating plant and ancillary facilities to be located on unincorporated lands north of State Route (SR) 76 and east of Interstate (I) 15 in rural San Diego County, California. The Project location and vicinity are shown in Figures 1.1-1 and 1.1-2. The Project applicant is Orange Grove Energy, L.P. ("Orange Grove Energy") a limited partnership owned by J-Power USA Development Co., LTD (J-Power) through intermediate entities. Orange Grove Energy is proposing the Project in response to a Request for Offers (RFO) by San Diego Gas & Electric (SDG&E) for new generating resources to be built to support local reliability. The Project is designed as a peaking facility to serve loads during peak demand.

The Project is designed to comply with all relevant laws, ordinances, regulations and standards (LORS). The power plant will be constructed on an approximately 8.5-acre site (the "Site") that will be leased by Orange Grove Energy. The Site is part of an approximately 202-acre property (the "Property") owned by SDG&E, as shown in Figure 1.1-3. The power plant incorporates two General Electric (GE) LM6000 PC SPRINT combustion turbine generators (CTGs) that will be fueled with natural gas. A facility plot plan is shown in Figure 1.1-4. High-efficiency emission control technologies will be provided to meet Best Available Control Technology (BACT) requirements. Power will be transmitted to the grid at 69 kilovolt (kV) via an approximately 0.3 mile underground electric transmission line to the existing SDG&E Pala substation located on the Property. An approximately 2.4 mile underground gas pipeline lateral (See Figure 1.1-2) will be constructed to convey natural gas to the Site from an existing SDG&E gas transmission line. The power plant will use tertiary treated wastewater and fresh water obtained from Fallbrook Public Utility District (FPUD) and trucked to the Site (Figure 1.1-5). Sanitary wastewater will be managed with an onsite septic system. Process wastewater from the plant will be recycled onsite using a reverse osmosis (RO) water treatment system. Only a few hundred gallons per month of wastewater will not be recyclable onsite and will need to be trucked offsite for treatment at a licensed facility. With the RO system to recycle process wastewater onsite, the plant will function with essentially zero liquids discharge technology that eliminates wastewater and reduces water use.

1.2 PROJECT OBJECTIVE AND NEED

The Orange Grove Energy Project's basic objectives are to:

- Provide environmentally sound, efficient and reliable power generation using commercially-available proven technology to respond to the SDG&E RFO for new generating capacity to support reliability in an environmentally responsible and economically feasible manner;

- Use a site location within SDG&E's service territory that has infrastructure with available capacity and ability to reliably support Project electric transmission, fuel supply and water needs with minimal impact on existing infrastructure systems or required new construction;
- Use a site that is commercially available, including control for reasonable access and linear facility easements;
- Develop a site that has compatible zoning, compatible adjacent land uses, and is located away from sensitive receptors; and
- Maximize the capacity of the classes of equipment to be used, consistent with good engineering practice.

The Project is needed by SDG&E to support reliability and meet growing load requirements within its service territory. The Project is proposed in response to the SDG&E RFO. Specifically, SDG&E initiated the RFO in response to the California Public Utilities Commission concerns that there is a need for additional peaking capacity after the unusually hot summer of 2006. With normal load growth in the SDG&E service area, a repeat heat storm could pose reliability issues within the SDG&E service territory. Delay or cancellation of the Project would leave the system vulnerable to heat events. Appendix 5-A presented with Section 5.0 of this AFC provides a letter of support for the Project from SDG&E and outlines the Project's importance and urgency.

1.3 PROJECT SCHEDULE

Construction is expected to start in April 2009 and take approximately 6 months. The Project is scheduled to be operational by October 2009. The Project schedule is as follows:

PROJECT MILESTONE	PROJECTED SCHEDULE
Site preparation and mobilization	April 1 2009
Issuance of all discretionary permits (within 30 days after CEC approval)	May 2009
Grading and Foundation	May 2009
Turbines Delivered	May 2009
Transformers Delivered	August 2009
Plant Commissioning	September 2009
Commercial Operation	October 2009

The interconnection request for the Project was submitted to the California Independent System Operator (CAISO) on April 19, 2007. The System Impact Study and Facilities Study have been completed and the Applicant expects to execute an interconnection agreement in upcoming weeks. .

1.4 PROJECT OWNERSHIP

The Site and Property are owned by SDG&E. The power plant will be constructed, owned and operated by the Applicant. Operations will occur in accordance with a 25-year tolling agreement with SDG&E in which SDG&E would have the right to deliver gas and receive power for 100 percent of the capacity from the Project.

Approximately 0.4 mile of the gas pipeline will be owned and operated by SDG&E between an exiting gas main and a new metering station to be constructed in conjunction with the Project. The remaining approximately 2.0 miles of the pipeline will be owned and operated by the Applicant.

The transmission line interconnection will be entirely within the SDG&E property and will be constructed and owned by Orange Grove Energy between the Site and the substation boundary. Orange Grove Energy will obtain a 20-foot-wide easement from SDG&E for the transmission line between the Site and the substation. SDG&E will conduct the necessary transmission system upgrade work downstream of the substation pursuant to the outcome of the interconnection agreement.

The fresh water and reclaim water pickup stations where Project water will be obtained from FPUD will be constructed, owned and operated by FPUD.

1.5 PROJECT LOCATION AND DESCRIPTION

1.5.1 Site Location and Setting

The Site is located off of SR 76 approximately 3.5 air miles northeast of I-15. SR 76 locally is also known as Pala Road. The Site occurs on portions of the southwest ¼ of the southeast ¼ of Section 29 and the northwest ¼ of the northeast ¼ of Section 32, in Township 9 South, Range 2 West, San Bernardino Base and Meridian. The SDG&E property that the Site occurs on is Assessor's parcel number (APN) 110-072-26. A list of current APNs and owner's names and addresses for parcels within 1,000 feet of the Site and related facilities and 500 feet of Project linear facilities is included in Appendix 1-A.

The Site is located in rural north San Diego County about 5.0 miles east of the City of Fallbrook and approximately 2.0 miles west of the community of Pala. The Site occurs at an elevation of approximately 360 to 440 feet above mean sea level on a gently sloping (approximately 10 percent) old alluvial fan surface. The Site does not have any undisturbed natural habitat. The majority of the Site has been used for agriculture and is occupied by a former citrus grove. A fenced SDG&E storage area occurs just south of the Site on the adjacent parcel, and is an area that will be temporary used for construction laydown.

North of the Site, the ground slopes uphill to a ridgeline that surrounds the Site to the northeast, north and west, at elevations of up to 1,700 feet. The ridgeline and other local terrain prevent views of the Site from any substantial distance. The area is not visible from any regional population center or major transportation corridor such as I-15.

South of the Site, on the opposite side of SR 76, is a former aggregate mine within the San Luis Rey River bed (Figure 1.1-3), where ground water intercepts the mine pits forming ponds. The mine property has recently been acquired by the Pala Band of Mission Indians, and the Tribe has no plans for further development.

1.5.2 Gas Pipeline

The gas pipeline is designed to follow mostly disturbed terrain and to minimize construction traffic impacts to SR 76. For most of its length, the gas pipeline is located on developed land adjacent to SR 76, developed land associated with former dairy farms, or existing paved and uppaved roads. Approximately 0.5 mile of the gas line will be constructed over mountainous terrain where a maximum of 7.5 acres of native habitat will be disturbed by pipeline construction. The pipeline will be constructed using horizontal directional drilling (HDD) at two locations where the pipeline will cross SR 76, and also at locations where the gas pipeline will cross six normally dry drainages that are considered Waters of the United States (Waters of the US) and Waters of the State. Horizontal boring beneath these drainages will avoid disturbance to the drainages. At SR 76, HDD will be used to minimize impacts to traffic flow.

1.5.3 Transmission System

A 0.3 mile underground electric transmission line interconnection will be constructed between the Site and the Pala substation. The transmission line interconnection will be constructed in the paved, private Pala del Norte Road, within the SDG&E property. In addition, where the interconnection crosses normally dry drainages west of the Site that are considered Waters of the US, it will be installed in conduit placed by HDD beneath the drainages, so that there is no disturbance to the drainages

SDG&E will construct required improvements at the Pala substation, which will occur inside the existing substation walls except for a short trench and interconnection vault.

Transmission system upgrades will be required beyond the Pala substation, including reconductoring, changing relay settings, and other work. Transmission system upgrades will be performed by SDG&E and will be finalized in conjunction with the interconnecting agreement. Once the interconnection agreement is executed, transmission system upgrade design work will be completed by SDG&E, to provide a basis for impact assessment.

1.5.4 Water Supply

The reclaim water pickup station will be located at an existing FPUD wastewater treatment plant. The Applicant has an option agreement with FPUD to obtain a tertiary treated reclaim water supply for power plant cooling for a 25 year term. The reclaim water supply pickup station is located central to the FPUD's Waste Water Treatment Plant No. 1 property and approximately 500 feet from closest residences.

The fresh water pickup station will be located adjacent to an Arterial Rural road with an average daily traffic of 20,567 vehicles. The parcel is disturbed and not developed, and is bisected by an

existing FPUD easement and water main. The Applicant is obtaining an agreement with FPUD to obtain the fresh water supply for power plant non-cooling needs for a 25 year term. The fresh water supply pickup station is located in an area with sparsely spaced rural residences and is approximately 400 feet from closest residences.

1.6 PROJECT ALTERNATIVES

The facility is a peaking power plant that is expected to operate only about 60 days per year. Therefore, operational impacts of the Project are already minimal. However, a wide range of alternatives to the Project were considered to determine if they could meet the Project's basic objectives while reducing overall environmental impacts, or reducing or eliminating any significant environmental impact. None of the alternatives considered would eliminate or reduce a significant environmental impact, because the proposed Project includes design and mitigation measures that will result in environmental impacts that are less than significant.

Alternatives considered including: No Project, alternative sites, water supply and cooling technology alternatives, electrical transmission alternatives, generation technology alternatives, and gas pipeline route alternatives. In addition, several alternatives were examined specifically to minimize water truck trips to the extent practical. The proposed Project was selected and designed to comply with all applicable LORS and to satisfy the Project's basic objectives.

The No Project alternative was rejected because it would not meet the Project's basic objectives.

Six sites were evaluated for the Project: the proposed Project: Miramar, Margarita, Borrego Springs, Rainbow, GCL North and GCL South. The Miramar, Margarita and Borrego Springs sites were offered in SDG&E's RFO and the Applicant considered each of those sites. Rainbow is an additional site considered that is owned by SDG&E, and the GCL North and GCL South sites are privately owned. The proposed Site was selected because it is most compatible with the Project's basic objectives and because there is no alternative site that would avoid or substantially lessen the environmental effects of the Project.

Water supply and cooling technology alternatives were evaluated to determine if there were alternative water supplies that could reduce Project impacts or alternative cooling technology that would reduce the Project's water consumption. Based on an evaluation of alternatives, it was determined that there were no feasible alternatives to the proposed sources of water. During operations, Orange Grove Energy will continue to evaluate potential alternative water source opportunities and will implement an alternative water supply if an appropriate supply becomes available that could reduce or eliminate water trucking.

Alternative cooling technologies evaluated include air cooling, hybrid wet/dry cooling, and thermal storage. The proposed Project will utilize a packaged wet cooling tower for only the air inlet chiller system. In order to minimize water consumption, the Project already incorporates air cooling for the fuel gas compressors and generator lube oil systems. While dry cooling could reduce plant water consumption by about one-quarter, air cooling for the inlet chiller would reduce net plant output during hot weather when it is needed most. Hybrid cooling would have water consumption and plant performance intermediate to the Project and the dry cooling

alternative. Dry or hybrid cooling would decrease the plant's efficiency and would increase the Project's disturbance footprint and visual impacts. Thermal storage was rejected because it would be less reliable, more expensive to operate and increase nighttime noise levels.

Electric transmission alternatives were evaluated and it was determined that the proposed configuration of interconnecting at the 69 kV Pala substation would require the least amount of infrastructure improvement. The proposed interconnection route is short and will be underground on SDG&E property. The Pala substation is a relatively new substation and has an open position for the new generating capacity. Alternative transmission options would involve aboveground lines and/or new substations. A 230 kV circuit occurs near the Site, but does not enter the Pala substation. Connection with the 230 kV circuit would require aboveground lines and a new substation.

Generation technologies considered were those that could provide rapidly available peak or mid-merit power to meet, as closely as practical, the stated needs of the SDG&E RFO. The alternatives considered included other fuels, ranging from coal and biomass to oil and waste fuels. These fuels, however, do not provide the Project with the environmental benefits of natural gas, and were rejected. Alternative technologies for power generation were also considered. These included solar, wind, hydroelectric, nuclear, and fuel cell generation, all of which were determined to be cost prohibitive and infeasible for this Project. In addition, bio-diesel was determined to be infeasible as its use would not comply with air quality limits, and fuel supply is limited. Combined-cycle technology was eliminated because it would increase the plant's water consumption, disturbance footprint, and visual impact. Other technologies involving steam were rejected due to increased water consumption and ramp rates that were not suited to needs identified in the RFO. Alternative gas turbine technologies were found less favorable from the perspective of design outputs poorly matched with the RFO, increased water consumption, or technology risks.

The proposed CTG will use water injection to the turbine in order to reduce nitrogen oxide (NO_x) formation, and a selective catalytic reduction (SCR) system to further control NO_x emissions. Carbon monoxide (CO) and volatile organic compound (VOC) emissions will be controlled by an oxidation catalyst system. This control strategy for NO_x, CO and VOC emissions is widely used in CTG projects and has a demonstrated track record of success in the industry. For this reason, both the regulatory community and gas turbine manufacturers recognize this combination of technologies as the BACT standard. Two emerging technologies received consideration in the Project. XONON is a flameless catalytic system for NO_x emissions control. This technology was rejected because it is not proven on a large scale commercial turbine, and the technology is not offered for the LM6000 series. SCONOX is another new technology for NO_x emissions control that was rejected because it is not compatible with the expected exhaust temperature for the LM6000 turbine technology selected for the Project.

A dry low-NO_x combustion system that achieves a similar level of NO_x reduction as the proposed water injection technology was evaluated. The dry low NO_x PD SPRINT was considered but was rejected in favor of the PC SPRINT variant due to reliability concerns (approximately 1.5 percent to 2 percent lower availability factor), lower output (approximately 2

MW per machine, or 4 MW for the Orange Grove Project) and increased maintenance expense. With the 4 MW higher output for this Project, the selected technology will result in the plant having the capacity to serve approximately 3,000 homes more than the dry low-NO_x technology. These 3,000 additional homes would be provided with power when it is needed most during peak use hours.

A gas pipeline alternative was considered that entailed locating the gas pipeline in the roadbed of SR 76 to avoid disturbance to wildlife habitat. This alternative was rejected due to feasibility issues and increased impacts to traffic.

1.7 ENVIRONMENTAL CONSIDERATIONS

Baseline environmental conditions and potential environmental impacts of the Project were investigated and evaluated for each of the environmental resource areas identified by California Environmental Quality Act (CEQA) guidelines and CEC regulations. Project design measures and Project features for compliance with applicable LORS were evaluated and additional mitigation was identified where needed to assure that Project impacts will be less than significant. Cumulative impacts also were evaluated and based on significance criteria developed from CEQA and responsible agency guidance, cumulative impacts in each environmental resource area were determined to be less than significant. A summary of Project impacts to each resource area is provided in the following subsections.

1.7.1 Air Quality

The air quality modeling results using United States Environmental Protection Agency (EPA) approved method and local meteorological data have shown that the Project will conform to the federal and state ambient air quality standards, and the San Diego Regional Air Quality Strategy. Emission estimates for various phases of the project were also below the significance thresholds established by EPA, the San Diego Air Pollution Control District (SDAPCD) and the San Diego County Department of Planning and Land Use (DPLU). The Project is therefore expected to have less than significant impact.

The Project will comply with all requirements established by the SDAPCD including BACT, offsets and continuous emission monitoring systems. The Project will have no impact on any sensitive source and will not cause any objectionable odor.

1.7.2 Geologic Resources and Hazards

The Project will not impact any important geologic resource. Furthermore, the Site is not particularly prone to any geologic hazard. Ground shaking from regional earthquakes could occur during the life of the Project, but the facility will be constructed to withstand anticipated ground motions. The closest active fault is the Elsinore Fault, located approximately 5 miles to the northeast. The Site is located on very old (500,000 to 2 million year old) alluvium that is well-indurated, and there is no shallow ground water or other condition that would make the soils

at the Site susceptible to liquefaction, lateral spreading or other ground failure. Impacts of the Project in the area of geologic hazards will be less than significant.

1.7.3 Agriculture and Soils

The Project will not impact any important agricultural land. The Site is located on lands zoned for agricultural use and within an agricultural preserve, but the lands are not under Williamson Act contract. The Site and portions of the surrounding lands where disturbance will occur is occupied by a former citrus orchard that has not been maintained in at least 5 years. As part of evaluations conducted for the Project, the Site lands were evaluated for their agricultural importance according to the San Diego County DPLU Local Agricultural Resource Assessment (LARA) model and results show that the Site lands lack a required factor (soil type) for important farmland. The Site lands currently are mapped by the California Department of Conservation (CDC) as Unique Farmland due to the presence of the former orchard, but the CDC is planning to remove this designation in its 2006 update since the orchard has not produced for three CDC biennial mapping cycles. The gas pipeline and water pickup stations also will not impact important farmland. Furthermore, the power plant will not conflict with other agricultural uses in the area. The Project includes design measures, and LORS are in place, to minimize soil loss from erosion. Overall, the analysis in this AFC demonstrates that the impacts of the Project to agriculture and soils resources will be less than significant.

1.7.4 Water Resources

The Expected Use Case for water is an average of 12.1 acre-feet per year of reclaim water and 21.1 acre feet per year for fresh water. The water will be supplied by the FPUD. The Project will not use ground water, and Project design measures and LORS are in place that will protect surface and ground water quality. The Project is designed for zero discharge of process wastewater. Water from wash-down, water treatment reject, and other industrial sources will be recycled onsite using an RO system. Sanitary wastewater will be managed using an onsite sanitary leach field designed in accordance with County requirements. Storm water discharges during construction will comply with the State General Permit for storm water discharges from construction sites. During operations, storm water from the Site will be discharged under the County's municipal separate storm sewer system (MS4) permit and will be in compliance with County requirements. The Site storm water management system includes a detention basin to control runoff from storms with up to a 100-year recurrence interval. The drainage system will be designed to comply with County requirements to manage the 100-year storm runoff to maintain or reduce pre-development downstream erosion. Overall, the analysis in this AFC demonstrates that the impacts of the Project to water resources will be less than significant.

1.7.5 Biological Resources

Biological surveys have identified the following sensitive, threatened or endangered species to be potentially located within or adjacent to the Project: the coastal California gnatcatcher (*Polioptila californica californica*), least Bell's vireo (*Vireo bellii pusillus*), southwestern willow flycatcher (*Empidonax traillii extimus*), arroyo toad (*Bufo californicus*), northern red diamond

rattlesnake (*Crotalus ruber ruber*), Engelmann Oak (*Quercus engelmannii*) and Parry's tetracoccus (*Tetracoccus dioicus*) (see Figure 1.7-1). The Project has been designed to avoid and minimize impacts to biological resources to the extent possible. Therefore, only three of the above species will be potentially impacted by the Project including the coastal California gnatcatcher, Engelmann Oak along with several seedlings and Parry's tetracoccus. Mitigation measures have been included to mitigate impacts that could not be avoided. Impacts to the coastal California gnatcatcher and its habitat, Diegan coastal sage scrub, will be mitigated through the DPLU Habitat Loss Permit (HLP) process. The impact to 9.3 acres of coastal sage scrub will be mitigated at a 2.1 ratio within an approved mitigation bank. Any other sensitive species that could occur within coastal sage scrub will also be mitigated through the HLP process. The Englemann Oak and saplings trees are scattered throughout the former orchard and are not part of any oak woodland, and landscaping associated with the Project will result in a net increase for this species. Construction of the Site will impact 10 Parry's tetracoccus plants. These plants will be relocated as part of construction out of the impact area. Indirect effects including migration path, noise and light impacts to wildlife were also evaluated and found to be less than significant. The Project will be consistent with applicable policies and ordinances and other applicable LORS for biological resources. Overall, the analysis in this AFC demonstrates that the impacts of the Project to biological resources will be less than significant.

1.7.6 Cultural Resources

Based on records searches and a survey of the Site and linear facility corridors, no cultural resources are known to occur within the Project disturbance footprint. There are recorded sensitive cultural sites near the Site and gas pipeline, and the Project has been designed to avoid impacts to these resources as they are known. Monitoring for cultural resources will occur during construction. Implementation of the mitigation measures outlined in the AFC will assure that impacts to cultural resources are less than significant.

Native American consultation has been initiated with the Native American Heritage Commission (NAHC) and Native American Tribes. The Pala Band of Mission Indians has indicated that the Site is within territory that the Tribe considers its Traditional Use Area, and has requested updates as the project progresses. The Tribe has recommended that Approved Cultural Monitors be present onsite during Project archaeological surveys and ground disturbing activities. Orange Grove Energy has incorporated this recommendation as a Project design feature.

1.7.7 Paleontological Resources

Based on records searches and field survey, no paleontological resources are known to occur within the Project disturbance footprint. Monitoring will be conducted by a qualified person to observe a minimum of 50 percent of the excavation that occurs in the very old alluvial unit (500,000 to 1 million years old) that underlies the Site. No impacts are anticipated. If monitoring results in important paleontological resources being discovered, then work will be halted in the area until a Paleontological Resource Impact Monitoring and Mitigation Program (PRIMMP) is developed in accordance with DPLU requirements and implemented. Considering these factors, the impact to paleontological resources will be less than significant.

1.7.8 Land Use

The Site is located in a rural area on lands zoned for general agriculture and designated as agriculture preserve. The Site is not under Williamson Act contract and the proposed use will be consistent with the Williamson Act. The proposed Project is a Civil Use type under the County zoning ordinance and is allowed with a Major Use Permit if not for the exclusive authority of the CEC to certify power plant sites and related facilities. The Project will not create land use conflicts nor have other significant land use impacts.

1.7.9 Socioeconomics

The estimated $87 million capital investment for the Project will provide socioeconomic benefits from construction through goods and services purchased, payroll, and taxes. An average workforce estimated at 70 people will occur over a 6-month construction period. Additional indirect benefits will occur from generated secondary demands for materials, goods and services. Construction payroll is estimated at $6.5 million. An additional estimated $6 million in non-payroll costs would be spent in San Diego County. Operations will generate additional socioeconomic benefits including approximately 9 full-time job positions and annual property taxes estimated to be approximately $1.1 million based on the plant's initial value. An additional estimated $0.2 million in taxes will be generated annually through estimated average annual spending of $2.9 million for operations and maintenance materials and supplies.

The construction workforce will be short-term, and neither construction nor operations are expected to induce growth or require services beyond the existing infrastructure. The Project will not displace homes, businesses or populations, result in long-term disruption to an established community, or disruption to businesses. The Project will not result in material population growth or a material increase in demand for services.

The Project will require be annexation into the North County Fire Protection District (NCFPD). The annexation will include the parcel that the Site is located on, and potentially additional parcels to the west owned by SDG&E and Gregory Canyon Landfill that are open space with no plans for development. These lands will not generate significant fire response needs and their annexation will not have any impact on zoning or land use or the potential to induce growth. Local Agency Formation Commission (LAFCO) and NCFPD will need to approve the annexation. NCFPD has indicated that they have the equipment, facilities and staff to provide adequate response to the Project and are willing to do so once the Site is annexed into their service area. The NCFPD has indicated that new facilities or equipment will not be required to support the Project, and the Project will not significantly affect the District's resources. The Site is in an Urban-Wildland Interface Zone, and Orange Grove Energy is preparing a Fire Protection Plan for approval by the Fire Marshal.

An Environmental Justice Screening Analysis also was performed as part of socioeconomic impact analysis and demonstrates that the Project will not significantly impact any minority or low impact population.

Overall, with mitigation for fire protection as described above, the Project will not have a significant adverse socioeconomic impact.

1.7.10 Traffic and Transportation

For the 6-month period of Project construction, the estimated average construction vehicle volume is 63 vehicles per day. The peak month of construction will generate an estimated 99 trips per day. These vehicles will primarily access the Site via SR 76 from I-15 northbound and southbound from nearby and regional population centers. Most of this traffic will be construction workers arriving in the morning and leaving in the afternoon. The peak hour construction traffic impact modeling shows that the expected peak hour level of traffic will not reduce existing levels of service. Furthermore, these impacts will be short term. For Project operations and maintenance, traffic generated by the Project will be small, consisting of shift changes for the approximately 9 full time staff, and up to five deliveries per day. In addition, for each hour that the power plant operates at summer design conditions, there will be an average of 0.4 reclaim water trucks and 0.9 fresh water trucks. The peak hourly traffic for hauling water will be approximately 1 truck per hour for reclaim water and 1 truck per hour for fresh water. Even without the Project, traffic in the area is projected to grow to a level that will result in unsatisfactory level of service at freeway ramp intersections that will be used by Project traffic. Long term cumulative traffic impacts will be mitigated to a level that is less than significant through Traffic Impact Fees paid in accordance with County policy. The Project will comply with applicable traffic and transportation LORS and impacts will be less than significant. There will be no impact to rail transportation, airports or air transportation, public transit, waterways, trails or bike routes.

1.7.11 Noise

The Site is located just north of SR 76 in a rural area with few receptors. Three residential structures occur near a ridge line above the Site approximately 0.4 to 0.6 miles northeast that are considered the most sensitive receptor locations due to their proximity and local topography. The design basis for noise control is the most stringent noise level required by LORS. This design philosophy will ensure that the noise from this Project will comply with the County of San Diego Noise Regulations, as well as the CEC guideline for the late-night noise increase increment. Noise LORS will be met with a combination of Project design features that optimize noise reduction and control from the expected major noise sources, including sound walls around major project equipment. Ambient noise monitoring was conducted for the Project, and modeling was performed to estimate anticipated noise levels from the plant. Project construction noise levels will be below significance thresholds defined by County and CEC noise standards.

In addition, the Project will establish a telephone number for use by the public to report any significant undesirable noise conditions associated with Project construction or operation, and will document, investigate, evaluate, and attempt to resolve all legitimate, Project-related noise complaints. With these measures, noise impacts will be less than significant.

1.7.12 Visual Resources Analysis

The Site is surrounded by topography that will block views of the Project except from within the immediate area, which has few receptors. The primary sensitive receptors will be three single family rural houses that occur on a ridgeline approximately 0.4 to 0.6 miles to the northeast of the Site, and travelers on SR 76. Travelers on SR 76 will have a view of the Site for less than 0.5 minutes as they pass the Site. The Site is already disturbed land, and there are various prominent anthropogenic visual features in the nearby landscape, including an abandoned orchard, an electric substation, storage, debris scatters, greenhouses, and a large former aggregate mine. The Project includes planting native vegetation for visual screening and for stabilizing construction disturbances, so the Project will have a benefit of partially repairing existing visual impacts. The Site is not visible from any designated scenic route or recreation area. Detailed analysis of visual impacts is provided in this AFC, including computer-generated simulations of the proposed power plant. Overall, the analysis demonstrates that the impacts of the Project to visual resources will be less than significant.

1.7.13 Waste Management

Project construction, and operations and maintenance, will generate various waste streams typical for the industry. Orange Grove Energy will implement a waste minimization plan to reduce waste and maximize recycling. Project waste streams will be managed in accordance with applicable LORS. No significant impact is anticipated.

1.7.14 Hazardous Materials Handling

Orange Grove Energy will implement accident prevention and response planning measures to reduce the risk associated with use and storage of hazardous materials. A Hazardous Materials Business Plan/Contingency Plan, developed in accordance with the CCR Titles 19 and 22, will be submitted to the County Health Department. A Spill Prevention, Control and Countermeasures (SPCC) Plan will be maintained onsite as required by Code of Federal Regulations (CFR) Title 40, Part 112. Each of these plans includes measures designed to prevent or respond to discharges, spills, leaks or other incidents involving hazardous materials. Bulk hazardous material storage will be provided with secondary containment. Safety showers and eyewashes will be provided in appropriate chemical storage and use areas. Personnel who may potentially handle hazardous materials will be trained to perform their duties safely and to respond to emergency situations that may occur in the event of an accidental spill or release. A comprehensive hazard communication program will be implemented in accordance with Occupational Safety and Health Administration (OSHA) requirements. There will be no hazardous materials used onsite in any quantity that would trigger the federal requirement for a Risk Management Plan (RMP). Aqueous ammonia is the only hazardous material that will be used onsite in a quantity that will require a RMP under CCR Title 19. Accidental release modeling included in this AFC for aqueous ammonia demonstrates that the project will be eligible for a Program 1 RMP. The Project will comply with applicable LORS for hazardous materials handling. No impact is expected.

1.7.15 Public Health

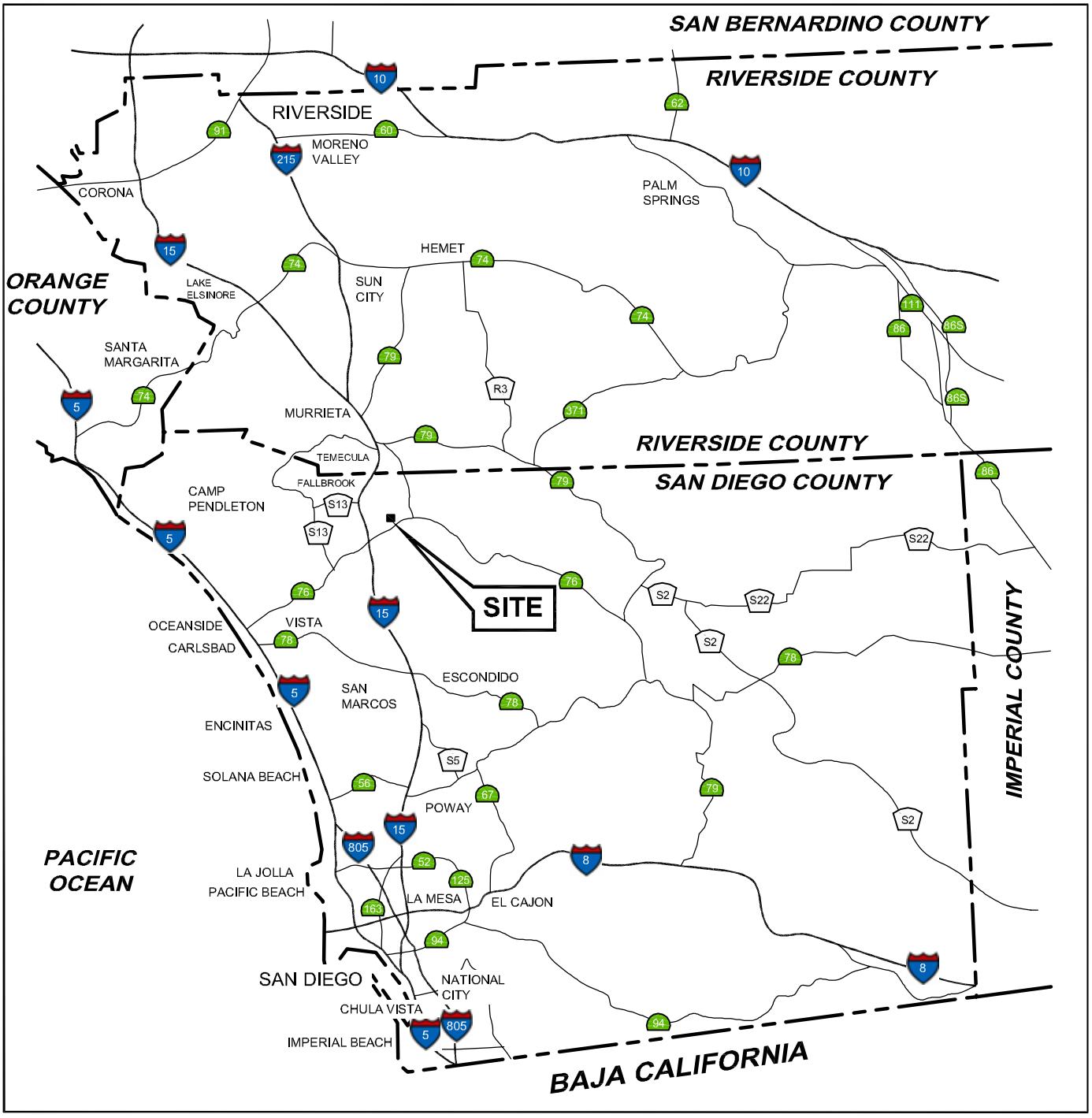
The use of clean-burning natural gas fuel and emission control systems will keep potential health impacts below a level of significance. Potential health risks are comprehensively addressed in Section 6.16 of this AFC and will be below significance thresholds. Because future public health risks will be below significance criteria, no impact is expected.

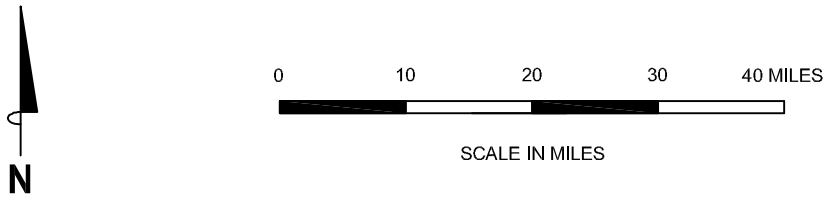
1.7.16 Worker Safety

Worker safety is a priority for Orange Grove Energy. A comprehensive illness and injury prevention program will be implemented in accordance with California Division of Occupational Safety and Health (Cal-OSHA) requirements and other LORS. With implementation of these programs, worker safety impacts will be less than significant.

1.8 SUMMARY

The Project will comply with all applicable LORS, and will help to meet the local energy capacity and reliability needs of the area and will result in environmental impacts that are less than significant. Where needed to assure that environmental impacts remain below significance thresholds, mitigation has been built in to the Project design as described in detail in subsequent sections of this AFC.





TRC	PROJECT: 125158 FACILITY: ORANGE GROVE PROJECT SAN DIEGO COUNTY, CALIFORNIA	SITE LOCATION MAP FIGURE 1.1-1

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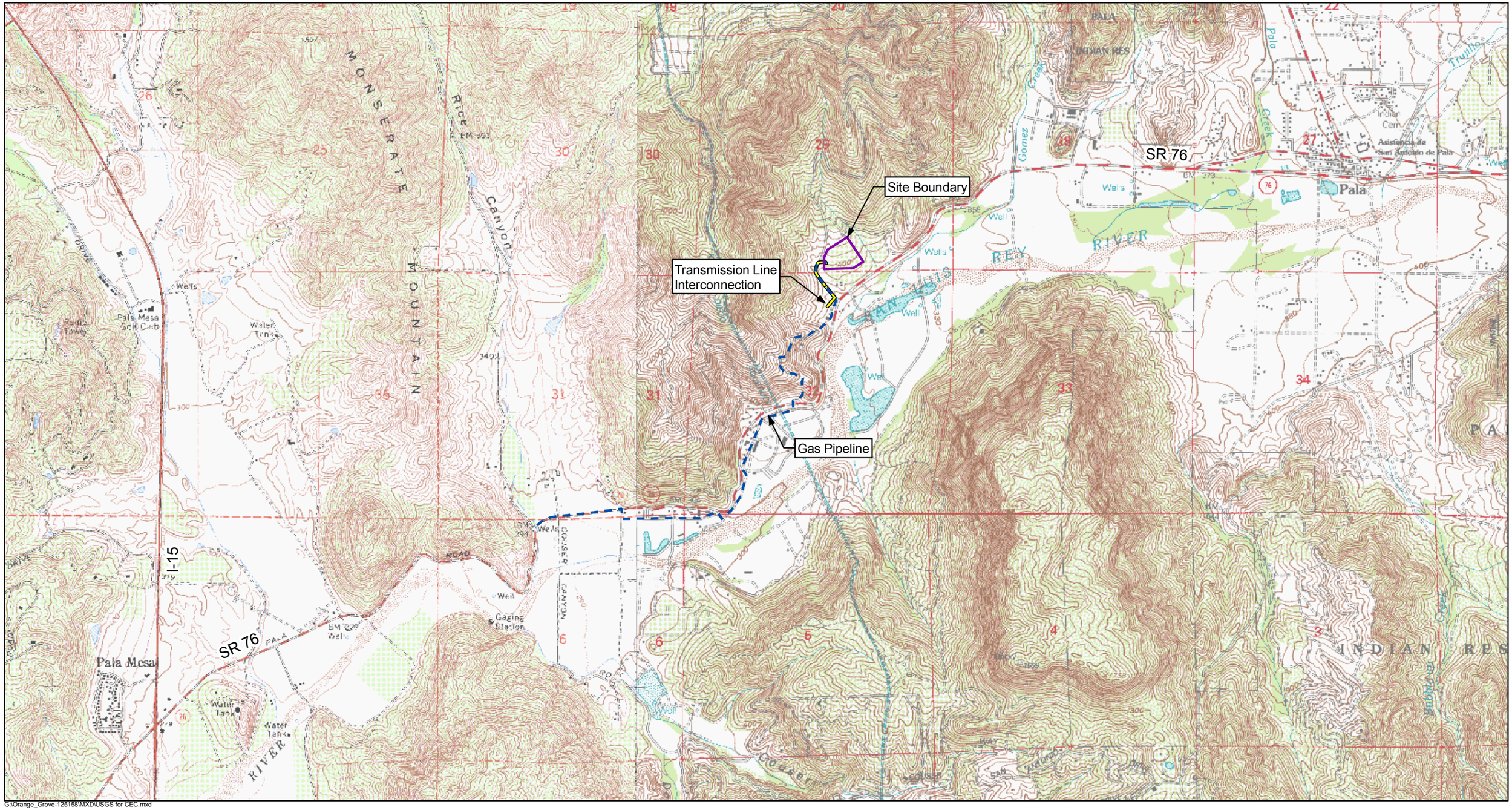

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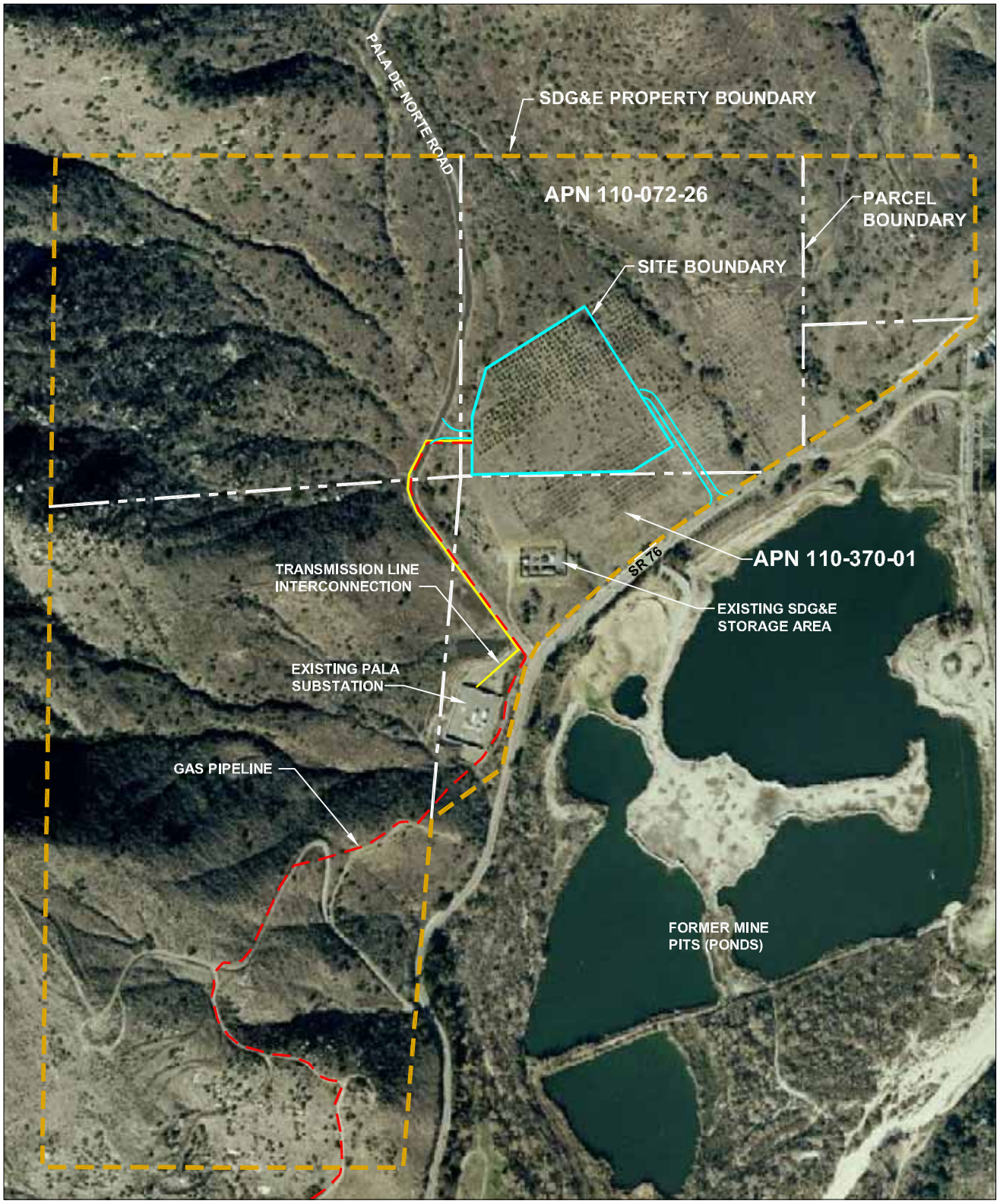
Figure 1.1-2
Vicinity Map
Orange Grove Project
San Diego County, CA

1" = 2,000'

2,000 1,000 0 2,000 4,000 6,000 Feet

Source:
USGS Topographical Quardrangles:
Pala, Bonsall

TRC



SOURCE:

Virtual Earth, 2006.

APPROXIMATE SCALE (FEET)

0 600 1200

PROJECT: 125158

FACILITY:

ORANGE GROVE PROJECT
SAN DIEGO COUNTY, CALIFORNIA

SITE AND PROPERTY BOUNDARY

FIGURE 1.1-3

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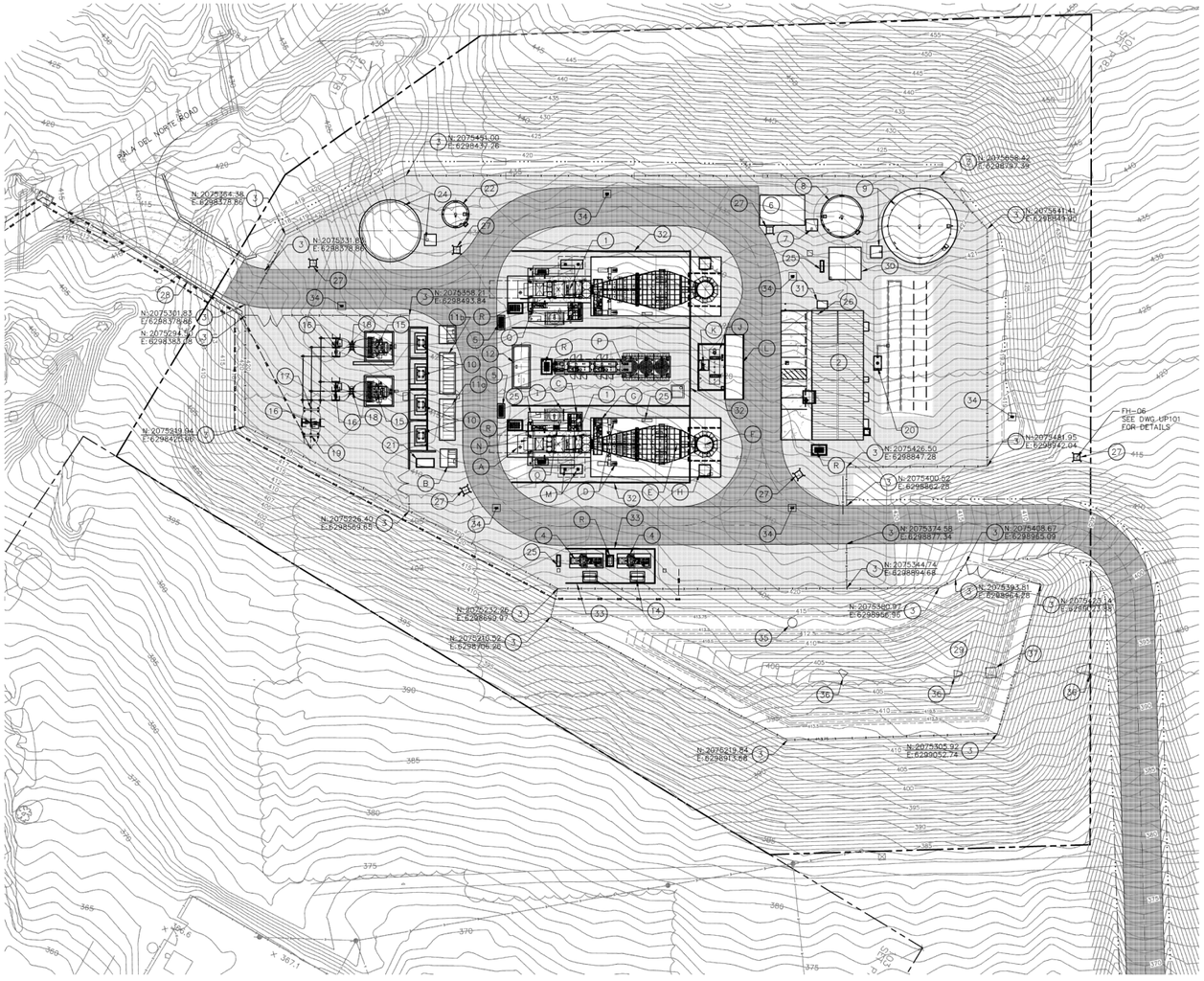
Figure 1.1-4 – Facility Plot Plan



KEYNOTES:

1. COMBUSTION TURBINE (CT), GENERATOR, AND AUXILIARY EQUIPMENT. (FOR EACH UNIT): (HEIGHT = 43' AT THE TOP OF VBV DUCT).
   - A. MAIN TURBINE GENERATOR SKID ENCLOSURE.
   - B. 13.8KV ELECTRICAL SWITCHGEAR.
   - C. CT AUXILIARY EQUIPMENT SKID.
   - D. TEMPERING AIR FANS (2).
   - E. EMISSION CONTROL SYSTEM-SCR (HEIGHT = ±33').
   - F. STACK (HEIGHT = 80').
   - G. AMMONIA VAPORIZATION SKID.
   - H. CEMS ENCLOSURE WITH TRANSFORMER AND CALIBRATION GAS STORAGE.
   - I. CT LUBE OIL COOLER.
   - J. AMMONIA STORAGE TANK (COMMON TO BOTH CT UNITS).
   - K. AMMONIA FORWARDING PUMP SKID (COMMON TO BOTH CT UNITS).
   - L. AMMONIA UNLOADING PAD, SPILL CONTAINMENT (COMMON TO BOTH CT UNITS).
   - M. TURBINE REMOVAL SUPPORTS.
   - N. AIR INLET FILTER (HEIGHT = 34').
   - O. SPRINT SKID.
   - P. INLET AIR CHILLER AND COOLING TOWER (COMMON TO BOTH CT UNITS) (HEIGHT = 30').
   - Q. WATER INJECTION SKID.
   - R. OILY DRAIN TANK.
2. SERVICE BUILDING FOR CONTROL ROOM, ELECTRICAL EQUIPMENT, FIRE PUMPS, COMPRESSED AIR. (HEIGHT = 18').
3. SITE SECURITY CHAINLINK FENCE AND GATES.
4. FUEL GAS COMPRESSORS.
5. GAS COALESCING FILTER SKID.
6. CONCRETE PAD FOR TEMPORARY WATER TREATMENT TRAILER.
7. DEMIN. WATER PUMP SKID AND RELATED EQUIPMENT.
8. DEMIN. WATER STORAGE TANK (HEIGHT = 24').
9. RAW WATER/FIREWATER STORAGE TANK & PUMP SKID (HEIGHT = 44').
10. AUXILIARY TRANSFORMERS.
11. 11a 4160V ELECTRICAL SWITCHGEAR. 11b 480V ELECTRICAL SWITCHGEAR.
12. BLACKSTART GENERATOR.
13. NOT USED.
14. FUEL GAS COMPRESSOR RECYCLE FIN-FAN COOLER.
15. 13.8KV-69KV GENERATOR STEP-UP TRANSFORMER (GSU).
16. 69KV DISCONNECT SWITCH AND SUPPORTS.
17. 69KV CT/VT METERING UNIT.
18. 69KV CIRCUIT BREAKER.
19. 69KV TRANSITION STRUCTURE & POTHEAD.
20. UNDERGROUND SANITARY SYSTEM.
21. TRANSFORMER DELUGE VALVE ENCLOSURE.
22. WASTEWATER STORAGE TANK (HEIGHT = 24').
23. NOT USED.
24. COOLING TOWER MAKEUP TANK AND PUMP SKID (HEIGHT = 36').
25. 480V MCC.
26. DIESEL FIRE PUMP ROOM.
27. YARD FIRE HYDRANTS WITH HYDRANT MOUNT FIRE MONITORS.
28. BRIDGE.
29. STORMWATER DETENTION BASIN.
30. RO WATER TREATMENT AREA.
31. DIESEL STORAGE TANK – DIESEL FIRE PUMP.
32. GAS TURBINE SOUND WALL (HEIGHT = 48').
33. GAS COMPRESSOR SOUND WALL (HEIGHT = 24').
34. AREA INLET.
35. STORM MANHOLE.

KEYNOTES CONT.:

36. STORM END SECTION.
37. STORMWATER OUTLET CONTROL STRUCTURE.

REV.	DATE	DESCRIPTION	DWN	CHK
A	10-23-07	ISSUED FOR REVIEW	BGG	WHR
B	10-30-07	ISSUED FOR REVIEW	BGG	WHR
C	11-8-07	ISSUED FOR WESTPOWER APPROVAL	BGG	WHR
D	11-19-07	ISSUED FOR AIR MODEL	BGG	WHR
E	11-29-07	RE-ISSUED FOR AIR MODEL	BGG	WHR
F	11-30-07	ISSUED FOR MILESTONE 4	BGG	WHR
G	12-19-07	ISSUED FOR AMENDED SPPE APPLICATION	BGG	WHR
H	12-28-07	RE-ISSUED FOR MILESTONE 4	BGG	WHR
J	1-17-08	ISSUED PER FPP COMMENTS	BGG	MJB
K	02-29-08	FINAL ISSUE FOR APPROVAL	BGG	WHR
L	6-2-08	ISSUED FOR AFC PERMIT	BGG	MJB

Sealed Only When Signed in Blue Ink

Sega ®
Engineers – Architects – Technicians
Design – Construction – Field Service
16041 Foster
P.O. Box 1000
Stilwell, Kansas 66085-1000

ORANGE GROVE ENERGY L.P.
Schaumburg, IL

ORANGE GROVE POWER PLANT

SITE LAYOUT PLAN

DESIGN BY: B. ROMINES	CHECKED BY: J. BONDANK
DRAWN BY: B. GASPERS	DATE: 9-12-07
CLIENT I.D.: ICC00101	SEGA PROJECT NO.: 07-201
CADD FILE NAME: 07201-C100.dwg	
DRAWING NO.: C100	REV.: L

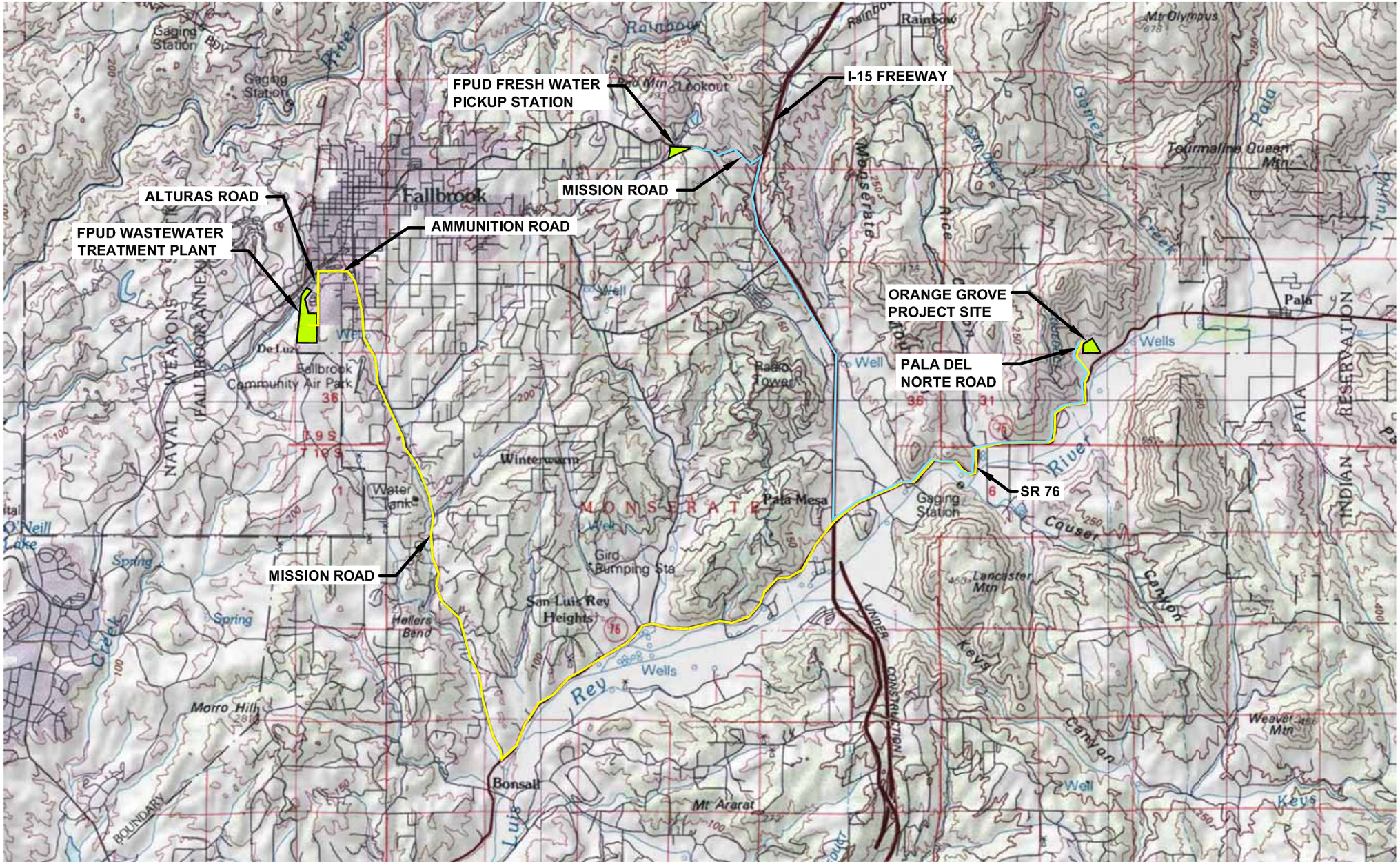
SITE LAYOUT PLAN
PLAN NORTH IS 29°55'46" CCW OF TRUE NORTH
40 0 40 80
SCALE IN FEET

EMISSION COORDINATES SYMBOL		
DESCRIPTION	NORTHING	EASTING
COMBUSTION TURBINE #1 (NORTH)	2075491	6298683
COMBUSTION TURBINE #2 (SOUTH)	2075387	6298743
DIESEL FIRE PUMP (±2')	2075517	6298766
BLACK START GENERATOR (±2')	2075379	6298582

LEGEND

RECLAIM WATER HAUL ROUTE

FRESH WATER HAUL ROUTE



N

SOURCE:

United States Geological Survey
7.5 Minute Topographic Map, 2000:
Morro Hill, Bonsall, Temecula,
and Fallbrook Quadrangles

0 1 1/2 3 MILES

TRC

PROJECT: 125158

FACILITY:

ORANGE GROVE PROJECT
SAN DIEGO COUNTY, CALIFORNIA

FPUD WATER PICKUP LOCATIONS AND WATER HAUL ROUTES

FIGURE 1.1-5

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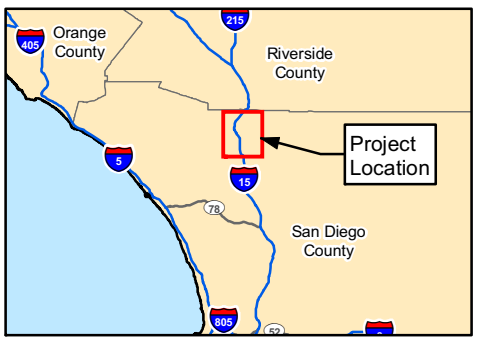
SHEET D

SHEET B

SHEET C

San Luis Rey River



Proposed Gas Line

Survey Boundary

Proposed Underground Electrical Transmission Line

Fresh Water Pickup Station

Site Location

Map Sheets

N

W E

S

1" = 3,000'

3,000 1,500 0 3,000 6,000 Feet

Source:
USGS Topographical Quardrangles: Pala, Bonsall.
Aerial Photography from ESRI_Imagery_World_2D
Library-Remote Sensing 2005

Figure 1.7-1 A

Biological Resources

Orange Grove Project

TRC

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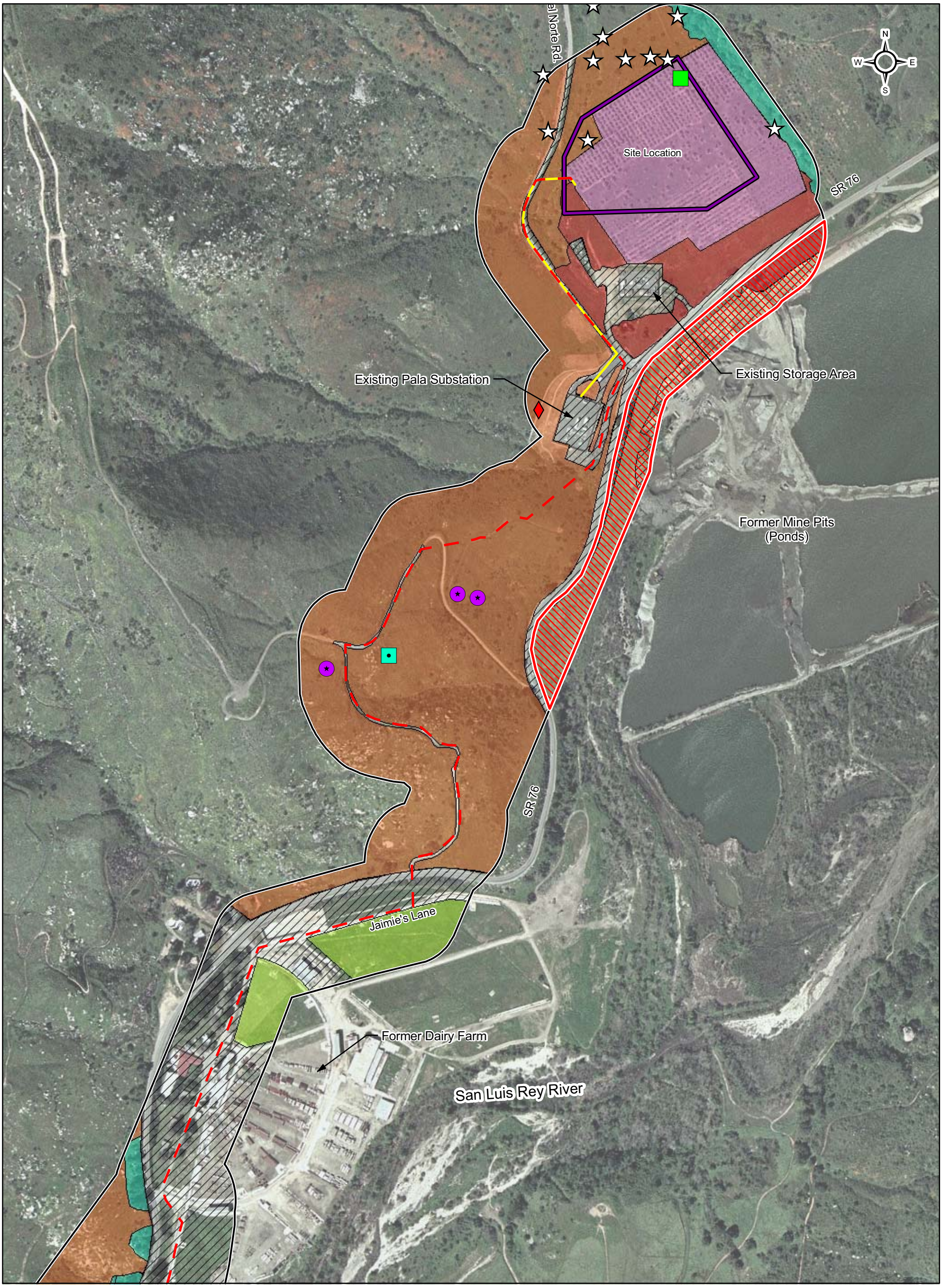
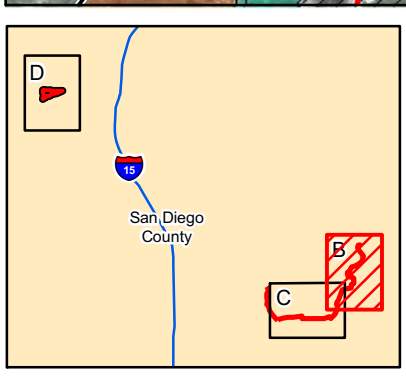




- Proposed Gas Line
- Survey Boundary: Full Access Area
- Survey Boundary: Limited Access Area*
- Survey Boundary: Mapped From Aerials
- Fresh Water Pickup Station
- Survey Area: Limited Access*
- Underground Electrical Transmission Line
- Site Boundary
- Large Native Trees/Shrubs

- Diegan Coastal Sage Scrub (32500)
- Nonnative Grassland (42200)
- Open Coast Live Oak Woodland (71161)
- Southern Riparian Forest (61300)
- Southern Cottonwood Willow Riparian Forest (61330)
- Urban Developed (12000)
- Reclaimed Mining Area
- Disturbed (11300)
- Orchard (18100)

- Agriculture (18000)
- Englemann Oak *Quercus engelmannil*
- Parry's Tetracoccus *Tetracoccus dioicus*
- California Horned Lizard
- Least Bell's Vireo
- Coastal California Gnatcatcher
- Red Diamond Rattlesnake

*Surveyed by observation from public roads

Source: Aerial Photography from ESRI_Imagery_World_2D

1" = 400'

400 200 0 400 800 Feet

Figure 1.7-1 B

Biological Resources

Orange Grove Project

TRC

G:\Orange_Grove-125158\MXD\Bio Resources.mxd

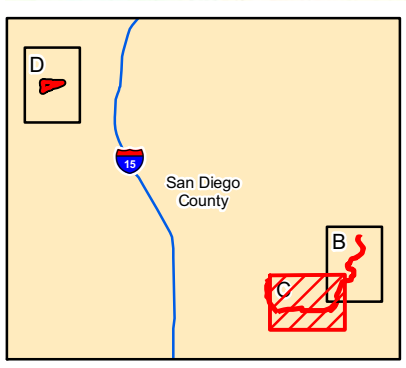
Former Dairy Farm

SR 76

San Luis Rey River

Couser Canyon Rd

Rice Canyon Rd



- Proposed Gas Line
- Survey Boundary: Full Access Area
- Survey Boundary: Limited Access Area*
- Survey Boundary: Mapped From Aerials
- Fresh Water Pickup Station
- Survey Area: Limited Access*
- Underground Electrical Transmission Line
- Site Boundary
- Large Native Trees/Shrubs

*Surveyed by observation from public roads

- Diegan Coastal Sage Scrub (32500)
- Nonnative Grassland (42200)
- Open Coast Live Oak Woodland (71161)
- Southern Riparian Forest (61300)
- Southern Cottonwood Willow Riparian Forest (61330)
- Urban Developed (12000)
- Reclaimed Mining Area
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- California Horned Lizard
- Least Bell's Vireo
- Coastal California Gnatcatcher
- Red Diamond Rattlesnake

Source: Aerial Photography from ESRI_Imagery_World_2D

1" = 400'

400 200 0 400 800 Feet

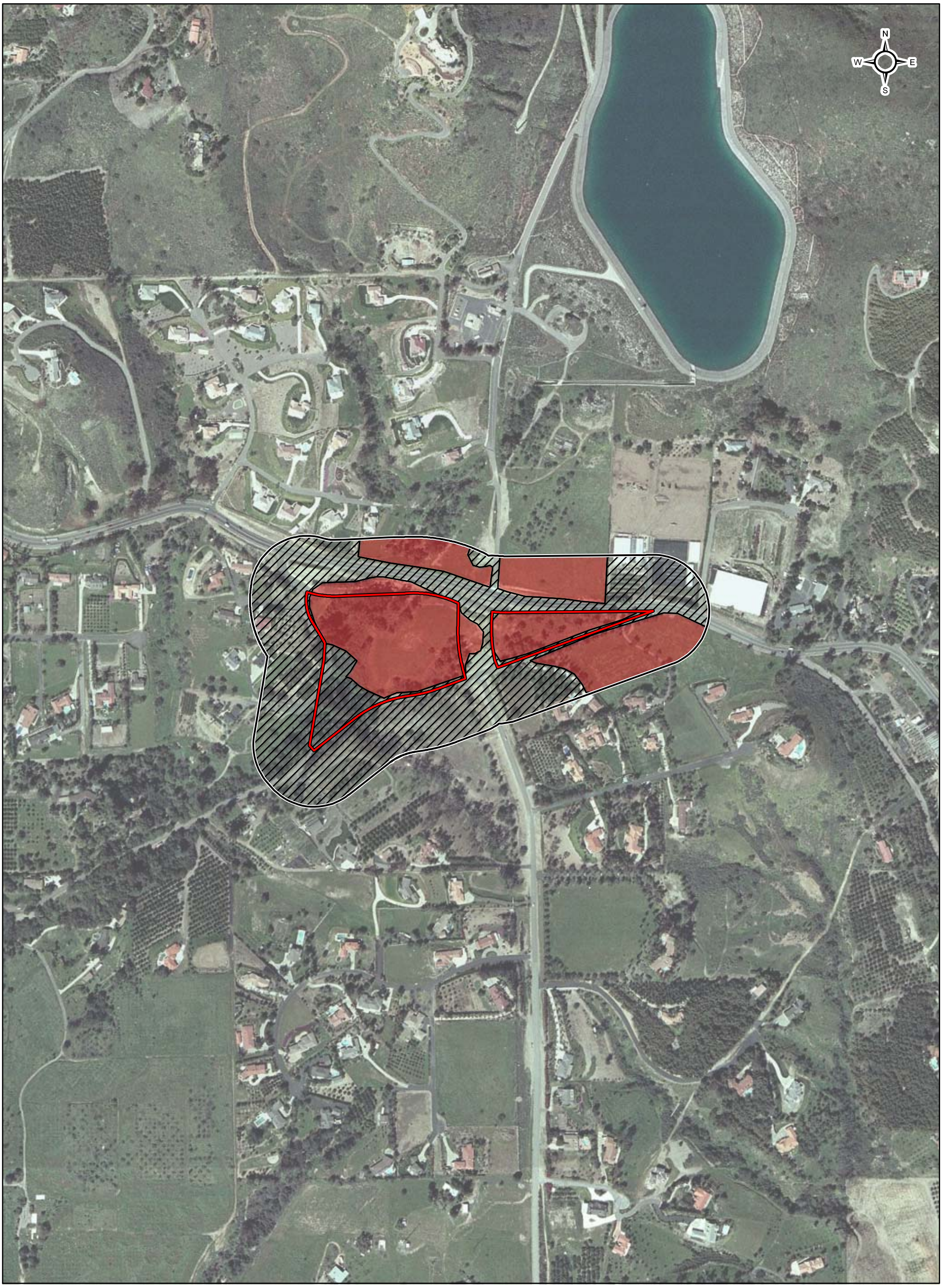
Figure 1.7-1 C

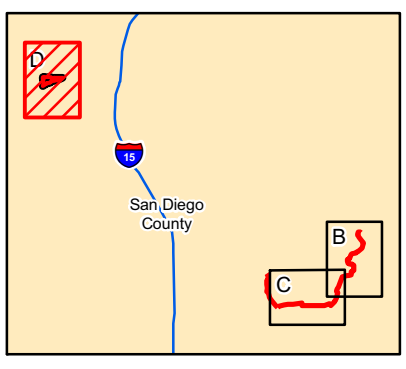
Biological Resources

Orange Grove Project

TRC

G:\Orange_Grove-125158\MXD\Bio Resources.mxd





Proposed Gas Line
Survey Boundary: Full Access Area
Survey Boundary: Limited Access Area*
Survey Boundary: Mapped From Aerials
Fresh Water Pickup Station
Survey Area: Limited Access*
Underground Electrical Transmission Line
Site Boundary
Large Native Trees/Shrubs

*Surveyed by observation from public roads

Diegan Coastal Sage Scrub (32500)
Nonnative Grassland (42200)
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Southern Cottonwood Willow Riparian Forest (61330)
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Englemann Oak
Quercus engelmannil
Parry's Tetracoccus
Tetracoccus dioicus
California Horned Lizard
Least Bell's Vireo
Coastal California Gnatcatcher
Red Diamond Rattlesnake

1" = 400'
400 200 0 400 800
Feet

Source:
Aerial Photography from ESRI_Imagery_World_2D

Figure 1.7-1 D

Biological Resources

Orange Grove Project

TRC

G:\Orange_Grove-125158\MXD\Bio Resources.mxd

Figure 1.7-2.A – Orange Grove Project Before Construction

TRC

Project: **Orange Grove Project**

Figure 1.7-2.B – Orange Grove Project After Construction

TRC	Project: **Orange Grove Project**
	Map Source: Sega, Inc. 2008.