2.0 PROPOSED ACTION AND ALTERNATIVES

2.1 PURPOSE AND NEED

This environmental document has been prepared for the Tule Wind Project with the Bureau of Land Management (BLM) as the lead agency under the National Environmental Policy Act (NEPA), and the California Public Utilities Commission (CPUC) as lead agency under the California Environmental Quality Act (CEQA). The information contained in this document will be incorporated into the San Diego Gas & Electric (SDG&E) East County Substation (ECO Substation) Environmental Impact Statement (EIS)/ Environmental Impact Report (EIR). To comply with both federal and state regulations, this document addresses both NEPA and *CEQA Guidelines* and is structured and written as an EIS/EIR. Under NEPA regulations, an EIS must identify the underlying purpose and need, and under CEQA regulations an EIR must include the project objective including the proposed action and alternatives.

Wind energy provides benefits on a national, state, and local level. Wind power is a clean source of electricity and an inexhaustible, domestic resource that helps reduce our dependence on imports of natural gas, oil, and other fuels. The State of California established its Renewable Portfolio Standard Program in 2002 with the goal of increasing the renewable energy electricity mix of the state to 20 percent by 2010. The Energy Report Update in 2004, approved by Executive Order S-14-08, further recommended increasing the goal to 33 percent by 2020. At the federal level, the Energy Policy Act of 2005 directs the BLM and other agencies within the U.S. Department of the Interior to study and take steps in support of increasing renewable energy production on federal lands. BLM's 2005 Programmatic Environmental Impact Statement (PEIS) lays the groundwork for wind energy development on BLM lands. The PEIS identifies eastern San Diego County as an area with high-quality wind capacity. The McCain Valley is one of the few areas in the county where wind energy facilities could be sited due to available wind resources in the area. The Tule Wind Project will help BLM fulfill its role in implementing the Energy Policy Act, while supporting the state mandates and initiatives of increasing power supply from renewable sources.

Additionally, the proposed project implements adopted plans, policies, and regulations of the State of California intended to reduce green house gas (GHG) emissions. The project implements Assembly Bill (AB) 32 (Nunez), also known as the California Global Warming Solutions Act of 2006 or AB 32, by creating a new renewable energy source that achieves GHG reduction. The project is consistent with the California Air Resources Board (CARB) AB 32 Scoping Plan by increasing renewable energy by 200 MW, in support of achieving a statewide renewable energy mix of 33 percent and furthering a GHG emissions cap-and-trade program. The U.S. Environmental Protection Agency (EPA) eGrid modeling for the proposed 200 MW project estimates annual GHG reduction of up to 304,283 metric tons due to the renewable wind energy generation replacing the GHG emissions from existing energy sources in the state.

2.2 STATEMENT OF PROJECT OBJECTIVES

The project has identified the following project objectives:

- To provide energy supply to help meet the State's planned population growth and future generations' needs.
- To provide renewable energy to contribute to the goals of the California Renewable Portfolio Standard Program and Energy Report Update and contribute to the State's goal of increasing the renewable energy electricity mix to 33 percent by the year 2020.

- To assist the BLM and other agencies within the U.S. Department of the Interior to increase renewable energy production on federal lands as directed by the Energy Policy Act of 2005.
- To assist the County of San Diego to accomplish its renewable energy goals and achieving the primary energy objective of maximizing the development of renewable alternative sources of energy, as prescribed within the Energy Element of the General Plan.

2.3 GENERAL ENVIRONMENTAL SETTING

The project area is located in the eastern portion of San Diego County, approximately 50 miles east of City of San Diego, 90 miles west of Arizona, and north of the community of Boulevard. The area is accessible via Interstate 8 (I-8), State Route 94 (SR-94) and Ribbonwood Road junction, and McCain Valley Road off of Old Highway 80. The majority of the project area lies in the In-Ko-Pah Mountains adjacent to the Tecate Divide, south of the Cleveland National Forest. The topography of the area is gently-to-steep sloping with an elevation ranging between about 3,600 and 5,600 feet above mean sea level. The project area contains lands administered by the BLM, the Ewiiaapaayp Reservation, the Campo and Manzanita Reservations (access only), the California State Lands Commission (CSLC), and privately-owned parcels under the jurisdiction of the County of San Diego. The Region and Vicinity is shown in **Figure 2.0-1**.

The project is located within the BLM Eastern San Diego County Planning area and the County of San Diego Mountain Empire Community Planning Area. The project area is on a large portion of the BLM McCain Valley National Cooperative Land and Wildlife Management Area. The area is primarily characterized by open space with very low-density population and small-scale agriculture operations scattered throughout the surrounding area, typically dry land farming or grazing.

Surrounding Land Use Characteristics

The area is surrounded by the Manzanita, La Posta, and Campo Reservations to the west and southwest, Anza-Borrego Desert State Park approximately six miles to the east, BLM lands to the north and east, and private property to the south of the project. The Campo Indian Reservation currently has an existing wind farm owned by Babcock & Brown located southwest of the proposed project, atop of the Tecate Divide.

2.4 PROJECT DESCRIPTION

Iberdrola Renewables is proposing to construct and operate the Tule Wind Project located near Boulevard, California. The proposed project will consist of wind turbines, an overhead and underground electrical collection system and transmission line, a project collector substation, an operation and maintenance building, transportation haul routes and access roads, a concrete batch plant , a parking area, laydown (staging) areas, meteorological towers, and a sonic detection and ranging system (SODAR) unit. The project area encompasses approximately 25,500 acres. However, the construction footprint of the project would impact a maximum of 773 acres, and does not include the entire parcels, as shown in **Figure 2.0-1.** The majority of the project would be built on federal BLM lands although turbines and other project components are also proposed on lands owned by the Ewiiaapaayp Reservation, Manzanita and Campo Reservation (access only), as well as lands owned by the CSLC and privately-owned lands.

Figure 2.0-1. Region and Vicinity

The Tule Wind Project will consist of the following project components:

- Up to 134 wind turbines, ranging in size between 1.5 MW (328 feet in height) and 3.0 MW (492 feet in height), to produce 200 MW of electricity;
- A 34.5 kilovolt (kV) overhead and underground collector cable system linking each turbine to the next and to the project collector substation;
- A 138 kV overhead transmission line will run south from the project collector substation to be interconnected with the SDG&E proposed Rebuilt Boulevard Substation;
- A 5-acre collector substation site and 5-acre operation and maintenance (O&M) building site;
- Access roads between turbines, as well as improvements to existing roadways and new roadways to accommodate construction and delivery of equipment;
- A temporary batch plant for construction located on a 5 acre area;
- A temporary 10-acre parking area;
- Nineteen 2-acre temporary laydown areas; and
- Two permanent meteorological towers and one SODAR Unit.

The maximum build-out of the project allows for up to 134 1.5 MW turbines. In order for the project to function at full capacity (200 MW), a minimum of 67 3.0 MW turbines would be necessary. Turbines with a smaller output can be spaced closer together, whereas turbines with a larger output require larger spacing; nonetheless the total project extent is similar in both cases. The turbine locations include 97 wind turbines on BLM land, 17 turbines on Tribal lands, 7 turbines on State lands, and 13 wind turbines on private parcels (Rough Acres Ranch), as illustrated in **Figure 2.0-2**, Proposed Project.

Iberdrola Renewables is required to obtain a right-of-way for the development of an energy project on federal lands. Iberdrola Renewables was issued a temporary Right-of-Way (ROW) (Serial Number CA-45248) by the BLM for wind testing and monitoring in 2004, which was updated in 2007. Iberdrola Renewables is requesting a ROW for a period of no less than 30 years. The portions of the project that are on private lands are subject to a Major Use Permit (MUP) through the County of San Diego. An MUP was submitted to the County of San Diego in October 2009 and is pending approval. Iberdrola Renewables has also applied to lease a state-owned parcel administered by the California State Lands Commission.

2.4.1 Project Components

Wind Turbines

The proposed project includes the construction and operation of up to 134 wind turbines, ranging in output from 1.5 to 3.0 MW. The brand of turbines has not yet been determined. Each turbine will be three bladed, with an upwind horizontal-axis, with a rotor diameter of up to 328 feet. Each turbine will be a maximum of 492 feet tall, as measured from the ground to the turbine blade tip, and will be mounted on a concrete foundation. Each turbine will have a turbine rotor and nacelle mounted on top of its tubular tower, for a rotor hub height of up to 328 feet. Computer systems inside each turbine would perform self-diagnostic tests and allow a remote operator to set new operating parameters, perform system checks, and ensure turbines are operating at peak performance. Turbines would automatically shut down if sustained winds reach 50 miles per hour (mph) or gusts reach about 56 mph. Turbines would automatically shut

down if sustained winds or gusts exceed predetermined maximum operating parameters. Each turbine and the proposed MET towers have been assigned a unique alpha-numeric identification code for design and tracking purposes and are shown on **Figure 2.0-2**.

A preliminary diagram of the proposed turbine tower design is illustrated in **Figure 2.0-3a** and a typical turbine site is shown in **Figure 2.0-3b.**

Each turbine work area will require up to a 200-foot radius to be cleared and graded depending on the site topography. The 200-foot radius would allow flexibility in the design of the final turbine layout, in case a turbine needs to be relocated based upon site conditions. Each turbine will be supported by a permanent wind tower foundation measuring approximately 60 feet in diameter, and 7 to 10 feet in depth, and is estimated to use approximately 275 to 707 cubic yards of concrete (depending on the final size of the turbines used). A geotechnical engineer will determine the specifications regarding foundation strength and location as determined by soil testing.

The project proposes a 200-feet permanent impact around each turbine, which will be revegetated upon completion of construction. Upon completion of construction, with the exception of an area 60 feet in diameter (gravel up to a 10-foot radius to provide surface stabilization), the 200-foot cleared area would be revegetated with fire safe (non-combustible), low fuel vegetation, in a spacing and height configuration consistent with fire agency standard practices for a distance necessary to provide a minimum of 100 feet of fuel management from the turbine base and/or transformer.

To minimize visual impacts, all turbine components (towers, nacelles, and rotors) will be painted or finished using low-reflectivity, neutral white colors in compliance with Federal Aviation Administration (FAA) rules. Turbine facility lighting will be minimized to reduce the potential for attracting night-migrating songbirds and similar species (while still meeting FAA requirements).

Turbine and transmission towers will be tabular rather than lattice design to eliminate bird perching and nesting opportunities provided by the lattice structure. Other design factors will be determined by the suitability of soils and geology content.

Project Electrical System

The project's electrical system will consist of three key elements: (1) an overhead and underground collector system, which will connect the wind turbines at a voltage of 34.5 kV; (2) the project collector substation, where the voltage will be increased from 34.5 kV to 138 kV; and (3) a 138 kV transmission line which will deliver the electricity to the SDG&E proposed Rebuilt Boulevard Substation located off-site on Old Highway 80.

There are two collector substation locations proposed on BLM land, the "proposed" collector substation and the "deviant" collector substation. Both substation locations are south of McCain Valley Road, with the deviant substation located 0.6 miles southwest of the proposed substation. The deviant substation location is a potential alternate to the proposed, and as part of the proposed project is not a separate alternative. The deviant substation is included in the project to provide flexibility in the project design to minimize impacts to view sheds and natural resources due to topography. For each of the two proposed substation locations, the collector lines, transmission lines, and roadway land disturbance impacts alter slightly; however, the deviant collector substation yields a higher potential impact for the entire project, with all project components considered. Therefore, the proposed project utilizing the deviant substation is used to show the maximum impacts for the project.

Figure 2.0-2. Proposed Project

Figure 2.0-3a. Preliminary Turbine Tower Design

Figure 2.0-3b. Typical Turbine Site

Iberdrola Renewables will construct and operate the portion of the 138 kV transmission line from the Tule project collector substation to the SDG&E proposed Rebuilt Boulevard Substation. As part of a separate project, the Boulevard Substation is proposed to undergo expansion as part of SDG&E's area upgrades to the East County Substation.

The electrical collection and distribution system will be designed to be in compliance with Rule 250 of the National Electric Safety Code (NESC), which covers all wind and ice loading requirements for overhead lines. Pole design will comply with the Avian Powerline Interaction Committee (APLIC) "Suggested Practices for Avian Protection on Power Lines" and anti-perching devices will be utilized where poles are within 0.5 miles of turbines.

Overhead Collector System

Portions of the project's electrical collector system will be aboveground due to the rugged topography of the project area. The aboveground system will be utilized to avoid streams and wetlands, impacts to soils with low thermal conductivity, rocky conditions, or where multiple parallel underground cables would be needed. The 34.5 kV overhead collector system will be supported by a maximum of 250 wood or steel poles that will be 60 to 80 feet in height and 2 feet in diameter, with single and double circuit collectors. Regardless of whether the proposed or deviant substation is utilized, the maximum pole count for the overhead collector system would not exceed 250 poles, which would require a 24-foot width corridor to erect the power lines and construct the pole foundations. A typical overhead 34.5 kV single circuit collector line is presented in **Figure 2.0-4a** and a typical 34.5 kV double circuit collector line is presented in **Figure 2.0-4b**.

Underground Collector System

Portions of the electrical collector system will also be underground, as illustrated in **Figure 2.0-2,** Proposed Project. The underground collection system will consist of a network of 34.5 kV circuits which collect power and energy from the wind turbine generators and deliver it to the project collector substation. Each circuit will consist of three 35 kV cables with sizes that will vary with the designed electrical load. All cables will have stranded aluminum conductors, cross-linked polyethylene insulation, and a copper concentric shield neutral ground wire in black polyethylene jacket. Each circuit will also have a bare copper or copper-clad trench neutral ground wire. Each circuit will typically include a fiber optic cable for wind turbine generator management and control. The three cables that comprise each circuit are placed in the trench in a tight trefoil configuration and backfilled with select soil from the trench excavation. Trenches will measure 42 to 50 inches in depth with a width of 12 inches. No conduits are used, except for riser poles.

The select backfill is free of rocks and debris, and each 3-phase cable trench will be separated from all other cable trenches by a minimum of 10 feet, 6 inches. The remainder of trench will be backfilled with excavated soil in 12-inch lifts and compacted to near original density. A typical trench cross section drawing is shown in **Figure 2.0-5**, Below Ground Collector Line. Additionally, concrete or fiberglass vaults and splice boxes will be placed at necessary locations, with locked lids to prevent public access. The vaults will be approximately 5x5x8 feet, and will be placed 2,500 feet apart.

138 kV Transmission Line

The overhead 138 kV transmission line will begin at either the proposed project collector substation or the deviant collector substation and run south on either side of McCain Valley Road, and across I-8 to the SDG&E proposed Rebuilt Boulevard Substation located on Old Highway 80. The transmission line will

be constructed as a single circuit without any under build attachments and would be a maximum of 9.7 miles.

A maximum of 116 steel galvanized or weathered steel finish transmission poles will be necessary to support the 138 kV transmission line. Regardless of whether the proposed or deviant substation is utilized, the maximum pole count for the 138 kV transmission line would not exceed 116 poles. The steel galvanized or weathered steel finish poles supporting the transmission line will be approximately 74.5 feet in height; with typical span length of 600 feet and a maximum length of 700 feet. A cable pole and underground cable will also be required to connect the 138 kV transmission line to the SDG&E proposed Rebuilt Boulevard Substation. The cable pole will be an additional 40 feet higher than the typical steel pole presented in **Figure 2.0-6**. Transmission line pole foundations will be 8 feet in diameter by 25 feet deep.

The length (in miles) of the proposed 138 kV transmission line totals 9.74 miles with 7.42 miles on BLM lands, 0.36 miles of State of California lands, and 1.96 miles on County of San Diego lands, with no transmission lines located on tribal lands.

The proposed transmission line and poles will be within a 100-foot ROW easement, as required by SDG&E, and are shown in **Figure 2.0-6**, Typical 138 kV Steel Tangent Pole.

Conductors

The 138 kV transmission line will have three conductors supported by insulators on single-shaft steel poles that will either be galvanized or coated with a weathered steel finish to resemble wood. This is a standard industry conductor identified as "Pheasant." The use of a non-specular finish is not planned. Minimum ground clearance is planned to comply with the engineering specifications of 30 feet under final sag and a conductor temperature of 212ºF. Vertical clearance between conductors will be 12 feet and horizontal clearance will exceed 12 feet. This spacing is determined by conductor movement envelopes at mid span, and the clearance required that would avoid unintended electric arcing or "flashover". The CPUC General Order (G.O.) 95 clearance requirements will be applied to the design at highways and other special crossings.

It is anticipated that the average span length between transmission line poles will be 600 feet, and that the maximum span length will be 700 feet. The poles will support a fiber optic shield wire at the pole top. This cable will shield the 138 kV conductors from lightning strikes and carry communication lines.

Collector Substation

The collector substation site will be located on a 5-acre area and will include an approximate 3-acre graveled, fenced area with transformer and switching equipment, with a parking area for utility vehicles. The location of the proposed and deviant collector substations are shown in **Figure 2.0-2**, Proposed Project. The substation equipment will have two (138 kV and 34.5 kV) 100 megavolt ampere (MVA) power transformers that are connected through 138 kV circuit breakers to a common 138 kV transmission line within the substation.

The low side of each transformer is connected through a 34.5 kV circuit breaker to a split 34.5 kV bus. Each side of the 34.5 kV bus will have up to eight feeder positions, with each feeder protected with a circuit breaker. At this time, it is anticipated that all 138 kV and 34.5 kV equipment will be the outdoor type. A Typical 200 MW Collection Substation Plan View is shown in **Figure 2.0-7a**, a Typical 200 MW Collection Substation Plan View is shown in **Figure 2.0-7b**, and a Typical 200 MW Collection Substation One-Line Diagram is shown in **Figure 2.0-8**.

Figure 2.0-4a. Typical Overhead 34.5 kV Single Circuit Collector Line

Figure 2.0-4b. Typical Overhead 34.5 kV Double Circuit Collector Line

Figure 2.0-5. Typical Below Ground Collector Line

Figure 2.0-6. Typical 138 kV Steel Tangent Pole

Figure 2.0-7a. Typical 200 MW Collection Substation Plan View

Figure 2.0-7b. Typical 200 MW Collection Substation Profile View

Figure 2.0-8. Typical 200 MW Collection Substation One Line Diagram

Operation and Maintenance Facility

The operation and maintenance facility will be located adjacent to the proposed or deviant collector substation. Both locations are south of McCain Valley Road, with the deviant location 0.6 miles southwest of the proposed substation. The project will include a 5-acre site within which a 5,000 square foot pre-engineered one-story metal O&M building will be located. The building will be surrounded by a 4-acre cleared area. The O&M building will house operational services and critical spare parts. The O&M building will include a foundation, with electrical and heating, ventilation, and air conditioning (HVAC) systems. The O&M site will also include a septic system and groundwater well to provide up to 5 gallons per minute of potable water. Once the project is operational, the O&M building is estimated to use approximately 2,500 gallons per day of water. A typical O&M Facility site and design are shown in **Figures 2.0-9a** and **2.0-9b**.

Roads

To facilitate construction activity, existing and new access road improvements will include widening from approximately 16 to 20-foot widths to 36-foot widths to accommodate large cranes and equipment delivery. The access roads will be restored from the 36-foot temporary width (accommodates large equipment and deliveries) to the widths identified below, after the turbines have been installed.

Upon completion of construction activity, existing and proposed access roads located on land under the jurisdiction of the County of San Diego will be improved to comply with the Department of Public Works Private Road Standard of 24 feet (28 foot graded extent). The main project roads (Ribbonwood Road and McCain Valley Road) throughout the project site will be improved to a maximum of 20 feet to comply with the California Fire Code Standards. Spur roads to the turbines will be improved to a maximum of 18 feet wide to comply with State Responsibility Areas (SRA) Fire Safe Regulations.

Due to the low overpass of I-8 over McCain Valley Road, the primary access for large trucks to the eastern portion of the project area during construction will be Ribbonwood Road, with other smaller vehicles utilizing McCain Valley Road. Off-site roadway improvements and a new roadway will be necessary to provide access to Rough Acres Ranch from Ribbonwood Road. The new roadway connecting Rough Acres Ranch to Ribbonwood Road will require agreements with private land owners in the area. Access to the western portion of the project area will be from the Crestwood Road exit and will run through the Campo and Manzanita Indian Reservations, although an agreement has not been completed at this time.

Any new access roads will follow natural contours and minimize side hill cuts to the extent possible. New roads will be designed to maintain current surface water runoff patterns to prevent erosion. Soil erosion will be controlled at culvert outlets and catch basins and roadway ditches, and culverts will be maintained and cleaned on a regular basis. Roads will be located away from drainages and wetlands where possible to avoid or reduce impacts to these resources.

Prior to construction, Iberdrola Renewables will develop a road management plan to comply with BLM, California Department of Transportation (Caltrans) requirements, and County standards for road design, construction, and maintenance. Additionally, a ground transportation plan will be completed to address transportation activities such as the delivery of turbine components, main assembly cranes and other large pieces of equipment to reduce impacts to off-site traffic flow.

Concrete Batch Plant

During construction there will be a temporary concrete batch plant located on a 5-acre site. The batch plant is necessary to mix concrete for the foundations of the turbine towers, the project collector substation, and the O&M facility. The batch plant would consist of a mixing plant, areas for aggregate and sand stockpiles, driveways, and a truck load-out and turnaround area. The batch plant would include cement storage silos, water and mixture tanks, aggregate hoppers, and conveyors and augers to deliver different materials to the mixing plant. The batch plant will be removed and the site will be revegetated once construction is complete.

Laydown and Parking Areas

Construction activities will utilize approximately nineteen 2-acre laydown (staging) areas, generally located at one end of each turbine string during construction. A 10-acre parking area for construction personnel will be located on Rough Acres Ranch. During construction, the staging areas will be fenced and gated to control access and limit damage or theft of stockpiled material and equipment. The staging areas may be graveled depending upon site soils conditions. Both the laydown areas and the parking area will be removed upon completion of construction and revegetated to its natural state. Locations of laydown areas and the proposed 10-acre parking area are shown in **Figure 2.0-2**, Proposed Project.

Meteorological Towers

Two permanent meteorological (MET) towers are proposed part of the project to monitor wind speed and direction. The towers will be free standing (no guy wires) lattice structures, and will be approximately 196.80 feet high with a concrete foundation. As part of the project, there are two proposed locations for the MET towers as well as two alternate locations. The proposed and alternate MET Towers are located in eastern and western locations; the proposed are shown as PM-E-1 and PM-W-2 and the alternates as PM-E-2 and PM-W-1. The location of the proposed and alternate MET towers is shown in **Figure 2.0-2,** Proposed Project.

A permanent SODAR unit will also be placed on site. The SODAR unit will be a free standing structure. Its location is currently proposed at approximately 328 feet west of met tower PM-W-2. The SODAR measures the wind profile from 49.2 to more than 650 feet in 32 feet increments using pulses of sound. The SODAR unit is approximately 9 feet high, 6 feet wide and 10 feet long and would be housed in a trailer capable of being transported to the site by a truck. The trailer would be sited on a raised concrete platform and fenced to prevent unauthorized access.

Communication System

A Supervisory, Control and Data Acquisition (SCADA) system will be installed at the project to collect operating and performance data from each wind turbine and for the project as a whole. The SCADA will also allow for remote operation of the wind turbines. The wind turbines will be linked to a central computer via a fiber optic network. The fiber optic cabling will use the same path as the collector system. The host computer is expected to be located in the O&M building. The SCADA software consists of applications developed by the turbine manufacturer or a third-party SCADA vendor.

2.4.2 Project Land Disturbances

As described above, the project is estimated to have temporary and permanent surface land disturbances from the construction of the project components, as shown in **Table 2.0-1**. There is a difference between the potential temporary and permanent impacts for each project component and the total disturbed area

Figure 2.0-9a. Typical Operations and Maintenance Facility

Figure 2.0-9b. Typical Operations and Maintenance Facility Elevations

due to the fact that some project components fall into the same disturbance footprint, thus creating overlap. For example, some of the project components overlap when combined together such as: the new access roads with a 24-foot disturbed area intersecting with the turbines' 200-foot radius. This overlap gives a higher calculation that distorts the overall project surface land disturbances. In an effort to show the breakdown of the land disturbances for each of the project components and an overall total of surface land disturbance for the project, **Table 2.0-1** presents a calculated total (Total Disturbed Area) with the overlapping areas removed. The total disturbed area is not the sum of the individual project components.

Table 2.0-1. Proposed Project Estimate of Surface Land Disturbance

Project Component	Quantity*	Area Disturbed per Feature	Disturbance Type	Proposed Project	Proposed Project with Deviant Substation
Turbine	134	400-foot diameter	Perm	386.57	386.57
Transmission Line	1	24-foot width	Temp	26.37	28.33
Transmission Line Poles	108 (116)	50 feet x 150 feet	Temp	18.26	19.71
Transmission Line Poles	108 (116)	8-foot diameter	Perm	0.12	0.13
Overhead Collector Line	1	24-foot width	Temp	25.12	27.36
Collector Poles	232 (250)	2-foot diameter	Perm	0.02	0.02
Underground Collector Line	1	24-foot width	Temp	83.09	84.17
New Roads	89 (90)	36 feet	Temp	60.43	61.23
New Roads	89 (90)	20 feet (28 ft. on County lands)	Perm	91.00	92.00
Improvements to Existing Roads	21	20 feet	Temp	23.00	23.00
Improvements to Existing Roads	21	20 feet (28 ft. on County lands)	Perm	74.10	74.10
Collector Substation	1	5 acres	Perm	5.00	5.00
O&M Facility	1	5 acres	Perm	5.00	5.00
Parking Lot	1	10 acres	Temp	10.00	10.00
Batch Plant	1	5 acres	Temp	5.00	5.00
Staging Area (Laydown Areas)	19	2 acres	Temp	38.00	38.00
Met Tower	2	700 sf	Temp	0.032 (1,400 s.f.)	0.032 (1,400 s.f.)
Met Tower	2	900 sf	Perm	0.041 (1,800 s.f.)	0.041 (1,800 s.f.)
SODAR	1	700 sf	Temp	0.016 (700 s.f.)	0.016 (700 s.f.)
SODAR	1	900 sf	Perm	0.021 (900 s.f.)	0.021 (900 s.f.)
Totals		Acres Disturbed (Temporary)		223.6	229.9
		Acres Disturbed (Permanent))		541.7	542.7
		Total Disturbed Area		765.3	7 772.7

Source: HDR GIS
*( ) = the quantity utilizing the Deviant Substation

During operation of the project, the primary access to the project area will be McCain Valley Road. The total disturbed area resulting from new roadways and upgrades to existing roadways are anticipated to be a maximum of approximately 250.33 acres. As shown in **Table 2.0-2** below, approximately 84.2 acres will be disturbed as a result of temporary improvements to provide access to the turbine sites for construction, and approximately 165.1 acres will be permanently disturbed, after the restoration of temporary disturbed areas have been completed, and all new roadways are constructed. **Figures 2.0-10a** and **2.0-10b** show the Typical Road Designs.

Table 2.0-2. Roadway Disturbances

Type of Road	Description	Disturbed Acreage
Existing Road Improvements	A maximum of 23 existing double-lane roads will be widened by 16 feet for construction purposes.	Temporary: 23.0 acres Permanent: 74.1 acres
New Permanent Roads	A maximum of 114 new dirt roadways will be constructed for access between turbines during construction and throughout operation. Crushed rock may need to be applied in very limited areas for traction.	Temporary: 61.2 acres Permanent: 92.0 acres
Total Roadway Disturbed Area		Temporary: 84.2 acres Permanent: 166.1 acres

Source: HDR GIS

2.4.3 Land Disturbance Impacts by Jurisdiction

The total construction footprint for the project will impact a maximum of 772.7 acres to include 550.4 acres on BLM lands, 89.9 acres on Tribal lands, 39.2 acres on state lands, and 93.3 acres on private land. **Appendix A** of this environmental document presents a general breakdown of the affected parcels including the parcel acreages and proposed impacts by jurisdiction. As with the project land disturbances, overlap occurs giving distorted calculations. **Table 2.0-3** presents the temporary and permanent surface land disturbance impacts by jurisdiction, not included overlap and right-of-way jurisdiction.

Table 2.0-3. Land Disturbances Impacts by Jurisdiction (Acres)

Project Component Construction Footprint Impacts	BLM	Tribal	State	Private	Total
Temporary impacts	186.2	16.2	9.1	18.4	229.9
Permanent impacts	364.2	73.7	30.1	74.8	542.8
Construction Footprint Totals	550.4	89.9	39.2	93.2	772.7

Source: HDR GIS

2.5 CONSTRUCTION ACTIVITIES

Prior to the commencement of construction, field investigations on areas of potential disturbance which were not surveyed due to limited accessibility from the Manzanita and Campo tribes and private property ownership will be performed. Field teams will note any sensitive locations, such as archaeological sites, sensitive watersheds or areas with threatened and endangered species. These sensitive areas will be avoided or mitigated as appropriate. In addition, the construction workforce will be trained to identify and avoid any sensitive areas that have been excluded from development. Special efforts will be made to flag sensitive areas to minimize the potential for accidental disturbance from construction equipment and crews. Project construction will involve the following tasks:

Figure 2.0-10a. Typical Road Design

Figure 2.0-10b. Typical Road Design

- Constructing roads, parking and equipment laydown areas;
- Conducting dust and erosion control;
- Excavating for turbine, meteorological towers, and transformer foundations;
- Leveling areas for setting the erection crane;
- Constructing foundations for the wind turbines, transformers and meteorological towers;
- Transporting tower sections to the site and erecting the towers;
- Installing the nacelle and rotor on the wind turbine tower;
- Trenching for underground utilities and 34.5 kV collection system power cables;
- Building the collector substation and switching station;
- Constructing the O&M building;
- Commissioning and testing the wind turbines;
- Conducting final road grading, final erosion control, and site cleanup;
- Installing 34.5 kV and 138 kV transmission poles and conductors.

Construction Schedule

It is anticipated that the construction phase of the project will start in December 2010 and will continue for 18 to 24 months. **Table 2.0-4** provides the proposed construction schedule.

Table 2.0-4. Proposed Construction Schedule

Project Activity	Start Dates
BLM Record of Decision adopted and effective	December 2010
Acquisition of additional required permits	December 2010 through March 2011
Right-of-way/property acquisition	December 2010
Construction begins	December 2010
Completion of construction	June 2012
Project operational	November 2012
Punch list/clean up	January 2013

Source: Iberdrola Renewables

Construction Communication & Contacts

Prior to construction, Iberdrola Renewables will develop a construction communication plan in consultation with the local Fire Marshal. A list of emergency telephone numbers will be distributed to staff, and all emergencies will be immediately reported to Iberdrola Renewables' on-site construction representative. Specific phone numbers for project construction personnel will be provided to the respective agencies. Any radio units used during construction will comply with Federal Communication Commission's rules and regulations. Iberdrola Renewables staff will adhere to the emergency response procedures in the company's Environmental Health and Safety (EH&S) Manual.

Construction Workforce and Equipment

The project is anticipated to employee up to 325 employees per day during the peak construction period. An average daily peak of 125 employees will be present at the construction site and up to 200 delivery trucks are estimated to be on site depending on the specific stage of construction. A typical day during the peak of the construction would include the transportation of turbines, movement of heavy equipment, and

the transport of material and concrete. Power for construction activities will be supplied by generators or utility supply. Construction activities would occur during hours set by the County for construction noise (7 am to 7 pm), but may involve extended hours, as needed to complete certain construction activities. The origin of the construction trucks and employee trips is anticipated to originate from the west, from the more urbanized areas of the County. **Table 2.0-5** presents the equipment that is typically used for constructing wind facilities. At this time, the use of helicopters for delivery of equipment to remote areas is not anticipated.

Table 2.0-5. Equipment Typically Used for Wind Facility Construction

Equipment	Use
Bulldozer	Road and pad construction
Grader	Road and pad construction
Water trucks	Compaction, erosion and dust control
Roller/compactor	Road and pad compaction
Backhoe/trenching machine	Digging trenches for underground utilities
Excavator	Foundation excavation
Heavy duty rock trencher	Underground trenching
Truck-mounted drilling rig	Drilling power pole holes
Concrete trucks/concrete pumps	Pouring tower and other structure foundations
Cranes	Tower/turbine erection
Dump trucks	Hauling road and pad material
Flatbed & Low-bed trucks	Hauling turbine towers, turbines and components, construction equipment
Pickup trucks	General use and hauling of minor equipment
Small hydraulic cranes/forklifts	Loading and unloading equipment
Four-wheel-drive all-terrain vehicles	Rough grade access and underground cable installation
Rough-terrain cranes / forklifts	Lifting equipment and pre-erection assembly

Source: Iberdrola Renewables

Construction in Sensitive Areas

Construction activities will require the removal of vegetation cover for new roadways, turbine pads, and staging areas for the construction of the 134 wind turbines. Avoidance areas will be staked, flagged or fenced to display boundaries, so that sensitive ecological and archaeological resources will be avoided. Construction personnel will be instructed about these measures and their importance. Strict compliance with exclusion areas will be required.

Turbine Construction

A temporary construction work area will be cleared for each wind turbine tower. Work areas may vary in size, and may be constructed differently in keeping with each site's topography. Each turbine work area will require an up to 200-foot radius to be cleared and leveled. The cleared area is necessary for foundation excavation and construction, assembling turbine sections, and also to stage the construction crane which will hoist turbine sections into place. The turbine construction area will not be paved.

Permanent wind tower foundations will be approximately 60 feet in diameter, and 7 to10 feet deep. Specific dimensions will depend on site needs, as determined by geotechnical investigations. Following soil excavation and compaction, tower foundations will be constructed of structural concrete with appropriate steel reinforcement, as directed by the tower supplier. A 5-foot by 9-foot concrete pad for transformer foundations will also be included.

Approximately 275 to 707 cubic yards of concrete (depending on the size of turbine used) will be incorporated into each turbine foundation pad. During construction, depending on the turbine approximately 7,500 to 15,000 gallons of water per turbine foundation will be needed for concrete mixing. Assuming that two foundations are constructed each day in accordance with the 72-day work schedule; up to 30,000 gallons of water per day would be required. The maximum continuous pumping rate (24-hours per day, seven days per week), required to support concrete mixing for three turbine foundations per day is equivalent to 14.8 gpm.

Water for construction is anticipated to be obtained from three wells located on Rough Acres Ranch and one well located on Ewiiaapaayp land. Other potential sources of water available locally include the State Correctional Facility, Live Oak Springs Water Company, Jacumba Community Service District, and the City of El Centro (effluent water).

The concrete aggregate and sand will be sourced from existing local and permitted quarries. After the aggregate and sand is trucked to the batch plant, it will be placed into stockpiles. Cement, obtained from nearby vendors, will also be delivered by truck and stored in silos. Approximate quantities for raw materials needed for each turbine installed would include:[1] sand, 375,900 pounds/turbine; aggregate, 572,100 pounds/turbine; and cement, 168,300 pounds/turbine.

Based on the preliminary geotechnical report by Barr Engineering, the following foundation types are considered feasible based on the combination of critical geotechnical, climatological, and mechanical factors:

- **Spread Footing.** The geotechnical report concludes that spread footings should typically be acceptable footing types. A level foundation subgrade is difficult to achieve in bedrock, and the use of lean concrete and engineered fill is often needed to level the bedrock subgrade to facilitate construction of the spread footing.
- **Rock Socket Foundation.** At sites where bedrock is encountered at very shallow depths; i.e., within 1-3 feet of the ground surface, a rock socket foundation may be appropriate. This foundation type may be feasible at some locations. This type of foundation is constructed by blasting an excavation approximately 20 feet x 20 feet x 20 feet into the bedrock, placing an anchor bolt cage and reinforcing in the excavation, and filling the excavation with concrete. The success of this foundation type is highly dependent on the rock strength, rock conditions and blasting techniques. Each individual turbine site needs to be evaluated accordingly.
- **Rock Anchor Foundation.** At sites where strong, massive bedrock is encountered at very shallow depths; i.e., within 1-3 feet of the ground surface, a rock anchor foundation may be appropriate. This foundation type may be feasible at some locations. This type of foundation is constructed by blasting an excavation approximately 25-35 feet in diameter by 7-9 feet into the bedrock, drilling anchors to an approximate depth of 20-50 feet, placing an anchor bolt cage and

[1] Assumes the use of a 1.5 MW turbine

reinforcing in the excavation, and pouring a concrete cap. This type of foundation is also dependent on the rock strength and condition.

- **Patrick and Henderson (P&H) Style Foundation.** P&H style caissons have been constructed in soil and rock conditions similar to those found at the project site and are considered feasible to construct at this project.

To support the construction crane for turbine erection, a compacted-soil crane pad measuring 40 feet by 120 feet with a maximum slope of 1.0 percent is required. The construction crane pad will not be asphalt surfaced, and underlying soils will be compacted to provide a minimum soil bearing capacity of 6,000 pounds per s.f. to provide a stable foundation for the crane. In locations where this is not feasible, crane mats will be used to stabilize the crane.

Collector System (Overhead and Underground) & Transmission Line Construction

An overhead and underground collector system will collect electricity generated at 600-690 volts from each wind turbine, increase the voltage to 34.5 kV through a transformer, and deliver the power to the project collector substation, where the voltage is increased from 34.5 kV to 138 kV, for further delivery via the 138 kV transmission line to the SDG&E proposed Rebuilt Boulevard Substation.

Overhead Collector System Construction

In some cases, aboveground electrical collector systems may be necessary. Aboveground collector lines will use a maximum of 250 wood or steel poles that will be 60 to 80 feet in height; taller heights may be needed depending on topography. Aboveground lines are normally used to span canyons or streams to eliminate the habitat disturbance that trenching causes in these areas.[2] Specific conditions that make it advantageous to run segments of the electrical system aboveground include:

- Steep terrain, where the use of backhoes and trenching machines is infeasible or unsafe;
- Stream and wetland crossings, where an aboveground line can avoid or minimize environmental impacts; and
- The presence of soils with low thermal conductivity (preventing adequate heat dissipation from the conductor) or rocky conditions that significantly increase trenching costs.

Geotechnical studies, to be conducted closer to final project design, will determine where aboveground collector cables will be necessary. Iberdrola Renewables will design all aboveground collector line support structures in keeping with the Avian Protection Plan Guidelines prepared by the U.S. Fish and Wildlife Service (USFWS) and the Edison Electric Institute's Avian Powerline Interaction Committee (APLIC 2005). Iberdrola Renewables will also install anti-perching devices on collector line poles where poles are within 0.5 mile of turbines.

Underground Collector System Construction

The underground collector system will consist of both electrical and communications cables that will be placed in a 1 to 2-foot wide and 3 to 5-foot deep trench, generally along the length of the proposed turbine access roads. Electrical cables will be installed first and the trench will be partially backfilled before

[2] BLM's Wind Energy PEIS notes that overhead lines may be used in cases where burial of lines will result in further habitat disturbances. (Page 2-19 BLM Wind Energy PEIS).

placing communications cables. The topsoil in the trench will be stripped and set aside before the trench is backfilled, with topsoil replaced on the uppermost layer. Typical cable trench details used for construction of the underground electrical system are shown in **Figure 2.0-4**, Below Ground Collector Line.

In rocky areas, blasting may be necessary to loosen rock before the trenches are excavated. A blasting plan will be finalized prior to construction. Explosives will only be used within specified times and at specified distances when the work is located within or nearby sensitive habitat areas. All areas disturbed during trenching for underground lines will be reseeded with native species in accordance with the project's habitat restoration plan. Concrete or fiberglass vaults and splice boxes will be placed at necessary locations. Boxes will have locked lids to prevent public access. The vaults will be about 5 feet x 5 feet x 8 feet, and will be placed approximately 2,500 feet apart.

138 Kilovolt Transmission Line

The 138 kV transmission line will be suspended by a maximum of 116 transmission poles.

Pull and Tension Sites

Pull and tension sites will be required for the construction of long transmission lines, and will be placed at locations no further than five miles from each other. For the Tule Wind Project, pulling sites are dictated by the major line angles, and are therefore more closely spaced. Each pull and tension site will have an area measuring approximately 150 feet x 100 feet; this area is expected to be adequate for this size of project. Each site must be relatively flat and accessible for maneuvering the flat-bed pulling trailer. It is anticipated that there will be seven conductor pulling sites with one at each end of the line and five in between at the major double dead-end line angles.

On one end of a stringing section will be a reel trailer with a conductor capstan and hydraulic break. This equipment is mounted on a flat-bed trailer and is necessary to pay out the conductor under tension so that the conductor does not drag on the ground during installation. At the other end of the stringing section is where the conductor pulling equipment will be located. This equipment will also be mounted on a large flat-bed trailer and consist of a hydraulically-powered capstan and reels to take up the pulling ropes and cables under tension.

Collector Substation Construction

As described previously, the collector substation will be located on a 5-acre parcel, and will be surrounded by a 3-acre graveled, fenced area with transformer and switching equipment, and a parking area for vehicles. Construction will generally consist of the installation of concrete pads and electric transformers. Areas not covered by concrete pads will be surfaced with gravel to minimize erosion and surface runoff, and for fire protection. The substation will be fenced with chain link security fencing to minimize the potential for entry by non-authorized personnel. The fence would be 7 feet tall, covered with fabric, and topped by three strands of barbed wire with a maximum spacing of 5 inches.

Access Road Construction & Improvements

Two haul routes are proposed for the project, the primary construction access and haul route into the project area will be from the I-8 off-ramp at Ribbonwood Road and an additional haul route located off I-8 at Crestwood Road to access the western portion of the project area. The access from Ribbonwood Road will be necessary to accommodate large delivery trucks with a maximum height clearance of

16 feet, 9 inches. McCain Valley Road would not be available as the primary haul route due to the low clearance (15 feet, 1 inch) of the I-8 overpass. However, McCain Valley Road and Old Highway 80 can be used as a secondary access for small vehicles and construction workers.

Due to the large length of the turbine blades and heavy turbine components, roadways, including McCain Valley Road, will require upgrades and modifications to accommodate blade delivery, and large delivery trucks and cranes. To facilitate construction activity, existing and new access road improvements will include widening from approximately 16 to 20-foot widths to 36-foot widths to accommodate large cranes and equipment delivery. The access roads will be restored from the 36-foot temporary width (accommodates large equipment and deliveries) to the widths identified below, after the turbines have been installed.

Upon completion of construction activity, existing and proposed access roads located on land under the jurisdiction of the County of San Diego will be improved to comply with the Department of Public Works Private Road Standard of 24 feet (28 foot graded extent). The main project roads (Ribbonwood Road and McCain Valley Road) throughout the project site will be improved to a maximum of 20 feet to comply with the California Fire Code Standards. Spur roads to the turbines will be improved to a maximum of 18 feet wide to comply with State Responsibility Areas (SRA) Fire Safe Regulations.

Construction of roads on slopes greater than 10 percent will be avoided. Depending on the soil subsurface, surface soils may need to be excavated and replaced with gravel and/or sand to sufficiently establish a stable road base. Roads will be located away from drainage bottoms, wetlands, and erodible soils if practicable, and will be designed to maintain current surface water runoff patterns, and to prevent erosion. Soil erosion will be controlled at culvert outlets with appropriate structures. Catch basins, roadway ditches, and culverts will be cleaned and maintained regularly. If road grade and/or runoff patterns result in added erosion, control measures will be installed to minimize the added erosion.

Fencing

Temporary security fencing will be located around the staging areas, storage yards, and excavation areas during construction to limit public access, or as required by local ordinance.[3] It is anticipated that this fencing will be a 6-foot high chain link structure with additional security wiring located at the top. When construction is complete, the fencing around the staging areas will be removed and the staging areas will be returned to a natural state.

Security fencing will be installed around the perimeter of the project substation and the O&M facility, and will be maintained throughout the life of the project. All turbine tower access doors will be locked to limit public access, with no fencing. Access roads on the BLM portion of the project will not be gated.

Construction Water Usage

Water will be required during the construction phase of the project for tower foundation construction and dust suppression. The project is anticipated to obtain groundwater from three wells located on Rough Acres Ranch property owned by Hamann Properties, approximate locations are shown in **Figure 2.0-2**. Iberdrola Renewables is pursuing an MUP for Groundwater Extraction Operation for water that will be necessary to construct the project.

[3] The current draft County ordinance, if adopted, requires fencing for portions of the project in the County that would not otherwise be proposed.

According to Geo-Logic Associates, Estimate of Available Groundwater Memo, September 7, 2010 (Appendix O), the following lists the anticipated water usage for construction (based on a five-day work week) and the anticipated well water production required for each project component:

- ***Road Construction*** – Up to 120,000 gallons per work day will be required over a 72-day construction period. With continuous water storage, 24-hours per day, seven days per week, it is estimated that well production of 59.5 gallons per minute (gpm) will be required to support this work.
- ***Turbine Foundation Concrete Mixing*** – Depending on the turbine, each foundation will require 7,500 to 15,000 gallons of water per foundation. Assuming that two foundations are constructed each day in accordance with the 72-day work schedule; up to 30,000 gallons of water per day would be required. The maximum continuous pumping rate (24-hours per day, seven days per week), required to support concrete mixing for three turbine foundations per day is equivalent to 14.8 gpm.
- ***Dust Control*** – During construction, 50,000 to 100,000 gallons per working day will be required for dust control on project roads. The maximum continuous pumping rate required for dust control would be 49.6 gpm for an estimated nine-month construction period.

As indicated above, it is anticipated that the water supply source will be available 24 hours per day, seven days per week. The contractors on the project will provide temporary water storage to ensure that there is adequate water supply available for required project water needs.

There will be some overlap of water uses as the project progresses. The initial road construction alone will be conducted until there is sufficient access to begin turbine foundation construction. At that time, with the combination of road construction, turbine foundation concrete mixing and dust control, the estimated peak water use will be approximately 250,000 gallons per day, requiring continuous pumping of 124 gpm (24-hours per day, seven days per week). This peak water demand will drop quickly after the initial road building activity is completed. Without road construction, the peak water demand level is estimated to be about 130,000 gallons of water per day (equivalent to a 65 gpm pumping rate with pumping 24-hours per day, seven days per week). Once the subsequent 72-day turbine foundation work is complete, water demand will be reduced further to a maximum of 100,000 gallons of water per day (50 gpm of continuous pumping 24-hours per day, seven days per week) for the remainder of the nine month construction period requiring water. Subsequent site work is not expected to require additional groundwater supply.

Based on the conservative peak water use requirements of 250,000 gallons per day (associated with road construction, concrete mixing and dust control activities), an estimated continuous supply of water (24-hours per day, seven days per week) will be required from wells pumping at a cumulative continuous rate of 124 gpm. Although there are several wells on the project site, two wells on the project site have been identified as readily available for project use:

- One well is located on Rough Acres Ranch approximately one to two miles north of Interstate 8 between Ribbonwood Road and McCain Valley Road. Drilled in 2009, data provided on the well log for this well indicates that the estimated well yield is 60 gpm. A 72-hour constant rate aquifer pumping test was performed at this well at 50 gpm utilizing the existing pump. Based on the current preliminary test data, there was very little response from pumping in the adjacent observation well, about 30 feet from the pumping well, and therefore it is reasonable to assume that sustained pumping at 50 gpm, at a minimum can be achieved from this well. Further, with a

higher volume pump it may be possible to pump at greater volumes without significant impacts to other adjacent groundwater users;

- One well is located on the Ewiiaapaayp Reservation, about 7 miles north of Interstate 8 on La Posta Road. A 72-hour constant rate aquifer pumping test was conducted at this well at 80 gpm. Based on the preliminary test results it is reasonable to assume that sustained pumping at 80 gpm is feasible at this well location.

There are four potential additional water supply sources available for the project. The State Correctional Facility is located about one half mile north of Interstate 8 off of McCain Road. This correctional facility maintains two wells with estimated production of 45 and 65 gpm. The Live Oak Springs Resort located south of Interstate 8 on Old Highway 80 about ¾-mile northwest of the intersection with Highway 94 may provide a source of water supply. This resort (and water company) operates a well that pumps about 40,000 gallons per day (25 to 30 gpm) and maintains a 100,000 gallon pond, and two large tanks with an additional 50,000 gallons of storage capacity. They have committed to providing 40,000 for immediate use and up to 80,000 gallons per day with additional storage tanks (pers. comm., September 8, 2010); equivalent to 28 to 55 gpm. The Jacumba Community Service District (CSD) also has indicated that their well produces 200 gpm and they will commit up to 40,000 gallons per day to the project (pers. comm., September 8, 2010); equivalent to about 28 gpm. Will serve letters from the Live Oak Springs Resort and Jacumba CSD are attached. Finally, the City of El Centro has indicated that they are willing to sell wastewater plant effluent to the project for use during the construction phase.

Based on the currently available well data, the project site wells are estimated to provide 130 gpm (or about 200,000 gallons per day [continuously pumped 24-hours per day, seven days per week]) of the peak 124 gpm (250,000 gallons) project-required water. Current pumping test results indicate at least 130 gpm can be achieved from the two tested wells, and potential greater volumes with a higher volume pump at the Rough Acres Ranch test well. However, with off-site water from the State Correctional Facility, Live Oak Springs Resort, and Jacumba CSD for purchase, an additional 80,000 to 120,000 gallons of water per day, or approximately 55 to 83 gpm of water could be available to support the project water supply needs; ample water for the nine-month construction period. With these additional off-site sources, the combined on-site and off-site water could be equivalent to an estimated 213 gpm could be made available in support of the project. In addition, wastewater plant effluent may be available from the City of El Centro for purchase. It is concluded that there is ample water available from on- and off-site sources to support the project water supply needs.

Construction Waste and Hazardous Materials

Construction wastes will consist primarily of concrete waste from turbine pad construction, wood waste from wood forms used for concrete pad construction, and scrap metal steel from turbine tower construction. Additional wastes could include erosion control materials, such as straw bales and silt fencing, and packaging materials from associated turbine parts and other electrical equipment. Construction wastewater will be generated from concrete trucks after concrete loads have been emptied. The contractor will be responsible for conducting washdown activities, as appropriate. Portable toilets will be provided for on-site sewage handling during construction, and will be pumped and cleaned regularly by the construction contractor. No other wastewater will be generated during construction.

Construction waste will be minimized by estimating materials needs in advance, and through efficient construction practices. Construction wastes will be recycled when feasible. Steel scrap will be collected and transported to a recycling facility. Wood waste will also be recycled where feasible, depending on size and quantity of scrap and leftover materials. Concrete waste will be used as onsite fill, or at another

site. If there is no reuse option available for concrete waste, it will be removed to a nearby landfill. Packaging waste (such as paper and cardboard) will be separated and recycled. Any non-recyclable wastes will be collected and transported to a local landfill.

No hazardous materials (40 Code of Federal Regulations [C.F.R.] 335) are presently anticipated to be produced, used, stored or disposed of as a result of construction, operation, or decommissioning of the facilities. There will be no cooling towers or other facilities that cause salt deposition. No liquid effluent will be produced. Only minimal amounts of chemicals such as lubricating oils and cleaners for the turbines and pesticides for weed control will be used at the project site. Chemicals will be stored according to applicable requirements and regulations to limit the risk of adverse effects from chemical factors. The risk of a chemical spill is negligible and the impacts of any such spill would be limited because of the small amounts of chemicals that will be transported to the project site.

Iberdrola Renewables will develop a spill prevention, control and countermeasure (SPCC) plan that identifies where hazardous materials and wastes will be stored on site, spill prevention measures to be implemented, training requirements, appropriate spill response actions for each material or waste, the locations of spill response kits on site, a procedure for ensuring that the spill response kits are adequately stocked at all times, and procedures for making timely notifications to authorities.

Iberdrola Renewables will develop a hazardous materials management plan that addresses storage, use, transportation, and disposal of each hazardous material anticipated to be used at the site. The plan will establish:

- Inspection procedures;
- Storage requirements;
- Storage quantity limits;
- Inventory control;
- Nonhazardous product substitutes; and
- Disposition of excess materials.

The hazardous materials management plan will also identify requirements for notices to federal and local emergency response authorities, and will include emergency response plans. Iberdrola Renewables will consider off-site recycling opportunities to the greatest extent possible and develop a Waste Management Plan prior to the project construction.

2.5.1 Construction Plans

A wetland delineation survey has been completed to identify where hydrological features are located within the construction footprint of the project to avoid these areas. A biological survey has been completed to identify areas with threatened or endangered species. Additionally, a cultural survey has been conducted, excluding some areas which property access has not been granted to identify sensitive locations such as archaeological sites and historic sites. These sensitive areas will be avoided to the greatest extent possible or mitigated as appropriate. Final construction plans will be created based upon the results of these studies. Prior to the start of construction, the following plans will be completed:

Grading Plan

A Preliminary Grading Plan has been completed for the portion of the project under the jurisdiction of the County. This grading plan was prepared to meet the requirements of the MUP. A Final Grading Plan will

be required prior to construction for the County portion and the rest of the project area. To the extent possible, the project will be sited away from wetlands, drainages critical habitat areas, and other sensitive locations.

The locations of grading and proposed contours will be determined based on the final grading plan for the project. When practical, improving existing roads will be preferred over constructing new roads. The cut and fill required for the access roads will be balanced to the extent possible, to minimize the amount of materials that will need to be brought onto or removed from the site. Access roads will be designed to utilize the flow of the natural contours. Approximate cut and fill volumes will also be determined upon final project design and included in the final grading plan prepared for the project.

Stormwater Management Plan

A Preliminary Stormwater Management Plan (SWMP) will be completed. This SWMP will include sound water and soil conservation practices for construction and operation of the Tule Wind Project to protect topsoil and adjacent resources and to minimize soil erosion. To minimize erosion during and after construction, Best Management Practices (BMPs) for erosion and sediment control will be utilized. At this time it is anticipated that water will be utilized for dust control, although chemical dust control may be considered at a later date. The Preliminary SWMP will be based on the preliminary grading plan completed for the portion of the project in County jurisdiction. A Final SWMP prepared in accordance with the Clean Water Act (CWA) and RWQCB requirements will be prepared after project engineering is completed and prior to construction, and upon the completion of the Final Grading Plan.

Road Management Plan

A road management plan will be developed and finalized prior to the commencement of construction activities. To the extent practicable, this plan will address BLM standards for road design, construction, and maintenance, as described in the BLM 9113 Manual (BLM 1985), and the Surface Operating Standards for Oil and Gas Exploration and Development (Fourth Edition 2006). Given the size of wind turbine components and cranes, some of the BLM design standards may need to be adjusted to the special conditions of this project. The project will also adhere to Caltrans and County standards in areas of their jurisdiction.

Ground Transportation Plan

A ground transportation plan will be developed and finalized prior to the commencement of construction activities. The plan will address transport of turbine components, main assembly cranes, and other large pieces of equipment. The ground transportation plan will consider specific object sizes, weights, and unique handling requirements, and will evaluate alternative transportation approaches. The plan will also identify the process for complying with state requirements and for obtaining necessary permits.

Traffic Management Plan

A traffic management plan will be developed and finalized prior to the commencement of construction to ensure that no hazards will result from the increased truck traffic and traffic flow will not be adversely impacted. Transportation activities will be managed to minimize impacts to normal off-site traffic flow.

Noxious Weeds and Invasive Species Control Plan

A noxious weeds and invasive species plan will be developed and finalized prior to the commencement of construction activities. The plan will address monitoring and educating personnel on weed identification, and methods for avoiding and treating infestations. Use of certified weed-free mulching will be required. Iberdrola Renewables will work with the BLM, State, and County to obtain seeding specifications to be compliant with required standards.

If trucks and construction equipment arrive from locations with known invasive vegetation problems, a controlled inspection and cleaning area will be established to visually inspect construction equipment arriving to the project area and to remove and collect seeds that may adhere to tires and other equipment surfaces.

Habitat Restoration Plan

A habitat restoration plan will be developed and finalized prior to the commencement of construction activities to minimize or mitigate negative impacts on vulnerable plants and wildlife.

After construction is complete, Iberdrola Renewables will work to restore vegetation and habitat to pre-construction standards for all disturbed areas. Topsoil from excavations and construction activities will be segregated from sub-soil and reapplied to the surface of the ground during reclamation. In order to reestablish plant communities of most value to wildlife, the appropriate weed-free native grasses, forbs, and shrubs will be used. Reclamation activities will be undertaken as early as possible on disturbed areas. Additional reclamation measures will be developed to address site-specific conditions as necessary.

Blasting Plan

As part of the project design, a blasting plan will be prepared for each potentially impacted site. The blasting plan will include identification of planned blasting locations, a description of the planned blasting methods, an inventory of receptors potentially affected by the planned blasting, and calculations to determine the area affected by the planned blasting. The actual peak sound pressure level, as well as the duration, rise time and decay time, depend upon the magnitude of the blast, the local environment and propagation characteristics. As will any other sound pressure level, the magnitude falls as distance from the blast increases.

2.6 OPERATION AND MAINTENANCE ACTIVITIES

The project is expected to be supported by up to 12 permanent full-time employees who will be present on-site during normal business hours. The O&M building will require the construction of a groundwater well to provide up to 5 gallons per minute of potable water. Once the project is operational, the O&M building is estimated to use approximately 2,500 gallons of water per day for employee water and sewer uses.

Each turbine would be serviced periodically (e.g., twice a year), or as needed. Inoperative turbines will be repaired, replaced, or removed in a timely manner. Typical turbine servicing activities would include temporarily deploying a crane within the construction easement of each turbine, removing the turbine rotor, replacing generators, bearings, and deploying personnel to climb the towers to service parts within the turbine.

Computer systems inside each turbine would perform self-diagnostic tests and allow a remote operator to set new operating parameters, perform system checks, and ensure turbines are operating at peak performance. Turbines would automatically shut down if sustained winds or gusts exceed predetermined set points.

Iberdrola Renewables has adopted a corporate policy regarding siting, designing, construction and operation of wind projects in an environmentally sustainable manner. All control and mitigation measures established for the project and the resource-specific management plans will be maintained and implemented throughout the operational phase, as appropriate. A monitoring program will be developed to ensure environmental conditions are monitored during the operation and decommissioning phases. The monitoring program will include adaptive management strategies to reflect improved technology that may emerge or the need to adjust the project to minimize the actual impacts of the project throughout operation. These control and mitigation measures will be reviewed and revised, as needed, to address changing conditions or requirements at the site, throughout the operational phase. This adaptive management approach will help ensure that impacts from operations are kept to a minimum.

Ongoing ground transportation planning will be conducted to evaluate road use, minimize traffic volume, and ensure that roads are maintained adequately to minimize associated impacts. Special attention will be focused on areas of high traffic.

Minimal waste will be generated at the project site during operation. Waste from the O&M building (e.g., paper, cans, and bottles) will be collected and recycled as appropriate. The only other source of waste will be incidental waste from repair or replacement of electrical or turbine equipment. No industrial wastewater will be generated during project operations. Project O&M staff will maintain a positive external appearance of facilities. On-site equipment will include utility vehicles and other equipment that are necessary for operations. Operations personnel will be responsible for the waste management program, ensuring that solid waste is disposed in dumpsters, and that any hazardous wastes are properly disposed in accordance with the waste management plan and applicable rules.

2.7 DECOMMISSIONING

Iberdrola Renewables will develop a decommissioning plan for the project prior to the commencement of construction activities. The decommissioning plan will be revised prior to the termination of the right-of-way authorization and implemented once project operations have ceased. The decommissioning plan will include a site reclamation plan and monitoring program. It is anticipated that requirements in effect at that time will require that all turbines and ancillary structures be removed from the site. However, the final decommissioning plan will be developed in compliance with the standards and requirements for closing a site at the time decommissioning occurs.

When the facility is retired or decommissioned, the turbine towers will be removed from the site and the materials will be reused or sold for scrap. Decommissioning activities are anticipated to have similar types of construction-related activities. Therefore, all management plans, BMPs, and stipulations developed for the construction phase of the project will be applied to the decommissioning phase of the project.

After facilities have been removed and the site is returned to pre-construction and operation conditions Iberdrola Renewables will implement a habitat restoration plan, similar to the plan utilized during construction. Topsoil from all decommissioning activities will be salvaged and reapplied during final reclamation. All areas of disturbed soil will be reclaimed using weed-free native shrubs, grasses, and

forbs. The vegetation cover, composition, and diversity will be restored to values commensurate with the area's ecological setting.

2.8 PROPOSED PROJECT DESIGN FEATURES AND BEST MANAGEMENT PRACTICES

Iberdrola Renewables is committed to avoiding or minimizing project related environmental effects to the greatest extent possible. As part of Iberdrola Renewables' commitment to avoid and minimize impacts, specific Project Design Features and BMPs have been included into the project to ensure that potential adverse impacts of wind energy development are avoided (if possible), minimized, or mitigated to acceptable levels. The Project Design Features and BMPs for the proposed project have been developed in accordance with the BLM Wind Energy Development Program Policies and include many of the BMPs recommended in the Final Programmatic Environmental Impact Statement on Wind Energy Development on BLM lands in the Western United States (2005). The Project Design Features and Best Management Practices for the Tule Wind Project are outlined in **Table 2.0-6**.

Table 2.0-6. Proposed Project Design Features and Best Management Practices

Aesthetics
BLM Requirements • The public shall be involved and informed about the visual site design elements of the proposed wind energy facilities. Possible approaches include conducting public forums for disseminating information, offering organized tours of operating wind developments, and using computer simulation and visualization techniques in public presentations. • Turbine arrays and turbine design shall be integrated with the surrounding landscape. Design elements to be addressed include visual uniformity, use of tubular towers, proportion and color of turbines, non-reflective paints, and prohibition of commercial messages on turbines. • Other site design elements shall be integrated with the surrounding landscape. Elements to address include minimizing the profile of the ancillary structures, burial of cables, prohibition of commercial symbols, and lighting. Regarding lighting, efforts shall be made to minimize the need for and amount of lighting on ancillary structures. Applicant Proposed • Use of wind turbine towers, nacelles, and rotors that are locally uniform and that conform to high standards of industrial design to present a trim, uncluttered, aesthetic appearance. • Use of low-reflectivity, neutral white finishes for the towers, nacelles, and rotors to minimize contrast with the sky backdrop and to minimize the reflections that can call attention to structures in the landscape. • Use of neutral gray, white, off-white, or earth tone finishes for the small cabinets containing pad-mounted equipment that might be located at the base of each turbine, to help the cabinets blend into the surrounding ground plane. • Restriction of exterior lighting on the turbines to the aviation warning lights required by the FAA, which will be kept to the minimum required number and intensity to meet FAA standards. • Placement of much of the facility's electrical collection system underground (as much as possible), minimizing the system's visual impacts. • Use of a low-reflectivity finish for the exterior of the O&M facility building to maximize its visual integration into the surrounding landscape. • Restriction of outdoor night lighting at the O&M facility and the substation to the minimum required for safety and security; sensors and switches will be used to keep lighting turned off when not required, and all lights will be hooded and directed to minimize backscatter and offsite light trespass. In keeping with the San Diego County Dark Skies Ordinance, Class II lamp source and shielding requirements will be used to illuminate walkways, roadways, equipment yards, parking lots and outdoor security. Fully shielded low pressure sodium lighting will be used on outdoor fixtures to reduce or eliminate detrimental lighting impacts to nearby Astronomical Observatories • Use of a low-reflectivity finish for substation equipment to minimize its visual salience. • Use of dull gray porcelain insulators to reduce insulator visibility. • Use of fencing with a dull finish around the substation to reduce the fence's contrast with the surroundings. • Avoid trees to the extent practical.
Air Quality
Applicant Proposed • The construction contractor(s) shall adhere to all San Diego County Air Pollution Control District (SDAPCD) rules and regulations. • Compliance with SDAPCD Rule 55 for fugitive dust and SDAPCD Rule 61 for handling VOCs shall reduce nitrogen oxides (NOx), and fine and ultra fine particulate matter (PM10 and PM 2.5) emissions during construction. • Implementation of active dust suppression measures during the construction period to minimize the creation of dust clouds; including, but not limited to: applying water at least once per day, or conduct watering as necessary to prevent visible dust emissions from exceeding 100 feet in length in any direction. Increase watering frequency to four times per day if winds exceed 25 mph. Non-toxic soil stabilizers may be utilized to control fugitive dust. • Restrict construction vehicle speeds to 20 miles per hour (mph) on unpaved roads. • Construction workers will be encouraged to carpool to the job site.

- Construction vehicles and equipment will be limited to a maximum of five minutes idling time, when not performing required tasks. Certain vehicles, such as large diesel-powered vehicles, have extended warm-up times following start-up that limit their availability for use following start-up. Where such diesel powered vehicles are required for repetitive construction tasks, these vehicles may require more idling time.
- Heavy-duty diesel equipment engines shall be properly tuned and maintained in compliance with State of California emissions regulations to ensure minimum emissions under normal operation. Construction contractors shall implement this measure to the extent practical.
- Use low-emission construction equipment. The construction contractor(s) shall maintain construction equipment per manufacturing specifications and use low-emission equipment. The construction contractor(s) shall substitute small electric-powered equipment for diesel and gasoline-powered construction equipment where feasible.
- Apply soil stabilizers to construction areas not being utilized.
- Prepare and implement a high wind dust control plan.
- Stabilize previously disturbed areas if subsequent construction is delayed.
- Replace ground cover in disturbed areas as soon as feasible.
- Require 90-day low-NO_x tune-ups for construction equipment.
- Utilize diesel particulate filter on heavy equipment where feasible.
- Vehicles hauling dirt or fill shall be covered with a tarp or by other means.

Biology

Applicant Proposed

The following BMPs will be implemented to minimize impacts during operation:

- *Management of Temporary Stockpiles.* Temporary stockpiles outside the channels or debris basins will be stabilized by compacting or other measures if present at the work site from 1 December to 1 April. Silt fences, berms, or other methods will be used to prevent sediments from being eroded from the temporary stockpile into the adjacent drainage. Temporary stockpiles may be placed in channel bottoms or debris basins if they are located on barren soil or areas with non-native weeds, and are not placed in such a manner that they are exposed to flowing water. No temporary stockpiles will be placed on the channel bed or banks during the period of 1 December to 1 April for more than the duration of the sediment removal work. Permanent stockpiles will be located landward of the 100-year floodplain to the maximum extent feasible.
- *Minimization of Disturbance to Vegetation in Channel Bottom.* Iberdrola Renewables will minimize vegetation removal or reduction from channel bottoms to the least amount necessary to achieve the specific maintenance objectives for the reach. Vegetation removal in the channel bottom will be conducted in a non-continuous manner, allowing small patches of in-channel vegetation to persist provided it will not adversely affect conveyance capacity.
- *Road Base Discharge Avoidance.* Iberdrola Renewables will implement measures to prevent the discharge of road base, fill, sediments, and asphalt beyond a previously established road bed when working adjacent to channels and basin bottoms.
- *Habitat Restoration.* Iberdrola Renewables will restore native vegetation in the affected work areas after construction. Restoration will include planting or seeding native plants that were present prior to the work and/or are compatible with existing vegetation near the work area. Iberdrola Renewables will prepare a restoration plan for the project that specifies the limits of restoration, planting mix and densities, performance criteria for survival and growth, and maintenance and monitoring procedures.
- *Concrete Wash-Out Protocols.* Iberdrola Renewables will implement appropriate waste management practices during on site concrete repair operations. Waste management practices will be applied to the stockpiling of concrete, curing and finishing of concrete as well as to concrete wash-out operations. Waste management practices will be adequate to ensure that fluids associated with the curing, finishing and wash-out of concrete will not be discharged to the channel or basin. Concrete wastes will be stockpiled separately from sediment and protected by erosion control measures so that concrete dust and debris are not discharged to the channel or basin. The appropriate waste management practices based on considerations of flow velocities, site conditions, availability of erosion control materials and construction costs will be used.
- *Management of Fuels and Avoidance of Spills and Leaks.* All fuels, waste oils, and solvents will be collected and stored in tanks or drums within a secondary containment area consisting of an impervious floor and bermed sidewalls capable of holding the volume of the largest container stored within. Iberdrola Renewables will ensure that all equipment operating in

or near a drainage, or in a basin, is in good working condition, and free of leaks. All vehicles will have drip pans during storage to contain minor spills and drips. No refueling or storage will take place within 100 feet (30.5 meters) of a drainage channel or structure. Spill containment materials must be on site or readily available for any equipment maintenance or refueling that occurs adjacent to a drainage. In addition, all maintenance crews working with heavy equipment will be trained in spill containment and response.

- *Prevention of Erosion and Sedimentation.* Design measure such as straw waddles, silt fencing, aggregate materials, wetting compounds, and revegetation of native plant species will be implemented to decrease erosion and sedimentation.
- *Work Cessation during Heavy Rains.* All work will cease during heavy rains, and will not resume until conditions are suitable for the movement of equipment and materials.

The following Avoidance and Minimization Measures (AMM) will be incorporated into the proposed project to avoid, minimize, or mitigate potential impacts to biological resources:

AMM-1	A qualified biologist will regularly monitor construction activities to ensure construction is proceeding in compliance with Iberdrola Renewables proposed environmental mitigation measures as well as those measures required by the regulatory agencies.
AMM-2	Iberdrola Renewables will develop an environmental training program for its construction contractors and personnel. The environmental training will cover the sensitive resources found on-site, flagging/fencing of exclusion areas, permit requirements, and other environmental issues. All construction site personnel will be required to attend the environmental training in conjunction with hazard and safety training prior to working on-site.
AMM-3	A monitoring program would be implemented to ensure environmental conditions are monitored during the operation and decommissioning phases (Iberdrola Renewables 2010). The monitoring program would include adaptive management strategies to reflect improved technology or the need to adjust to a better understanding of the data during the actual impacts of the project.
AMM-4	Nighttime vehicle traffic volume associated with project activities will be kept to a minimum and speeds will be limited to 10 mph to prevent mortality of nocturnal wildlife species.
AMM-5	At the completion of the project, all construction materials will be removed from the site.
AMM-6	Except when not feasible due to physical or safety constraints, all project vehicle movement will be restricted to existing access roads and access roads constructed as a part of the project and determined and marked by the project proponent in advance of construction. Approval from a biological monitor will be obtained prior to any travel off of existing access roads.
AMM-7	During construction and operation of the proposed project, measures will be taken to avoid/minimize the impact of light intrusion into adjacent native habitat. The BLM Final Programmatic Environmental Impact Statement on Wind Energy Development on BLM-Administered Lands in the Western U.S. recommends the following: • Night lighting during construction would not occur to the maximum extent practicable; • Any night lighting during construction and operation would be selectively placed, shielded, and directed away from all areas of native habitat to the maximum extent practicable; and • All unnecessary lighting should be turned off at night to limit attracting migratory birds.
AMM-8	The construction contractor(s) shall adhere to all San Diego County Air Pollution Control District (SDAPCD) Rules and Regulations. Compliance with SDAPCD Rule 55 shall reduce fugitive dust during construction.
AMM-9	Implementation of active dust suppression measures during the construction period to minimize the creation of dust clouds; including, but not limited to: applying water at least once per day, or conduct watering as necessary to prevent visible dust emissions from exceeding 100 feet in length in any direction. Increase watering frequency to four times per day if winds exceed 25 mph. Non-toxic soil stabilizers may be utilized to control fugitive dust.
AMM-10	Restrict construction vehicle speeds to 20 mph on unpaved roads.
AMM-11	Apply soil stabilizers to construction areas not being utilized and stabilize disturbed areas if subsequent construction is delayed.
AMM-12	Replace ground cover in disturbed areas as soon as feasible.
AMM-13	Prior to any blasting east of McCain Valley Road biological monitors would confirm that no peninsular bighorn

sheep were present within one-third of a mile of the area designated for blasting, in order to avoid harassment or disturbance impacts from blasting. If sheep are present and blasting cannot wait for a time when they have left the area then a temporary sound barrier will be erected to reduce the impacts on sheep habitat.

Cultural Resources

BLM Requirements

- The presence of archaeological sites and historic properties in the "area of potential effect" shall be determined on the basis of a records search of recorded sites and properties in the area and an archaeological survey. Archaeological sites and historic properties present in the area of potential effect will be avoided and may be reviewed to determine whether they meet the criteria of eligibility for listing on the National Register of Historic Places (NRHP).
- If cultural resources are present at the site, or if areas with a high potential to contain cultural material have been identified, the Cultural Resources Management Plan (CRMP) that was developed for the project shall be revised to include known locations of cultural resources, as well as mitigation activities to be taken for cultural resources found at the site. Avoidance of the area is always the preferred mitigation option. Other mitigation options include archaeological survey and excavation (as warranted) and monitoring. If an area exhibits a high potential, but no artifacts were observed during an archaeological survey, monitoring by a qualified archaeologist could be required during all excavation and earthmoving in the high-potential area. A report shall be prepared documenting these activities. The CRMP also shall: (1) establish a monitoring program, (2) identify measures to prevent potential looting/vandalism or erosion impacts, and (3) address the education of workers to make them aware of the consequences of unauthorized collection of artifacts and destruction of property on public land.

Applicant Proposed

- For each cultural or archaeological resource, a qualified archaeologist will clearly designate its boundaries with marker flags. The markers will not be distinguishable from other sensitive resources to be avoided.
- The construction crew will be made aware of all areas to avoid, including cultural or archaeological site locations.
- Construction activities will avoid any flagged cultural or archaeological resource sites.
- Work will stop if cultural resources are discovered during ground-disturbing activities. If buried cultural resources, such as chipped or ground stone, historic debris, building foundations, or nonhuman bone are inadvertently discovered during ground-disturbing activities, work will stop in that area and within 100 feet of the find until a qualified archaeologist can assess the significance of the find and, if necessary, develop appropriate treatment measures. Treatment measures typically include development of avoidance strategies, capping with fill material, or mitigation of impacts through data recovery programs such as excavation or detailed documentation. The construction contractor and lead contractor compliance inspector will verify that work is halted until appropriate treatment measures are implemented.
- If human remains of Native American origin are discovered during ground-disturbing activities, it is necessary to comply with state laws relating to the disposition of Native American burials, which falls within the jurisdiction of the Native American Heritage Commission. If human remains are discovered or recognized in any location other than a dedicated cemetery, there will be no further excavation of disturbance of the site or any nearby area reasonably suspected to overlie adjacent human remains until: (1) the San Diego County corner has been informed and has determined that no investigation of the cause of death is required; and (2) if the remains are of Native American origin:
    a) The descendants of the deceased Native Americans have made a recommendation to the land owner or the person responsible for the excavation work, for means of treating or disposing of, with appropriate dignity, the human remains and any associated grave goods as provided in Public Resources Code Section 5097.98; or
    b) The Native American Heritage Commission was unable to identify a descendant of the descendant failed to make a recommendation within 24 hours after being notified by the commission.

Fire Safety

Applicant Proposed Project Design Features (PDFs)

PDF-1 Hot Work – Iberdrola Renewables will comply with the applicable sections in NFPA 51-B "Fire prevention during welding, cutting and other hot work" and CFC Chapter 26 "Welding and other Hot Work". During Red Flag Alerts, operations involving cutting, welding, thermit welding, brazing, soldering, grinding, thermal spraying, use of torches, or other similar activity during construction or maintenance activities will be conducted according to NFPA 51-B. Red Flag Warnings are issued by the U.S. National Weather Service based on humidity of less than or equal to 25 percent, temperature greater than 75 F degrees and a sustained wind average of 15 miles per hour or greater. The project area is located in the National Weather Service San Diego Mountain (CA 258) zone.

Iberdrola Renewables will implement a Hot Work Procedure on-site to minimize the potential for fire ignition. Components of the Hot Work Procedure will include:

- Prior to hot work activity commencing, the on-site Iberdrola Renewables fire safety coordinator will monitor daily the National Weather Service Red Flag Alert system.
- In the event of a Red Flag Alert, prior to hot work activity commencing, the on-site Iberdrola Renewables fire safety coordinator will contact the local fire agency to determine the level of alert specific to the project area.
- The on-site Iberdrola Renewables fire safety coordinator will require all hot work to be conducted according to NFPA 51-B.
- Iberdrola Renewables will require all employees and/or sub-contractors who perform hot work during Red Flag Alerts to be trained under the applicable sections of NFPA 51-B.
- The on-site Iberdrola Renewables fire safety coordinator will have the authority to modify hot work activities associated with construction and/or maintenance activities to the degree necessary to prevent fire ignition.

PDF-2 Construction Activities - Develop and implement a Construction and Maintenance Fire Prevention/Protection Plan. Iberdrola Renewables shall develop a multi-agency Construction and Maintenance Fire Prevention Plan. Plan reviewers shall include: CPUC, CAL FIRE, BLM, CSLC, and the County of San Diego. Iberdrola Renewables shall provide a draft copy of this Plan to each listed agency at least 90 days before the start of construction activities. Comments on the plan shall be provided by Iberdrola Renewables to all other participants, and Iberdrola Renewables shall resolve each comment in consultation with and to the satisfaction of CAL FIRE, SDRFPD and the SDCFA. The final plan shall be submitted to CAL FIRE, SDRFPD and SDCFA at least 30 days prior to the initiation of construction activities. Iberdrola Renewables shall fully implement the plan during all construction and maintenance activities. All construction work on the project shall follow the Construction Plan guidelines and commitments, and plan contents are to be incorporated into the standard construction contracting agreements for the construction of the project. Primary plan enforcement and implementation responsibility will remain with Iberdrola Renewables.

At a minimum, plan contents will include the requirements of Title 14 of the California Code of Regulations, Article 8 #918 "Fire Protection" and the elements listed below:

1. During the construction phase of the project, Iberdrola Renewables shall implement ongoing fire patrols. Iberdrola Renewables shall maintain fire patrols during construction hours and for 1 hour after end of daily construction, and hotwork.
2. Fire Suppression Resource Inventory – In addition to CCR Title 14, 918.1(a), (b), and (c), Iberdrola Renewables shall update in writing the 24-hour contact information and onsite fire suppression equipment, tools, and personnel list on quarterly basis and provide it to the CAL FIRE, SDRFPD, SDCFA, CPUC, BLM, and to state and federal fire agencies.
3. During Red Flag Warning events, as issued daily by the National Weather Service in SRAs and Local Responsibility Areas (LRA), all non-essential, non-emergency construction and maintenance activities shall cease. Utility and contractor personnel will be informed of changes to the Red Flag event status as stipulated by CAL FIRE.
4. All construction crews and inspectors shall be provided with radio and cellular telephone access that is operational along the entire length of the approved route to allow for immediate reporting of fires. Communication pathways and equipment shall be tested and confirmed operational each day prior to initiating construction activities at each construction site. The radio shall allow communications with other Iberdrola Renewables vehicles and construction trailer. All fires will be reported immediately upon detection.
5. Each member shall carry at all times a laminated card listing pertinent telephone numbers for reporting fires and defining immediate steps to take if a fire starts. Information on contact cards will be updated and redistributed to all crewmembers as needed and outdated cards destroyed, prior to the initiation of construction activities on the day the information change goes into effect.
6. Each member of the construction crew shall be trained and equipped to extinguish small fires in order to prevent them from growing into more serious threats.
7. Water storage tanks and access roads shall be installed and operational at time of start of construction.

PDF-3 Blasting – As part of the project design, a blasting plan will be prepared. The blasting plan will include identification of planned blasting locations, a description of the planned blasting methods, an inventory of receptors potentially affected by the planned blasting, and to determination the area affected by the planned blasting. Blasting methods will take into consideration

the high wildland fire hazard conditions in and surrounding the project area. Precautions to prevent fire will be included in the blasting plan will include requirements to have all blasting charges capped with soil and/or other materials that are not combustible.

Blasting activities are required to be observed by a Blasting Inspector. A Blasting Inspector is a person on the Sheriff's approved list of inspectors authorized to conduct inspections, before and after a blast. To be on the Sheriff's approved list, an inspector shall be certified by or registered with the International Conference of Building Officials, the International Code Counsel/Counsel of American Building Officials, the Building Officials & Code Administrator or the Southern Building Code Congress International.

PDF-4 County of San Diego Consolidated Fire Code, Section 96.1.3301.2, Explosives and Fireworks Applicability – The project will comply with the County of San Diego Consolidated Fire Code, Section 96.1.3301.2, Explosives and Fireworks Applicability. The Fire Code requires a permit application to be issued prior to the start of blasting activities. Blasting activities shall be limited to Monday through Saturday between the hours of 7:00 a.m. and 6:00 p.m. or one-half hour before sunset, whichever occurs first, unless issuance of grant approval. Surrounding residents within 600 feet will be notified in writing within 600 feet of any major blast location or 300 feet from any minor blast location.

PDF-5 Construction Waste Disposal – As a standard practice, Iberdrola Renewables does not allow construction waste to accumulate. Waste associated with project construction will be contained in metal containers and/or designated cleared construction staging areas (large items). The metal containers and staging areas will be monitored and emptied on a regular basis.

PDF-6 Storage, Use and Handling of Oils, Flammable Liquids, Hazardous Materials and Vehicle Fuels – As part of the project construction and operations, chemicals such as oils and cleaners for turbines will be properly storage, used, and handled as regulated under the California Fire Code (CFC). Areas on the project site that store, use or handle these materials will be at least 50 feet from any building or turbine, and will have a fuel modification zone around them of at least 30 feet and will be constructed in compliance with the CFC.

Dispensing of any motor vehicle fuels shall comply with the CFC. Spill control will be provided in all areas, and shall contain the contents of the largest container. Electrical systems shall comply with the CFC and with the National Electrical Code; NFPA 70, and with NFPA 497 where applicable. Grounding and bonding will be provided where necessary. Any transfer or dispensing pumps shall have a remote emergency shut down device 75 feet away. There shall be portable fire extinguishers with a minimum rating of 20 BC, located approximately 50 feet away and mounted on a visible post approximately 4 feet off ground. Safety signage shall be provided for any transfer/dispensing areas and "No Smoking" signs shall be posted.

PDF-7 Water Availability – Based upon the *Estimate of Water Availability* memorandum (Geo-Logic Associates September 7, 2010 – Appendix O), on the conservative peak water use requirements of 250,000 gallons per day (associated with road construction, concrete mixing and dust control activities), an estimated continuous supply of water (24-hours per day, seven days per week) will be required from wells pumping at a cumulative continuous rate of 124 gpm. Although there are several wells on the project site, two wells on the project site have been identified as readily available for project use:

1. One well is located on Rough Acres Ranch approximately one to two miles north of I-8 between Ribbonwood Road and McCain Valley Road. Drilled in 2009, data provided on the well log for this well indicates that the estimated well yield is 60 gallons per minute (gpm); however, with the current pump in this well, the Ranch Manager indicates that the well produces at a rate of 50 gpm. A 72-hour constant rate aquifer pumping test was performed at this well at 50 gpm. Based on the current preliminary test data, there was very little response from pumping in the adjacent observation well, about 30 feet from the pumping well, and therefore it is reasonable to assume that sustained pumping at 50 gpm, at a minimum can be achieved from this well. Further, with a higher volume pump it may be possible to pump at greater volumes without significant impacts to other adjacent groundwater users;
2. One well is located on the Ewiiaapaayp Reservation, about 7 miles north of Interstate 8 on La Posta Road. A 72-hour constant rate aquifer pumping test was conducted at this well at 80 gpm. Based on the preliminary test results it is reasonable to assume that sustained pumping at 80 gpm is feasible at this well location.

Therefore, based on the preliminary data from two recent pumping tests with a combined total pumping rate of 130 gpm, it is likely that the necessary water supply requirements for the project (124 gpm of continuous pumping, seven days a week) can be met from these two wells.

There are four potential additional water supply sources available for the project. The State Correctional Facility is located about one half mile north of Interstate 8 off of McCain Road. This correctional facility maintains two wells with estimated production of 45 and 65 gpm. The Live Oak Springs Resort located south of Interstate 8 on Old Highway 80 about ¾-mile

northwest of the intersection with Highway 94 may provide a source of water supply. This resort (and water company) operates a well that pumps about 40,000 gallons per day (25 to 30 gpm) and maintains a 100,000 gallon pond, and two large tanks with an additional 50,000 gallons of storage capacity. They have committed to providing 40,000 for immediate use and up to 80,000 gallons per day with additional storage tanks (pers. comm., September 8, 2010); equivalent to 28 to 55 gpm. The Jacumba Community Service District (CSD) also has indicated that their well produces 200 gpm and they will commit up to 40,000 gallons per day to the project (pers. comm., September 8, 2010); equivalent to about 28 gpm. Finally, the City of El Centro has indicated that they are willing to sell wastewater plant effluent to the project for use during the construction phase.

The available on-site groundwater can provide the required project water requirements through continuous pumping at a rate of 124 gpm. Current pumping test results indicate at least 130 gpm can be achieved from the two tested wells, and potential greater volumes with a higher volume pump at the Rough Acres Ranch test well. However, with off-site water from the State Correctional Facility, Live Oak Springs Resort, and Jacumba CSD for purchase, an additional 80,000 to 120,000 gallons of water per day, or approximately 55 to 83 gpm of water could be available to support the project water supply needs; ample water for the nine-month construction period. With these additional off-site sources, the combined on-site and off-site water could be equivalent to an estimated 213 gpm could be made available in support of the project.

If a fire were to occur in the project area, construction activities utilizing ground water would cease and the groundwater available from these sources could be used for firefighting purposes. In addition, based on informal conversations with the staff members of the various fire agencies and other sources would be utilized for firefighting purposes (HDR staff, Pers. Comm.).

Iberdrola Renewables will provide four (4) additional water tanks to the SDRFPD to place at strategic locations throughout the site. The tanks will be maintained by the SDRFPD. The water tanks will provide a supplemental water source that can be utilized for additional fire suppression for the community of Boulevard and BLM lands that have limited access to water.

The same wells will provide the source of water during operations. When the project turbines become operational, only a limited quantity of water will be required, estimated at 2,500 gallons per day to supply the operations and maintenance building services and support staff.

PDF-8 Execute a Fire and Emergency Protection Services Agreement – A Fire and Emergency Protection Services Agreement for the project shall be executed between Iberdrola Renewables and the SDRFPD, and other agencies as appropriate. The Agreement shall be executed by all parties prior to commencement of construction of the project. The purpose of the Agreement is to fund the employment and training of personnel, and acquisition and maintenance of equipment to provide fire and emergency protection services for the project. The Agreement will describe the scope of services to be provided by the SDRFPD, and other agencies as appropriate, and will be maintained throughout the life of the project.

Iberdrola Renewables will educate the construction crew and maintenance employees as to potential dangers that may occur during construction and maintenance of the project. To reduce the possibility of fire ignition during hot work, Iberdrola Renewables will implement the Hot Work Procedure and coordinate with local fire authority regarding the specific conditions in the project area. The PDFs discussed in Section 3.6 will minimize the risk of ignition sources; therefore the project's contribution to this impact is less than cumulatively considerable.

PDF-10: The area within the project substation, which will contain transformers, capacitors, and other electrical components, will be cleared of vegetation, graveled, and maintained vegetation free. In addition, a 5-foot wide area outside the substation fence will be cleared and graveled. A 15-foot diameter area around transformers located at turbine towers will be cleared and graveled. Additional fuel management will occur for a balance of 100 feet from the turbine base.

No switching devices with moving parts (fused cutouts, switches, reclosers) will be located on the poles. This removes a potential ignition source from arcing. Equipment within the substation, including transformers, will be protected in compliance with NFPA 850 and the CFC. Fire fighting foam concentrate will be required at the substation location in the event of an oil fire.

PDF-11: The design of the power lines will comply with APLIC "Suggested Practices for Avian Protection on Power Lines" which is the industry standard developed to minimize avian contact with power lines. Bird caused flashovers are very unlikely for the project because the energized 134 kV conductors will have minimum distances of 30 vertical feet and 12 horizontal feet apart, and the 34.5 kV overhead collector lines will have a minimum distance of 18.5 feet Vertical feet and 5 feet horizontal feet apart.

PDF-12: The lines and associated facilities will be designed in accordance with CPUC GO 95 "Rules For Overhead Electric Line Construction" and the current edition of the NESC to ensure the design minimizes the potential for inadvertent conductor contact.

PDF-13: Self supporting steel poles will be utilized for the 138 kV transmission line. Steel and wood are being considered for 34.5 kV overhead collector system poles. If guy wires and anchors are used, they will be rated for a minimum of 150% of

expected loading. This design approach eliminates the most likely cause of pole collapse, which is failure of a guy wire and/or anchor.

PDF-14: Periodic visual inspection of the 138 kV transmission line will occur and washing will occur on an "as needed" basis as determined by the visual inspections.

PDF-15: Electrical collection and transmission system and turbines will include the required FAA and CAL FIRE lighting and markings.

PDF-16:

(1) Up-Tower - Turbines with electrical (medium-voltage) equipment in the nacelle have a number of safety devices to detect electrical arc and smoke. The up-tower turbines being considered for this project include fire detection components mounted on key power cables within the nacelle. The fire detection features include:

- Smoke detectors,
- Arc-flash sensors,
- Over-current sensing transducers; and
- Portable fire extinguishers.

Should any of these devices register an out-of-range condition, it will immediately command a shutdown of the turbine, disengage it from the electrical collection system, and send a notice through the SCADA system to the ECC in Portland, Oregon. The entire turbine is electrically protected by current-limiting switchgear that is installed inside the base of the tower.

The project will be operated and maintained by approximately 12 permanent full-time employees, who will monitor the wind turbines during normal business hours. In addition, IBR's NCC in Portland, Oregon monitors and can control all of IBR's wind turbines through the SCADA and is staffed 24 hours a day. Primary communications with the wind farm is via Telco T1 lines, and all plants have satellite backup capability. The NCC has the ability to control each turbine individually, as well as control the substation. Should any out-of-range issue occur at the project, the NCC will contact the sites' dedicated on-call person to deploy to the site to investigate and/or call emergency services if warranted by the type of out-of-range signal transmitted to the NCC.

(2) Down-Tower - This type of turbine being considered for the project has the medium voltage electrical components installed in metal cabinets inside the base of the tower, and a low-voltage-to-medium-voltage transformer installed adjacent to the transformer. In this configuration, the probability of an uncontained electrical fire in the nacelle is extremely remote, as there are no combustible materials inside the tower. However this turbine style still has the same risk of a fire associated with electrical components as the Up-Tower style does. As with the other turbine type, a tower-based circuit breaker electrically protects the entire machine. This location will also have supervised smoke detectors.

The potential for fire ignition in the nacelle due to blade over speed, wind or vibration is limited due to the design of the turbine blades, which are equipped with a pitch system that allows the blades to be rotated in order to control and stop the turbine in high wind conditions. As back-up to the three independent blade pitch systems, the turbines are equipped with a mechanical breaking system. In addition, turbines are equipped with vibrations sensors that automatically shut the turbines down if vibrations exceed the normal operating conditions.

PDF-17: All wind turbine models for this project will incorporate blade lightning protection systems. In general, these systems consist of: air-receptors on various locations along the length of the blade, ground-conducting straps in the hub, nacelle, and tower, lightning detection tell-tale circuit cards, and tower grounding to earth.

PDF-18:

- No off-road vehicle use would be necessary because all wind turbine and associated project components (e.g., substation and O&M building) will be located in cleared areas. As part of the project design, existing access roads will be improved and new access roads are proposed that meet the requirements of the County of San Diego Consolidated Fire Code (2009).
- Hot Work Procedure (PDF-1).
- Construction, Operations, and Maintenance Fire Prevention/Protection Plan (PDF-2).
- Road maintenance activities requiring the use of grading equipment will be suspended during red flag events.

Permanently assigned project vehicles will carry, as a minimum, a fire extinguisher, shovel, and two-way-radio.

PDF-19 – No vehicle will be idle or parked in areas of combustible fuels, such as brush or grass. All wind turbine and associated project components (e.g., substation and O&M building) are located in cleared areas. As part of the project design, existing access roads will be improved and new access roads are proposed.

PDF-20 – Portable equipment powered by two cycle engines or capable of producing significant exhaust heat will be located within the 200-foot radius surrounding the turbine in which vegetative fuel reduction will take place.

PDF-21 – Work on energized equipment will be avoided whenever possible. Personnel performing work on energized equipment will be trained in applicable OSHA and other safety requirements.

PDF-22 – Smoking is limited to cleared areas around the O&M building.

PDF-23 Existing and New Access Roads – As part of the project design, existing access roads will be improved and new access roads are proposed that meet the requirements of the County of San Diego Consolidated Fire Code (2009) where they occur on County lands with the exception of spurs that serve turbines only. These improvements will have the effect of decreasing fire response times to the project area and general area, in the event of a fire or other emergency.

The proposed access road improvements will also improve public safety should a vegetation fire occur in the area by providing alternate routes of egress. Currently the only public exit road from the McCain Valley area is McCain Valley Road. The proposed connector road between Ribbonwood and McCain Valley Road is proposed as a private road; however, it will not be gated. As a result this road will be available to the community in the event of an emergency. This road will be improved to meet County of San Diego private road standards. Additionally, the turbine roads will improve access allowing fire crews and tanker trucks faster initial response in the project area. Fire and other emergency vehicles will also be able to utilize the access roads to improve response times to remote areas. BLM roads or turbine roads that are proposed to be gated shall be provided with an approved Knox Box as discussed in Section 5.1.

PDF-24 Operations and Maintenance Facility – The O&M facility is the only new structure proposed that will include Iberdrola Renewables staff during business hours. The O&M building will include the PDF that provide fire prevention and protection.

- The facility construction, including walls, penetrations through walls, doors, vents, roof, glazing and any skylights, will comply with the County Building Code (CBC) Wildland Urban Interface construction standards in Section 92.1.704, and Chapter 7-A of the CBC, and the CFC.
- The O&M building will be located on a 5-acre site including a parking lot and will be surrounded by a 4-acre cleared area. The substation facility will have the required 3-acre graveled fenced cleared area around it and will have adequate spacing from transformers and other potential fire sources. The project will provide a minimum of 100 feet of fuel management.
- Any batteries would comply with the requirements in the CFC and would have secondary containment and required ventilation to prevent build up of hydrogen gas.
- Various occupancies in the building, as classified by the CBC, will have the required fire separations and will comply with the CFC and CBC for the type of occupancy and activities therein; for example, storage, or maintenance shop.
- Sprinklers with exception of control room, which may have an alternative suppression system. Fire Sprinkler system will be supervised by Iberdrola Renewables' Portland Control Center and to the offsite 24/7 alarm monitoring company. Determination will be made by Iberdrola Renewables as to supervision by the alarm monitoring company. Supervision to a Fire District approved remote alarm monitoring company required based on number of sprinkler heads. Twenty heads requires electrical supervision of all valves in system, pumps, water tank level, etc. CFC Section 903.4.
- The SCADA monitoring system will have emergency power source at the O&M building, in addition to 24/7 monitoring at the NCC.
- The control room will be separated from remainder of building by 1-hour fire rated walls for fire safety and will have exterior exits.
- The building will have smoke detectors, which are supervised in control room, activate an alarm on exterior of building, and are supervised to the NCC. Alarms may not be transmitted to the offsite 24/7 alarm monitoring company, so as to avoid false calls to 911 resulting in an unnecessary response.
- The building will have a KNOX key box on exterior by main door for use by firefighters.

Per the requirements of PRC 4291, *Reduction of Fire Hazards Around Buildings*, the project will provide 100 feet of fuel modification around all buildings, and is the primary mechanism for conducting fire prevention activities on property within CAL FIRE jurisdiction.

In addition, Iberdrola Renewables will implement a brush management plan at its project O&M facility, turbine pads, and substation. This plan will be consistent with the following County Code, Title 9 sections:

- Under the Title 9 of the County Consolidated Fire Code, brush is to be modified within 100 feet (31 meters) of structures in radius, called defensible space (Section 4707.2a). There are two zones to be aware of when creating a defensible space for fire mitigation.
- Zone 1, From structure out to a minimum of 50 feet: "The area within 50 feet (15 meters) of a building or structure shall be cleared of vegetation that is not fire resistant and/or replanted with fire-resistant plants" (County Code Title 9, Section 4707.2a).
- Zone 2, Between 50 to 100 feet from structures: "In the area between 50 to 100 feet (15 to 31 meters) from a building all dead and dying vegetation shall be removed. Native vegetation may remain in this area provided that the vegetation is modified so that combustible vegetation does not occupy more than 50 percent of the square footage of this area" (County Code Title 9, Section 4707.2a).

PDF-25 Substation Transformers – Transformers contain cooling oil, which can be ignited by an electrical arc. NFPA 850, including Section 10.5.2.6, provides recommendations for transformer protection. These recommendations will be followed. Transformers associated with the substation will be located approximately 50 feet from the O&M building and will a minimum of 100 feet of fuel management. The substation is proposed to be located adjacent to the O&M building on a 5-acre parcel and will be surrounded by a 3-acre graveled parcel providing a minimum of 100 feet of fuel management around the substation.

Transformers will utilize fire walls for exposure protection and will have secondary containment to control any oil that could be released. The size of the containment must be adequate to contain the total amount of oil plus firefighting water for 15 minutes. NFPA 850 recommends 10 minutes however, per NFPA 11, foam delivery from hand lines assumes an application time frame of 15 minutes. Firefighting foam concentrate will be stored at substation for use by firefighters. Typically, a 3 percent Aqueous Film Forming Foam (AFFF) concentrate is used, and the application rate is 0.16 gpm/sq. ft. for 15 minutes from a firefighter hose line. In concept, the needed gpm flow rate for the hose lines is 250 gpm. This is subject to detailed design and size of the containment. Fire resistant oils can also be used if they do not contain polychlorinated biphenyls (PCBs) or other toxic materials. Prior to operations of the facility, actual design of the transformer fire protection measures will be determined by Iberdrola Renewables and submitted to SDRFPD and SDCFA for approval.

PDF-26 Combustible Storage - Prevention and minimization of fire risk is a primary concern for Iberdrola Renewables. Other typical best management practices related to combustible storage that will be implemented on the project site include:

- Minimizing accumulation of combustible material, only allow storage of flammable materials in fire rated cabinets, ensure all combustible waste material is collected and disposed of properly including the storage of oily rags in approved containers, maintain a list of potential fire hazards at the plant including how sources of ignition will be controlled for each of these potential hazards.
- Perform periodic housekeeping inspections to find and mitigate any fire hazards found, ensure employees and sub-contractors are trained in fire prevention, and ensure employees are trained in the use of fire extinguishers.
- Combustible storage and trash on site during construction and operation phases will be properly stored in a clear area with fuel modification around it, and be away from turbines and the substation. Such storage will be orderly and be removed from the site as soon as possible.

Hazards and Hazardous Materials

Applicant Proposed

- Spill Prevention, Control and Countermeasure Plan. The SPCC plan shall identify where hazardous materials and waste will be stored on-site, what spill prevention measures will be implemented, the location of spill kits, the appropriate spill response action for each material or waste, and procedures for notification to the appropriate authorities.
- Hazardous Materials Management Plan. The HMMP shall include storage, use, transportation, and disposal procedures of each hazardous material anticipated to be used at the site. The plan will establish; inspection procedures, storage requirements, storage quantity limits, inventory control, nonhazardous product substitutes, and disposition of excess materials. The hazardous materials management plan will also identify requirements for notices to federal and local emergency response authorities, and will include emergency response plans.
- Waste Management Plan. The waste management plan shall determine waste procedures, waste storage locations, waste-specific management and disposal requirements, inspection procedures, and waste minimization procedures.

Hydrology/Water Quality

Applicant Proposed

Construction Site Design

Maintain Pre-Development Rainfall Runoff Characteristics:

- Locate the Project and road improvement alignments to avoid or minimize impacts to receiving waters or to increase the preservation of critical (or problematic) areas such as floodplains, steep slopes, wetlands, and areas with erosive or unstable soil conditions.
- Minimize the Project impervious footprint.
- Conserve natural areas.
- Where landscape is proposed drain rooftops, impervious sidewalks, walkways, trails and patios into adjacent landscaping.
- Design and locate roadway structures and bridges to reduce the amount of work in live streams and minimize the construction impacts.
- Implement the following methods to minimize erosion from slopes:
  - Disturb existing slopes only when necessary;
  - Minimize cut and fill areas to reduce slope lengths;
  - Incorporate retaining walls to reduce steepness of slopes or to shorten slopes;
  - Provide benches or terraces on high cut and fill slopes to reduce concentration of flows;
  - Round and shape slopes to reduce concentrated flow;
  - Collect concentrated flows in stabilized drains and channels.

Protect Slopes and Channels

- Minimize disturbances to natural drainages.
- Convey runoff safely from the tops of slopes
- Vegetate slopes with native or drought tolerant vegetation.
- Stabilize permanent channel crossings.
- Install energy dissipaters, such as riprap, at the outlets of new storm drains, culverts, conduits, or channels that enter unlined channels in accordance with applicable specifications to minimize erosion. Energy dissipaters shall be installed in such a way as to minimize impacts to receiving waters.
- Other design principles which are comparable and equally effective.

Implement Low Impact Development Features:

- Conserve natural areas, soils, and vegetation
- Preserve well draining soils (Type A or B)
- Preserve Significant Trees
- Minimize disturbance to natural drainages
- Set-back development envelope from drainages
- Restrict heavy construction equipment access to planned green/open space areas
- Minimize and disconnect impervious surfaces
- Preserve well draining soils (Type A or B)
- Preserver Significant Trees
- Minimize soil compaction
- Restrict heavy construction equipment access to planned green/open space areas
- Re-till soils compacted by construction vehicles/equipment
- Collect and reuse upper soil layers of development site containing organic materials
- Drain runoff from impervious surfaces to pervious areas
- Curb-cuts to landscaping
- Rural swales
- Concave median
- Cul-de-sac landscaping design
- LID parking lot design
- Permeable pavements

- Curb-cuts to landscaping
- LID driveway, sidewalk, bike-path design
- Permeable pavements
- Pitch pavements toward landscaping
- LID Building Design
- Cisterns and rain barrels
- Downspout to swale
- Vegetated roofs
- LID landscaping design
- Soil amendments
- Reuse of native soils
- Smart irrigation systems
- Street trees

Source Control BMPs

- The project will design outdoors material storage areas to reduce pollution introduction by ensuring:
  - Hazardous materials with the potential to contaminate urban runoff shall either be: (1) placed in an enclosure such as, but not limited to, a cabinet, shed, or similar structure that prevents contact with runoff or spillage to the stormwater conveyance system; or (2) protected by secondary containment structures such as berms, dikes, etc.
  - The storage area shall be paved and sufficiently impervious to contain leaks and spills.
  - The storage area shall have a roof or awning to minimize direct precipitation within the secondary containment area.
- The project will design trash storage areas to reduce pollution introduction by:
  - Paved with an impervious surface, designed not to allow run-on from adjoining areas, screened or walled to prevent off-site transport of trash.
  - Provide attached lids on all trash containers that exclude rain, or roof or awning to minimize direct precipitation.
- The project will provide storm drain system stenciling and signage (if applicable):
  - All storm drain inlets and catch basins within the Project area shall have a stencil or tile placed with prohibitive language (such as: "NO DUMPING – I LIVE IN <<name receiving water>>") and/or graphical icons to discourage illegal dumping.
  - Signs and prohibitive language and/or graphical icons, which prohibit illegal dumping, must be posted at public access points along channels and creeks within the Project area.
- The project will use efficient irrigation systems and landscape design.
  - Employ rain shutoff devices to prevent irrigation after precipitation.
  - Design irrigation systems to each landscape area's specific water requirements.
  - Use flow reducers or shutoff valves triggered by a pressure drop to control water loss in the event of broken sprinkler heads or lines.
  - Employ other comparable, equally effective, methods to reduce irrigation water runoff.

Operations and Maintenance BMPs

The project will comply with the County of San Diego SUSMP, Iberdrola Renewables will maintain the detention basins and swales/Brow/Ditches as a treatment control BMP during the operations and maintenance of the project.

Noise

Applicant Proposed

- Turbines will be situated to minimize the amount of potential noise to surrounding residential structures.
- A site-specific noise mitigation plan will be developed prior to construction.
- A blasting plan will be prepared for each potentially impacted site. Depending upon the results of the blasting plan, mitigation measures may include coordination with building occupants so that blasting occurs in their absence, or at other acceptable times, to avoid nuisance or annoyance complaints. A rock anchoring or mini-pile system may be used to

reduce the risk of damage to structures. Structures shall be restored if adversely affected by construction vibration, to an equivalent condition as that prior to the construction. Fair compensation for lost use will be provided to the owner. the project operator will notify nearby landowners of certain construction noise events in advance (e.g., if temporary blasting becomes necessary).

- Decrease the amount of noise during construction to the greatest extent possible, including the use of appropriate mufflers and limiting the hours of construction. All stationary construction equipment will be located as far as practicable from nearby residences and other human activities.
- Turbines will be kept in good running order throughout the operational life of the project.
- Requiring OEM (original equipment manufacturer) or higher-performing mufflers on equipment.
- Requiring the regular maintenance and inspection of construction machinery to allow for quieter operation.
- Augmented back up alarms coupled with contractor observation to minimize alarm noise, a consistent area of concern and complaint on most construction projects.
- Exhaust silencers used on machinery during construction to further reduce noise.
- Augmented back up alarms coupled with contractor observation to minimize alarm noise.
- Utilize noise barriers and machinery enclosures where feasible.
- Ban the use of "Jake Braking" or engine compression braking on all trucks.
- Specifying the proper usage and power for the particular construction procedure- no machinery overkill.
- Utilizing noise barriers and machinery enclosures where feasible.
- Implement a complaint resolution procedure to assure that any complaints regarding construction or operational noise are promptly and adequately investigated and resolved.
- Construction equipment or stationary equipment not actively being used will not idle for more than five minutes.

Public Health & Safety

Applicant Proposed

- A safety assessment shall be conducted to describe potential safety issues and the means that would be taken to mitigate them, including issues such as site access, construction, safe work practices, security, heavy equipment transportation, traffic management, emergency procedures, and fire control.
- A health and safety program shall be developed to protect both workers and the general public during construction, operation, and decommissioning of the project. Regarding occupational health and safety, the program shall identify all applicable federal and state occupational safety standards; establish safe work practices for each task (e.g., requirements for personal protective equipment and safety harnesses; Occupational Safety and Health Administration (OSHA) standard practices for safe use of explosives and blasting agents; and measures for reducing occupational electric and magnetic fields (EMF) exposures; establish fire safety evacuation procedures; and define safety performance standards (e.g., electrical system standards and lightning protection standards)). The program shall include a training program to identify hazard training requirements for workers for each task and establish procedures for providing required training to all workers. Documentation of training and a mechanism for reporting serious accidents to appropriate agencies shall be established.
- The health and safety program shall establish a safety zone or setback for wind turbine generators from residences and occupied buildings, roads, rights-of-ways, and other public access areas that is sufficient to prevent accidents resulting from the operation of wind turbine generators. It shall identify requirements for temporary fencing around staging areas, storage yards, and excavations during construction or decommissioning activities. It shall also identify measures to be taken during the operation phase to limit public access to hazardous facilities (e.g., permanent fencing installed only around electrical substations, and turbine tower access doors locked).
- The project shall be planned to minimize electromagnetic interference (EMI) (e.g., impacts to radar, microwave, television, and radio transmissions) and comply with Federal Communications Commission (FCC) regulations. Signal strength studies shall be conducted when proposed locations have the potential to impact transmissions. Potential interference with public safety communication systems (e.g., radio traffic related to emergency activities) shall be avoided.
- The project shall be planned to comply with FAA regulations, including lighting regulations, and to avoid potential safety issues associated with proximity to airports, military bases or training areas, or landing strips.

Construction BMPs

- Temporary fencing shall be installed around staging areas and storage yards during construction to limit public access. Excavation areas will be provided with barriers surrounding them.

Operational BMPs

- Permanent fencing shall be installed and maintained around electrical substations, and turbine tower access doors shall be locked to limit public access.
- In the event the project results in electromagnetic interference (EMI), the operator shall work with the owner of the impacted communications system to resolve the problem. Additional warning information may also need to be conveyed to aircraft with onboard radar systems so that echoes from wind turbines can be quickly recognized.

Recreation

- Provide improvements to the Lark Canyon and Cottonwood Campgrounds, as follows:
  - Shade cabanas at all of the camp sites
  - Roadways into the campgrounds upgraded to accommodate trailers.
  - Trail signs and maps
  - Additional BBQ circles and grates.
- Provide signage for potential campground and OHV area closures.

Traffic/Transportation

Applicant Proposed

Ground Transportation

- A transportation plan shall be developed, particularly for the transport of turbine components, main assembly cranes, and other large pieces of equipment. The plan shall consider specific object sizes, weights, origin, destination, and unique handling requirements and shall evaluate alternative transportation approaches.
- A traffic management plan shall be prepared for the site access roads to limit the potential for hazards from the increased truck traffic and ensure that traffic flow would not be adversely impacted. This plan shall incorporate measures such as informational signs, flaggers when equipment may result in blocked throughways, and traffic cones to identify any necessary changes in temporary lane configuration.

Applicant Proposed/Caltrans Required

- The following has been requested by the Caltrans as part of the project design:
  - All Caltrans standards for utility encroachments shall be met.
  - Clearances o overhead crossings shall conform to regulations of the California PUC, and the number of crossing to be minimized.
  - New installations under an existing roadbed shall be made by the boring and jacking method. Trenching under the traveled way will not be allowed.
  - For freeways and expressways, the placement of longitudinal encroachments is prohibited within controlled access rights-or-way.
  - Utilities shall not be located in median areas.
  - Transverse crossings should be normal (90 degrees) to the highway alignment where practical. If impractical, skews of up to 30 degrees form normal may be allowed.
  - Supports for overhead lines crossing freeways shall be located outside the controlled access right-of-way and not on cut or fill slopes and shall not impair sight distances. All installations shall be placed as close to the right-of –way line as possible. Above-ground utilities shall be outside of the clear recovery zone (20 feet from edge-or-travel way for conventional highways and 30 feet for freeways and expressways). Allowance should be made for future widening of the highways.
  - New installations shall not impair sight distances.

2.9 SUMMARY OF IMPACTS AND MITIGATION MEASURES

Table 2.0-7 is a summary of the analysis of the environmental impacts, mitigation measures, and level of significance after mitigation associated with the development of the Tule Wind Project.

Table 2.0-7. Summary of Project Impacts and Mitigation Measures

Impact	Mitigation Measure		Conclusions
Air Quality and Greenhouse Gas Emissions			
No impacts identified; therefore, no mitigation measures are required.			
Aesthetics / Visual Resources			
The project would have a substantial adverse impact on scenic vistas.	No appropriate mitigation measure identified		Significant impact still exists.
The project will substantially degrade the existing visual character or quality of the site and its surroundings.	No appropriate mitigation measure identified		Significant impact still exists.
Impacts to trees, in particular oak woodlands, as a visual resource may be significant	AES-1	Upon completion of the grading plan, identify any trees which may be impacted by the project. A determination can be made as to the amount of acreage that will require mitigation in accordance to the San Diego County vegetation community mitigation guidelines. The biology assessment has identified open and closed live woodland oak vegetation types located within the project area, which will be mitigated to a 3:1 ratio.	The avoidance of tree removal to the greatest extent possible and implementation of mitigation measure AES-1 will restore the landscape to a visually pleasing appearance post-construction and after decommissioning. Impacts to trees as a visual resource are less than significant.
Agriculture Resources			
No impacts identified; therefore, no mitigation measures are required.			
Biological Resources			
Mitigation for direct permanent impacts to riparian habitat or sensitive natural community.	BIO-1a	At the conclusion of construction, sensitive vegetation communities and habitats permanently impacted by the proposed project shall be assessed and included in per acre compensatory mitigation. Mitigation ratios for impacts that cannot be avoided shall be taken from the County of San Diego Biological Mitigation Ordinance (see Table 3.4-13, Proposed Mitigation for Permanent Project Impacts to Vegetation Communities). This habitat based mitigation will mitigate for vegetation and all sensitive species impacts using a regionally accepted habitat approach mitigation.	Mitigation measures BIO-1a through BIO 1-c provide mitigation ratios as per the County of San Diego to mitigation for impacts to vegetation communities. The implementation of this mitigation measures will reduce impacts to a level of less than significant.
	BIO-1b	Whenever possible, project-related disturbances to ecologically sensitive areas (Tier I, Tier II, Tier III) will be avoided or minimized. Residual areas deemed sensitive that are impacted will be mitigated as appropriate.	

Impact	Mitigation Measure		Conclusions
	BIO-1c	Iberdrola will attempt to minimize the need to clear existing trees and shrubs during site design and construction to the greatest practicable extent. A biological monitor shall monitor and quantify impacts to be used for impacts assessment at the conclusion of construction.	
Direct impact The introduction of invasive vegetation species into disturbed areas of the proposed project area.	BIO-2a	Iberdrola Renewables plan for control of noxious weeds and invasive species (see Appendix K of the Biological Technical Report) addresses monitoring and educating personnel on weed identification, and methods for avoiding and treating infestations. Use of certified weed-free mulching or reuse of onsite debris from construction (i.e., onsite mulching) will be required. Iberdrola Renewables will work with the BLM to obtain seeding specifications compliant with BLM standards. If trucks and construction equipment arrive from locations with known invasive vegetation problems, a controlled inspection and cleaning area will be established to visually inspect construction equipment arriving at the proposed project area and to remove and collect seeds that may adhere to tires and other equipment surfaces. All vehicles arriving from offsite will be cleaned and visually inspected before entering the site to ensure that weed seeds are not being carried onto the project site.	Implementation of BIO-2a through BIO-2b will reduce impacts from the introduction of invasive species to a level of less than of significant.
	BIO-2b	Iberdrola implement the habitat revegetation plan and update the noxious weed (see Appendix K) to avoid, minimize, or mitigate negative impacts on vulnerable wildlife, while maintaining or enhancing habitat values for other species.	
Direct temporary impacts to vegetation removal from grading and clearing during proposed project construction will result in temporary impacts to vegetation communities.	BIO-3a	Temporary impacts to vegetation communities shall be mitigated through implementation of a habitat revegetation plan. The habitat revegetation plan will detail the proposed revegetation of temporarily impacted habitat and will incorporate special status species to the extent practicable. Topsoil from excavations and construction activities will be segregated from sub-soil and reapplied to the surface of the ground during reclamation. Revegetation shall involve recontouring the land, replacing collected topsoil, and planting seed and/or container stock. Based on monitoring of the restoration area, maintenance activities such as weeding, replacement planting and supplemental	Implementation of BIO-3a through BIO-3b will reduce temporary impacts to vegetation communities to a level of less than significant.

Impact	Mitigation Measure		Conclusions
		watering may be necessary to achieve restoration standards. Areas to be revegetated shall include all areas temporarily impacted by construction, such as wind turbine construction sites, laydown/staging areas, and temporary access roads. Reclamation activities shall be undertaken as early as possible on disturbed areas. Additional reclamation measures shall be developed to address site-specific conditions, as necessary.	
	BIO-3b	Topsoil from all decommissioning activities will be salvaged and reapplied during final reclamation. All areas of disturbed soil will be reclaimed using weed-free native shrubs, grasses, and forbs.	
Indirect impacts associated with project construction to the communities and sensitive plant or animal species due to the increased risk of fire.	BIO-4a	Around each permanent structure, cleared areas are planned which shall meet or exceed the County's minimum requirements for brush management and fire protection.	Implementation of BIO-4a through BIO4e will reduce permanent impacts to vegetation communities from the risk of fire to a level of less than significant.
	BIO-4b	Vehicles will be prohibited from parking off road to prevent engine sparks from causing a wildfire.	
	BIO-4c	Smoking by construction and operation personnel will be prohibited.	
	BIO-4d	All vehicles will be kept in good working order and will carry fire extinguishers.	
	BIO-4e	Water trucks with variable delivery capabilities (e.g., hose attachment or articulated water spout) will be on site during heavy equipment operations in case of fire outbreak.	
Indirect temporary impacts project implementation has the potential to impact vegetation communities, sensitive plants, and animal species.	BIO-5a	Implementation of a Storm Water Pollution Prevention Plan will minimize or eliminate incidents of erosion, runoff, and siltation into off-site areas.	The implementation of mitigation measure BIO-5a through BIO-5b will reduce the impacts to vegetation communities, sensitive plants, and animal species to a level of less than significant.
	BIO- 5b	The construction workforce will be trained to identify and avoid any sensitive areas or resources. Sensitive areas will be flagged as appropriate (i.e. where they are in the vicinity of potential construction activity), and a biological monitor will be present during construction activities in sensitive areas to minimize the potential for accidental disturbance from construction equipment and crews. Construction area boundaries will be clearly marked.	

Impact	Mitigation Measure		Conclusions
The proposed project will result in temporary and permanent direct and indirect impacts to wildlife associated with general construction activities	BIO-6a	Iberdrola Renewables will implement construction BMPs identified in applicable permits and required avoidance, minimization, and mitigation measures will minimize and/or avoid a portion of the potential impacts the project will have on wildlife.	Mitigation measures BIO-6a through BIO-6e will reduce temporary and permanent direct and indirect impacts to wildlife associated with general construction activities to a level of less than significant.
	BIO-6b	All construction employees will be trained and instructed to avoid harassment and disturbance of wildlife, and training will reinforce that no plants or wildlife should be collected from the proposed project site.	
	BIO-6c	Littering will not be allowed. Garbage and trash will be removed from the project area daily.	
	BIO-6d	Project personnel will not be allowed to bring pets to any project area to minimize harassment or killing of wildlife and to prevent the introduction of destructive animal diseases to native wildlife populations.	
	BIO-6e	All steep-walled trenches or excavations used during construction will be inspected twice daily (early morning and evening) to protect against wildlife entrapment. Small open construction holes will be covered overnight; those too large (e.g., excavated turbine foundations) will be sloped or have ramps installed in one or more areas to facilitate escape for mammals and reptiles. Covers will be secured in place nightly, prior to workers leaving the site, and will be strong enough to prevent livestock or wildlife from falling into the hole. Holes and/or trenches will be inspected prior to filling to ensure the absence of mammals and reptiles. Excavations will be sloped on one end to provide an escape route for small mammals and reptiles. If wildlife is located in the trench or excavation and cannot escape unimpeded, the biological monitor will be called immediately to remove them. The biological monitor will make the required contacts with USFWS and CDFG resource personnel and obtain verbal approval prior to removing any entrapped protected wildlife species. If the biological monitor is not qualified to remove the entrapped wildlife, a recognized wildlife rescue agency (such as project wildlife) will be employed to remove the wildlife and transport them safely to other suitable habitats.	

Impact	Mitigation Measure		Conclusions
Migratory birds will be impacted during construction and operation of the proposed project. Construction of the project components will have cumulative permanent and temporary impacts to avian species.	BIO-7a	Iberdrola Renewables will design the project layout to minimize the use of above-ground transmission lines. The majority of the project will utilize underground collector lines.	The implementation of mitigation measures BIO-7a through BIO-7f will reduce impacts to migratory birds to a level of less than significant.
	BIO-7b	While still meeting FAA standards, facility lighting shall be minimal in order to avoid attracting nocturnal migrants and other animals.	
	BIO-7c	IBR shall implement its Avian and Bat Protection Plan (IBR 2008) as part of the proposed project.	
	BIO-7d	Structures shall be constructed to conform to the Avian Power Line Interaction Committee's *Suggested Practices for Avian Protection on Power Lines* to help minimize impacts to raptors (e.g., inspect insulation of exposed jumper/ground wires to minimize the risk of avian electrocution; transmission lines shall be designed to minimize the risk of avian electrocution).	
	BIO-7e	Post-construction avian fatality studies shall be developed and implemented starting the first year of project operation. The survey and monitoring protocols shall follow the California Energy Commission's California Guidelines for Reducing Impacts to Birds and Bats from Wind Energy Development (2007) and be developed in consultation with USFWS and CDFG.	
	BIO-7f	All ground disturbing activities such as; clearing and grubbing, shall be conducted during the non-breeding season (August 15-February 15).	
Bats will be potentially impacted during construction and operation of the proposed project. Activities that will contribute to cumulative permanent and temporary impacts to bat species due to the construction of the project components.	BIO-8a	Iberdrola Renewables will utilize lighting that will minimize the attraction of the insect prey of bats. Permanent lights at O&M and substation facilities will be the minimum intensity to meet security and operational needs. Where practicable, lights will be motion activate so as to reduce unnecessary lighting of areas. All lights will be shielded and aimed down to avoid unnecessary illumination of the area.	The implementation of mitigation measures BIO-8a through BIO-8c will reduce impacts to bats to a level of less than significant.
	BIO-8b	An adaptive management plan will be developed to mitigate unforeseen impacts which could not be avoided or minimized through pre-installation measures The	

Impact	Mitigation Measure		Conclusions
		adaptive management plan will include biologically appropriate goals or triggers to initiate adaptive management strategies.	
	BIO-8c	The Iberdrola will implement its Avian and Bat Protection Plan www.iberdrolarenewables.us/pdf/Signed_ABPP_10-28-08.pdf) (as part of the proposed project, which contains a post-construction bat mortality monitoring plan to be implemented starting the first year of project operation.	
Disturbance to wildlife species will result from project related noise.	BIO-9a	Noise-reduction devices (e.g., mufflers) should be maintained in good working order on vehicles and construction equipment.	Mitigation measure BIO-9a though BIO-9b will reduce project related noise impacts to a level of less than significant.
	BIO-9b	Explosives will be used only within specified times and at specified distances from sensitive wildlife or surface waters as established by the BLM or other federal and state agencies.	
Disturbance to wildlife species could result from project related lighting.	BIO-10	Several mitigation practices related to lighting impacts are described in MM-BIO-7b. Additional mitigation practices related to lighting that will be implemented are: 1. Any night lighting during construction and operation will be selectively placed, shielded, and directed away from all areas of native habitat to the maximum extent practicable. 2. All unnecessary lighting should be turned off at night to limit attracting migratory birds.	Implementation of mitigation measure BIO-10 will reduce lighting impacts to a level of less than significant.
Temporary and permanent impacts to special status species.	BIO-11a	If construction has not started by April 2011 additional USFWS QCB protocol surveys will be conducted in the QCB flight season prior to construction.	Implementation of mitigation measure BIO-11a and BIO-11f provides land conservation for QCB habitat to reduce impacts to a level of less than significant.
	BIO-11b	All construction clearing and grubbing in QCB area (i.e., the 1-km radius around the QCB sighting) will be conducted in one continuous time period. Clearing and grubbing will not be conducted between February 1 and June 30.	
	BIO-11c	Fire brush maintenance will not be conducted between February 1 and June 30, for the life of the project.	
	BIO-11d	Orange snow fencing will be put up around all construction within the QCB area (i.e., the 1-km radius around the QCB sighting).	
	BIO-11e	New access roads to the turbines in QCB areas will be gated to reduce OHV activity in the QCB Areas.	

Impact	Mitigation Measure		Conclusions
	BIO-11f	During operations and maintenance of the completed project all roads will be maintained such that no QCB host plants will be allowed to grow within the roadways.	
Impacts to raptor nests or species covered under the MBTA could occur.	BIO-12	At the time of construction, raptor nests or species covered under the MBTA could be present in the project area. IBR shall have raptor nest surveys conducted prior to tree cutting or grading near mature trees to ensure that active nests are not present. A qualified biologist shall conduct the surveys between February 15 and August 30 and prepare a survey report. If no raptor nests are discovered in the trees to be removed, no further mitigation is required. If any active raptor nests are discovered, the biologist shall mark all occupied trees and delineate a 500-foot buffer area around each occupied tree, if appropriate (best judgment of the biological matter on issues such as line of site, etc. may be considered). In addition a 1,200 foot buffer will be implemented in association with active eagle nests. No construction activity shall occur within the delineated buffer until the young have fledged, as determined by a qualified biologist. IBR shall consult with the appropriate agencies regarding its raptor nest protection measures prior to construction.	Implementation of mitigation measure BIO-12 will reduce impacts to special status species to a level of less than significant.
Impacts to coastal live oak woodlands and oak wood protection zones could occur.	BIO-13	Within County of San Diego jurisdictional areas, project impacts to coast live oak woodlands and oak woodland protection zones shall be mitigated according to the County of San Diego General Plan (2009d). In order to protect the shallow root systems of oak trees within the project footprint, a minimum 50-foot oak root protection zone shall be implemented between the dripline of oak woodlands and the nearest ground disturbance (i.e., grading or trenching). Where the project results in ground disturbance or compaction within a coast live oak woodland or oak root protection zone, it shall be mitigated with oak woodland habitat. Removal of coast live oak trees (that occur in coast live oak woodland) shall be mitigated at a 3:1 ratio based on the permanent impact to the summed acreage of all individual coast live oak trees and oak root protection zones impacted (County of San Diego 1997, County of San Diego 2009c).	Implementation of mitigation measure BIO-13 will reduce impacts coastal live oak woodlands and oakwood protection zones to a level of less than significant.

Impact	Mitigation Measure		Conclusions
Permanent and temporary impacts to USACE, RWQCB, CDFG, and County RPO jurisdictional areas would result from project	BIO-14a	Impacts to special status species and habitat will be minimized through the adherence of the mitigation measures stated in BIO-1 through BIO-13.	Implementation of mitigation measures BIO-14a through BIO-14d will be incorporated to reduce impacts to jurisdictional areas and water quality to a level of less than significant.
	BIO-14b	Impacts to special status species shall be avoided to the maximum extent practicable through the minimization of habitat degradation. When avoidance of special status species and their habitat is not feasible, mitigation measures will be put into place. These measures will be designed to avoid any significant reduction in species viability. For special status species, impacts will be mitigated through provision of habitat based mitigation, as required under Mitigation Measure BIO-1a.	
	BIO-14c	A biological monitor will be present during all ground-disturbing and vegetation removal activities. Immediately prior to initial ground-disturbing activities and/or vegetation removal, the biological monitor will survey the site to ensure that no sensitive species will be impacted.	
	BIO-14d	Prior to construction of the 138 kV transmission line(s), surveys for sensitive plant species known to occur or with a moderate to high potential to occur within the project area will be conducted for work areas and access roads during the appropriate phenological period. A report will be prepared that reflects the finding of these surveys and any associated impacts that will result from construction of the transmission line. This report will be submitted to the CPUC prior to the start of construction.	
The proposed project will impact water quality or the functions and values of jurisdictional areas.	BIO-15a	Environmental monitoring will be implemented during construction activities occurring within or adjacent to jurisdictional areas. The installation and maintenance of construction BMPs (i.e., silt fencing, straw waddles, sandbags, etc.) will be monitored by a qualified biologist, pursuant to National Pollutant Discharge Elimination System (NPDES), USACE-issued Nationwide Permit or Section 404 permit conditions.	Implementation of mitigation measures BIO-15a through BIO-15m will be incorporated to reduce impacts to water quality due to the proposed project to a level of less than significant.

Impact	Mitigation Measure	Conclusions
	BIO-15b The proposed project will be constructed consistent with the design, which minimizes impacts to wetlands, drainages and critical habitat areas, pursuant to NPDES, USACE-issued Nationwide Permit or Section 404 permit conditions.	
	BIO-15c Temporary stockpiles outside the channels or debris basins will be stabilized by compacting or other measures if present at the work site from December 1 to April 1. Silt fences, berms, or other methods will be used to prevent sediments from being eroded from the temporary stockpile into the adjacent drainage. Temporary stockpiles may be placed in channel bottoms or debris basins if they are located on barren soil or areas with non-native weeds, and are not placed in such a manner that they will be exposed to flowing water. No temporary stockpiles will be placed on the channel bed or banks during the period of December 1 to April 1 for more than the duration of the sediment removal work. Permanent stockpiles will be located landward of the 100-year floodplain to the maximum extent feasible, pursuant to NPDES, ACOE-issued Nationwide Permit or Section 404 permit conditions.	
	BIO-15d Iberdrola Renewables will minimize vegetation removal or reduction from channel bottoms to the least amount necessary to achieve the specific ma construction. Restoration shall include planting or seeding native plants that were present prior to the work and/or are compatible with existing vegetation near the work area. Iberdrola Renewables will prepare a restoration plan for the project that specifies the limits of restoration, planting mix and densities, performance criteria for survival and growth, and at least a three-year maintenance and monitoring procedures. Restoration sites will be located outside the limits of the repaired structure. If suitable restoration sites are not available, Iberdrola Renewables will provide funds to a third party (public agency or non-profit organization) to implement the required mitigation in the same watershed as the impact. Habitat restoration under this BMP shall only occur if the affected areas support native vegetation; no restoration is required for barren areas or areas dominated by non-native plants. The applicant shall submit all habitat restoration plans to CDFG prior to	

Impact	Mitigation Measure		Conclusions
		implementation. The habitat restoration plan for areas within 0.6 miles of the QCB locations will be reviewed and approved by USFWS prior to ground disturbing activities.	
	BIO-15e	Iberdrola Renewables will implement appropriate water management practices during on site concrete repair operations with the Sacramento, San Diego, and Colorado Districts water districts. Water management practices will be applied to the stockpiling of concrete, curing and finishing of concrete as well as to concrete wash-out operations. Water management practices will be adequate to ensure that fluids associated with the curing, finishing and wash-out of concrete will not be discharged to a channel or basin. Concrete wastes will be stockpiled separately from sediment and protected by erosion control measures so that concrete dust and debris are not discharged to a channel or basin. The Districts will determine the appropriate water management practices based on considerations of flow velocities, site conditions, availability of erosion control materials and construction costs.	
	BIO-15f	All fuels, waste oils, and solvents will be collected and stored in tanks or drums within a secondary containment area consisting of an impervious floor and bermed sidewalls capable of holding the volume of the largest container stored within. Iberdrola Renewables will ensure that all equipment operating in and near a drainage, or in a basin, is in good working condition and free of leaks. All vehicles will have drip pans during storage to contain minor spills and drips. No refueling or storage will take place within 100 ft of a drainage channel or structure. Spill containment materials must be on site or readily available for any equipment maintenance or refueling that occurs adjacent to a drainage. In addition, all maintenance crews working with heavy equipment will be trained in spill containment and response.	
	BIO-15g	Design measure such as straw waddles, silt fencing, aggregate materials, wetting compounds, and revegetation of native plant species will be implemented to decrease erosion and sedimentation.	

Impact	Mitigation Measure		Conclusions
	BIO-15h	All work will cease during heavy rains, and shall not resume until conditions are suitable for the movement of equipment and materials.	
	BIO-15i	A Storm Water Pollution Prevention Plan will be completed before construction.	
	BIO-15j	Prior to issuance of a Section 404 permit, or approval of a Nationwide Permit, and Section 401 Water Quality Certification, Iberdrola Renewables will mitigate per permit conditions. Mitigation ratios and approach (creation, restoration, or enhancement) will be determined through agency consultation and be stipulated as a permit condition. Creation and/or restoration mitigation will occur as noted in an approved mitigation, monitoring and reporting program. In areas regulated by the County of San Diego RPO, the no net loss requirements for RPO wetlands will be met.	
	BIO-15k	All on-site jurisdictional wetlands and waters will have a minimum 25-foot-wide buffer on either side of the feature (drainage or wash).	
	BIO-15l	Dust abatement techniques should be used on unpaved, unvegetated surfaces to minimize airborne dust; and erosion and fugitive dust control measures will be inspected and maintained regularly.	
	BIO-15m	Iberdrola Renewables will maintain appropriate water and soil conservation practices during construction and operation of the proposed project to protect topsoil and adjacent resources and to minimize soil erosion. Where possible, Iberdrola Renewables will avoid construction of roads on slopes greater than 10 percent. To minimize erosion during and after construction, BMPs for erosion and sediment control will be utilized, pursuant to NPDES permit conditions and Storm Water Protection Prevention Plan measures.	
Cultural and Paleontological Resources			
If impacts are identified, the following mitigation measures will be included in the event that avoidance of cultural resources is not possible.			
Impacts to historical resources.	CR-1	The project applicant shall prepare appropriate level Historical American Building Survey (HABS) documentation in accordance with the National Park Service's *Historic American Building Survey Guidelines for Preparing Written and Historical Descriptive Data.*	Implementation of mitigation measure CR-1 will reduce potential impacts to historic resources a level of less than significant.

Impact	Mitigation Measure		Conclusions
Impacts to cultural resources.	CR-2	Prior to issuance of grading permit(s), the project applicant shall retain an archaeologist to monitor all ground-disturbing activities in culturally sensitive areas in an effort to identify any unknown archaeological resources. Any newly discovered cultural resource deposits shall be subject to a cultural resources evaluation.	Implementation of mitigation measure CR-2 through CR-3 will reduce potential impacts to cultural resources a level of less than significant.
	CR-3	Prior to issuance of any grading permit, the project archaeologist shall file a pre-grading report with the County (if required) to document the proposed methodology for grading activity observation. Said methodology shall include the requirement for a qualified archaeological monitor to be present and to have the authority to stop and redirect grading activities. In accordance with the agreement required in CR-3, the archaeological monitor's authority to stop and redirect grading will be exercised in consultation with the appropriate Tribe in order to evaluate the significance of any archaeological resources discovered on the property. Tribal monitors shall be allowed to monitor all grading, excavation and groundbreaking activities, and shall also have the authority to stop and redirect grading activities in consultation with the project archaeologist. • In the event that previously unidentified potentially significant cultural resources are discovered, the archaeologist shall have the authority to divert or temporarily halt ground disturbance operations in the area of discovery to allow evaluation of potentially significant cultural resources. The archaeologist shall contact a County staff archaeologist at the time of discovery. The archaeologist, in consultation with the County staff archaeologist, shall determine the significance of the discovered resources. The County staff archaeologist must concur with the evaluation before construction activities will be allowed to resume in the affected area. For significant cultural resources, a research design and data recovery program to mitigate impacts shall be prepared by the Principal Investigator and approved by the County staff archaeologist, then	

Impact	Mitigation Measure	Conclusions
	carried out using professional archaeological methods. • In the event that previously unidentified cultural resources are discovered, all cultural material collected during the grading monitoring program shall be processed and curated at a San Diego facility that meets federal standards per 36 CFR Part 79, and therefore will be professionally curated and made available to other archaeologists/researchers for further study. The collections and associated records shall be transferred, including title, to an appropriate curation facility within San Diego County, to be accompanied by payment of the fees necessary for permanent curation. Evidence shall be in the form of a letter from the curation facility identifying that archaeological materials have been received and that all fees have been paid.	
Impact to archaeological, cultural, or paleontological resources, and coordination with area tribes.	CR-4 If inadvertent discoveries of subsurface archaeological/cultural/paleontological resources are made during construction, operation, maintenance or decommissioning of the project, the applicant, the project archaeologist, and the appropriate Tribe shall assess the significance of such resources and shall meet and confer regarding the mitigation for such resources. If the Developer and the Tribe cannot agree on the significance or the mitigation for such resources, these issues will be presented to the Count of San Diego Department of Planning and Land Use (DPLU). The DPLU shall make the determination based on the provisions of the California Environmental Quality Act with respect to archaeological resources and shall take into account the religious beliefs, customs, and practices of the appropriate Tribe.	Implementation of mitigation measure CR-4 will reduce impacts to archaeological, cultural, or paleontological resources to a level of less than significant.
Impacts to paleontological resources during grading.	CR-5 Prior to issuance of a grading permit(s), the applicant shall retain a qualified paleontological monitor. The paleontological monitor shall be responsible for the following: • Monitoring grading that includes initial cutting into any area of the project site. Paleontological monitoring shall occur only for those undisturbed sediments	Implementation of mitigation measure CR-5 will reduce impacts to paleontological resources to a level of less than significant.

Impact	Mitigation Measure	Conclusions
	wherein fossil plant or animal remains are found with no associated evidence of human activity or any archaeological context. • If any paleontological resources are identified during these activities, the paleontologist shall temporarily divert construction until the significance of the resources is ascertained. • Paleontological monitors shall be equipped to salvage fossils as they are unearthed to avoid construction delays, and to remove samples of sediments which are likely to contain the remains of small fossil invertebrates and vertebrates. Monitors shall be empowered to temporarily halt or divert equipment to allow removal of abundant or large specimens. Monitoring may be reduced if the potentially fossiliferous units described above are not present or if the fossiliferous units present are determined by a qualified paleontological monitor to have low potential to contain fossil resources. • All recovered specimens shall be prepared to a point of identification and permanent preservation, including washing of sediments to recover small invertebrates and vertebrates. • Specimens shall be identified and curated into an established, accredited, professional museum repository with permanent retrievable storage. The paleontologist shall have a written repository agreement in hand prior to the initiation of mitigation activities. • A report of findings with an appended itemized inventory of identified specimens shall be prepared. The report shall address archaeological and paleontological items. This report shall incorporate the full results of the literature review, as well as the full results of the recommended review of the records of the Eastern Information Center at the University of California, Riverside. The report shall be submitted to the City of Lake Elsinore prior to the issuance of the Certificate of Occupancy.	

Impact	Mitigation Measure		Conclusions
Impacts to human remains.	CR-6	If human remains are encountered, California Health and Safety Code §7050.5 states that no further disturbance shall occur until the San Diego County Coroner has made the necessary findings as to origin. Further, pursuant to California Public Resources Code §5097.98(b) remains shall be left in place and free from disturbance until a final decision as to the treatment and disposition has been made. If the San Diego County Coroner determines the remains to be Native American, the Native American Heritage Commission shall be contacted within a reasonable timeframe. Subsequently, the Native American Heritage Commission shall identify the "most likely descendant." The most likely descendant shall then make recommendations, and engage in consultations concerning the treatment of the remains as provided in Public Resources Code § 5097.98.	Implementation of mitigation measure CR-6 will reduce impacts to human remains to a level of less than significant.
Energy			
No impacts identified; therefore, no mitigation measures are required.			
Fire and Fuels Management			
Expose people or structures to a significant risk of loss, injury, or death involving wildland fires due to construction of the proposed project.	FF-1	Develop and implement a Construction and Maintenance Fire Prevention/Protection Plan. IBR shall develop a multi-agency Construction and Maintenance Fire Prevention Plan. Plan reviewers shall include: CPUC, CAL FIRE, BLM, CSLC, and the County of San Diego. IBR shall provide a draft copy of this Plan to each listed agency at least 90 days before the start of construction activities. Comments on the Plan shall be provided by IBR to all other participants, and IBR shall resolve each comment in consultation with and to the satisfaction of CAL FIRE, SDRFPD and the SDCFA. The final Plan shall be submitted to CAL FIRE, SDRFPD and SDCFA at least 30 days prior to the initiation of construction activities. IBR shall fully implement the Plan during all construction and maintenance activities. All construction work on the project shall follow the Construction Plan guidelines and commitments, and Plan contents are to be incorporated into the standard construction contracting agreements for the construction of the project. Primary Plan enforcement and implementation responsibility will remain with IBR. At a minimum, Plan contents will include the requirements of Title 14 of the California Code	Impacts due to project components would be reduced with the implementation mitigation measures FF-1 through FF-10 due to construction of the project, with the exception of the wind turbines. Impacts due to the wind turbines remains unavoidable until confirmation of a fire suppression system in the nacelle is feasibility.

Impact	Mitigation Measure	Conclusions
	of Regulations, Article 8 #918 "Fire Protection" and the elements listed below: 1. During the construction phase of the project, IBR shall implement ongoing fire patrols. IBR shall maintain fire patrols during construction hours and for 1 hour after end of daily construction, and hotwork. 2. Fire Suppression Resource Inventory – In addition to CCR Title 14, 918.1(a), (b), and (c), IBR shall update in writing the 24-hour contact information and onsite fire suppression equipment, tools, and personnel list on quarterly basis and provide it to the CAL FIRE, SDRFPD, SDCFA, CPUC, BLM, and to state and federal fire agencies. 3. During Red Flag Warning events, as issued daily by the National Weather Service in SRAs and Local Responsibility Areas (LRA), all non-essential, non-emergency construction and maintenance activities shall cease or be required to operate under IBR's Hot Work Procedure. Utility and contractor personnel will be informed of changes to the Red Flag event status as stipulated by CAL FIRE. 4. All construction crews and inspectors shall be provided with radio and cellular telephone access that is operational along the entire length of the approved route to allow for immediate reporting of fires. Communication pathways and equipment shall be tested and confirmed operational each day prior to initiating construction activities at each construction site. The radio shall allow communications with other IBR vehicles and construction trailer. All fires will be reported immediately upon detection. 5. Each member shall carry at all times a laminated card listing pertinent telephone numbers for reporting fires and defining immediate steps to take if a fire starts. Information on contact cards will be updated and	

Impact	Mitigation Measure	Conclusions
	redistributed to all crewmembers as needed and outdated cards destroyed, prior to the initiation of construction activities on the day the information change goes into effect. 6. Each member of the construction crew shall be trained and equipped to extinguish small fires in order to prevent them from growing into more serious threats. 7. Water storage tanks and access roads shall be installed and operational at time of start of construction.	
	FF-2: Develop a Wildland Fire Prevention and Fire Safety Guide. IBR shall prepare and adopt a Wildland Fire Prevention Plan and Fire Safety Guide. The Plan will, at a minimum, include all of the provisions of the Construction Fire Prevention Plan (as described above). The Plan will be revisited and updated once every five years to incorporate new regulations, practices, technologies, and fire science research. IBR shall submit the Plan for review and comment by the following agencies at least 90 days prior to energizing the proposed project: CPUC, BLM, CAL FIRE, SDRFPD, SDCFA, and the CSLC. IBR will submit the Plan (with agency comments incorporated) for review and approval by CAL FIRE, SDRFPD and the SDCFA at least 60 days prior to commencing construction for the proposed project.	
	FF-3: MOU - Ensure coordination for emergency fire suppression. IBR shall ensure that personnel, construction equipment, and aerial operations do not create obstructions to firefighting equipment or crews. The following provisions shall be defined based on consultation with CAL FIRE and the SDRFPD. a. Onsite IBR and contracted personnel shall coordinate fire suppression activities through the active fire agency designated Fire Incident Commander, and emergency ingress and egress to construction-related access roads will remain unobstructed at all times. Construction and/or maintenance work shall cease in the event of a fire within 1,000 feet of the work area. The work area includes the transmission ROW, construction laydown areas, pull sites,	

Impact	Mitigation Measure	Conclusions
	access roads, parking pads, turbines, O&M building, and substation and any other sites adjacent to the ROW where personnel are active or where equipment is in use or stored.	
	FF-4: Remove hazards from the work area. IBR shall comply with PRC 4291, *Reduction of Fire Hazards Around Building*, to provide 100 feet fuel modification around all buildings, and the County Code Title 9 regarding brush management. IBR and/or its contractor shall clear brush and dead and decaying vegetation from the work area prior to starting construction and/or maintenance work. The work area includes only those areas where personnel are active or where equipment is in use or stored, and may include portions of the transmission ROW, construction laydown areas, pull sites, access roads, parking pads, turbine pads, O&M building, substation and any other sites adjacent to the ROW where personnel are active or where equipment is in use or stored.	
	FF-5: Helicopter Use: IBR shall contact CAL FIRE and the SDRFPD dispatch centers two days prior to helicopter use and will provide dispatch centers with radio frequencies being used by the aircraft, aircraft identifiers, the number of helicopters that will be used while working on or near SRA lands at any given time, and the flight pattern of helicopters to be used. Should a wildfire occur within one (1) mile of the work area, upon contact from a CAL FIRE Incident Commander and/or Forest Aviation Officer, helicopters in use by IBR will immediately cease construction activities and not restart aerial operations until authorized by the appropriate fire agency.	
	FF-6: Roads: Any BLM roads or turbine roads that are proposed to be gated shall be provided with an approved Knox Box.	
	FF-7: Combustible Storage: (CFC Chapter 3). Combustible storage and trash on site during construction and operation phases shall be properly stored in a clear area with fuel modification around it, and be away from turbines and the substation. Such storage shall be orderly and be removed from the site as soon as possible.	
	FF-8: Perform climbing inspections. IBR shall perform climbing inspections on 10 percent of	

Impact	Mitigation Measure		Conclusions
		project structures supporting overhead lines annually, such that every project structure has been climbed and inspected at the end of a 10-year period, for the life of the project. In addition, IBR will keep a detailed inspection log of climbing inspections, and any potential structural weaknesses or imminent component failures shall be acted upon immediately. The inspection log will be maintained on-site and available for review by CAL FIRE/SDRFD upon request.	
	FF-9:	Line Clearance. For the 138 kV transmission line, IBR shall establish and maintain adequate line clearance in conformance with CPUC GO 95. Only trees or vegetation with a mature height of 15 feet or less shall be permitted within the transmission right of way except where the transmission line spans a canyon. In addition, tree branches that overhang the ROW within 10 horizontal feet of any conductor shall be trimmed or removed, as appropriate, including those on steep hillsides that may be many vertical feet above the facility. Conductor clearance of 10 radial feet under maximum sag and sway will be maintained at all times. Cleared vegetation shall be removed to comply with requirements of the County of San Diego. During the life of the project, IBR shall maintain adequate conductor clearances by inspecting the growth of vegetation along the entire length of the overhead transmission line at least once each spring and documenting the survey and results. The inspection log shall be maintained on-site and available for review by CAL FIRE/SDRFPD upon request.	
	FF-10:	Fire Suppression in the Nacelle - Iberdrola Renewables shall provide a manufacturer or aftermarket fire suppression system in each wind turbine nacelle.	
Potential impacts to fire fighting effectiveness due to the presence of overhead transmission lines, overhead collector lines, and/or wind turbines	FF-11:	De-Energize Electrical System - IBR shall immediately de-energize the electrical collector and transmission systems during fire emergencies in which SDG&E de-energizes its local 138 kV system. Appropriate fire agencies shall be immediately notified of the line de-energizing. Additionally, IBR shall provide all appropriate local, state, and federal fire dispatching agencies with an on-call contact person (Fire Coordinator) who has the authority to shut down the line in areas affected by a fire. The transmission line shall	Implementation of FF-11 through FF-13 would reduce potential impacts to fire fighting effectiveness to a level of less than significant.

Impact	Mitigation Measure		Conclusions
		be de-energized prior to and during fire suppression activities within 1 mile of the transmission corridor to maintain firefighter safety, and re-energizing shall require notification and approval of all the responsible fire agencies.	
	FF-12:	Site Maps - All responsible agencies shall be provided with maps indicating the location of the water tanks, turbines, access roads, and project layout and towers.	
	FF-13:	Communication Devices - In order to easily communicate immediate fire incidence during construction, operation or maintenance of the project, all crews and inspectors shall be equipped with operational communication equipment and open communication pathways shall be established.	
Impacts due to increased ignition potential and rate of fire spread due to the introduction of non-native plants.	FF-14:	Noxious Weed and Invasive Species Control Plan and Habitat Restoration Plan will be completed prior to construction.	Implementation mitigation measure FF-14 would reduce potential impacts to a level of less than significant.
Geology, Soils, and Minerals			
Impacts related to earthquakes and seismic ground shaking	GS-1	Engineering of proper foundations for the location of the proposed turbines J-6, K-1, K-2, K-3, J-13, L-1, L-2, A-4, A-5, A-6, and P-5 for adequate foundation to resist an earthquake and seismic shaking.	The implementation of mitigation measure GS-1 will give additional engineering that will provide stability for the identified turbines and will reduce impacts to less than significant with mitigation.
Impacts due to liquefaction.	GS-2	Identification of soils and groundwater or springs in areas which contain Mottsville soil.	The hazard of Mottsville soil will be the slope and location of available water, of which there are seven springs located within the project area. The towers closest to a spring are turbines D-1 and F-4. The soil does not appear to be saturated, although during construction the flow of the springs, high water table, and heavy precipitation should be monitored to avoid and reduce the risk of liquefaction impacts. Mitigation measure GS-2 will identify areas containing Mottsville soil and a high groundwater table to reduce potential liquefaction impacts to less than significant with mitigation.

Impact	Mitigation Measure		Conclusions
Impacts due to soil incapable of supporting the use of septic tanks or alternative wastewater disposal systems.	GS-3	Further geologic study to determine correct location and compatible soils for the placement of the O&M septic tank.	Appropriate measures will be required to accommodate the soil limitations. Impacts and limitations of soils for septic tanks and wastewater capability will require further analysis upon the completion of the groundwater study and site specific percolation tests prior to construction. Impacts will be considered less than significant with implementation of mitigation measure GS-3.
Hazards and Hazardous Materials			
No impacts identified; therefore, no mitigation measures are required.			
Hydrology and Water Quality			
Preliminary model results indicate that project development not will significantly alter existing drainage patterns and the amount of redirected flows will be minimal. Site specific hydrologic and hydraulic analysis will be completed to determine flow rates.	HY-1	Prior final approval of the proposed project the project applicant shall prepare and submit a final grading plan and site plan. The grading plan shall be prepared to the standards set forth by the County of San Diego and include the BMPs presented in Table 2.0-6 of this EIS/EIR. The grading and site plan are subject to review and approval by San Diego County Public Works Department.	Implementation of mitigation measures HY-1 and HY-2 will further reduce potential impacts to a less than significant level.
	HY-2	Iberdrola Renewables shall prepare a Storm Water Management Plan and Drainage Study prior to final approval of the grading plan and roadway management plan. The applicant shall implement all recommendations presented in the studies.	
Land Use and Planning			
No impacts identified; therefore, no mitigation measures are required.			
Noise			
Impacts due to nighttime turbine noise.	NS-1	Mitigation options that may be considered in final design include revising turbine layout, nighttime curtailment of select turbines, utilizing an alternate turbine manufacturer and implementation of noise reduction technology. Prior to construction a noise report will be finalized to demonstrate compliance with the San Diego County Code of Regulatory Ordinances Section 36.404.	Implementation of mitigation measures NS-1 will reduce potential nighttime turbine noise impacts to a less than significant level.
Temporary construction noise impacts due to roadway and transmission line construction.	NS-2	A site specific noise mitigation plan will be developed and construction noise levels will be reduced to comply with San Diego County Code of Regulations Section 46.309. Mitigation of construction noise can be implemented through a number of different	Implementation of mitigation measure NS-2 in conjunction with the proposed BMPs is anticipated to reduce impacts to a level of less than significant.

Impact	Mitigation Measure	Conclusions
	options. The most significant impact during roadway construction is 99 dBA L_{eq} at receptors 11A. Reduction of these high levels to 75 dBA L_{eq} is most likely going to take the form of a movable barrier, along with modifications to exhaust systems, and time constraints on the loudest pieces of machinery. Considering a 12-foot high exhaust stack on a typical dump truck, achieving a 20 dB reduction could require a barrier up to 24 feet high. Additional mitigation options may include limited equipment use.	
Population and Housing		
No impacts identified; therefore, no mitigation measures are required.		
Public Health and Safety		
BLM is required to provide public access to all portions of its land. Turbines can suffer structural failures that throw blades or portions of blades, and other heavy parts, some weighing several tons, creating a danger for people occupying the surrounding area.	PHS-1 Iberdrola Renewables shall provide signage throughout the project that warns and cautions the public from getting too close to the towers.	Mitigation measure PHS-1 will notify the public to the potential dangers of wind turbine failures. The project can not provide appropriate mitigation for impacts to the public, particularly recreationists, from the potential hazards of tower/rotor failure. Therefore, this will remain a significant impact.
The project may generate interference with electromagnetic frequencies.	PHS-2 In the event the project results in EMI, Iberdrola Renewables (or the operator), should work with the owner of the impacted communications system to resolve the problem. Potential mitigation may include realigning the existing antenna or installing relays to transmit the signal around the project. Additional warning information may also need to be conveyed to aircraft with onboard radar systems so that echoes from wind turbines can be quickly recognized.	Mitigation Measure PHS-2 will reduce the potential impacts to EMI to a less than significant level.
Public Services and Utilities		
No impacts identified; therefore, no mitigation measures are required.		
Recreation and Wilderness		
No impacts identified; therefore, no mitigation measures are required.		
Socioeconomics and Environmental Justice		
No impacts identified; therefore, no mitigation measures are required.		
Traffic and Transportation		
No impacts identified; therefore, no mitigation measures are required.		

2.10 CUMULATIVE PROJECTS

NEPA and CEQA require projects to evaluate cumulative impacts that the proposed project may have to a surrounding area. **Table 2.0-8 and Figure 2.0-11**, Cumulative Projects, include past, present, and reasonably foreseeable future projects that are located within a 10-mile radius of the proposed project. The known and potential impacts of these projects were cumulatively evaluated as part of this environmental document. Although these projects may not individually result in significant impacts, combined with other projects in the same vicinity, they may have a cumulative significant effect on one or more resources of the area.

East County Substation Project[4]

The Tule Wind Project is considered a connected action to the whole of the East County Substation (ECO Substation) Project, which also encompasses the Energia Sierra Jaurez United States Transmission Generation Tie Line Project (ESJ). As part of the ECO Substation Project, SDG&E is also proposing to rebuild the Boulevard Substation (SDG&E proposed Rebuilt Boulevard Substation). These upgrades will increase the utility's ability to bring renewable energy into its system, including the additional 200 MW of energy from the Tule Wind Project, and is expected to improve the reliability of the local transmission system. An application and Proponent's Environmental Assessment (PEA) for the ECO Substation project was filed with the CPUC on August 10, 2009 (Application Number 09-08-003). The description of the ECO Substation Project is as follows:

1. 500/230/138 kV ECO Substation;
2. Southwest Powerlink (SWPL) loop-in, a short loop-in of the existing SWPL transmission line to the proposed ECO Substation;
3. 138 kV transmission line, approximately 13.3 miles in length, running between the proposed ECO Substation and the rebuilt Boulevard Substation;
4. Boulevard Substation rebuild; and
5. White Star Communication Facility rebuild.

ECO Substation

The proposed substation site is located on the south side of Interstate (I-) 8, east of the town of Jacumba. Old U.S. Highway 80 is located just north of the site and the U.S./Mexico border is located to the south. Privately owned, undeveloped land borders the western and southern sides of the site, and undeveloped land managed by the BLM is located to the east. The site can be accessed by traveling east from San Diego on I-8, exiting at In-Ko-Pah Park Road, and heading west on Old U.S. Highway 80 until it intersects the South West Power Link (SWPL). The ECO Substation will be located entirely on privately owned, undeveloped land. SDG&E will acquire up to six parcels totaling approximately 498 acres of land for the entire ECO Substation Project, of which the fenced portion will encompass approximately 58 acres.

[4] SDG&E ECO Substation Project Description

Figure 2.0-11. Cumulative Projects

Table 2.0-8. Cumulative Projects List

Project Number	Type of Project	Project Name	Aesthetics	Agricultural Resources	Air Quality	Biological Resources	Cultural & Paleontological Resources	Geologic Issues	Hazards	Hydrology & Water Quality	Land Use & Planning	Mineral Resources	Noise	Public Services	Transportation	Utilities and Services	Description
01-052	ZAP and Minor Use Permit	La Posta Telecommunication Facility	N	LS	LS	PSM	LS	LS	LS	LS	LS	LS	LS	LS	LS	LS	IS completed for a telecommunications facility on eight acres located off of La Posta Circle East. Proposal included four 35-foot wood poles with four arrays, consisting of 12 antennas each and four 12' by 28' concrete pads. Impacts to 0.75 acres of chemise chaparral, mitigation to be 0.5:1 ratio in approved mitigation bank.
02-016	Major Use Permit	Jamacha Mini Storage	W	W	W	W	W	W	W	W	W	W	W	W	W	W	Withdrawn in 2002.
02-018	Specific plan and MUP	Promiseland Ranch campus	W	W	W	W	W	W	W	W	W	W	W	W	W	W	Development of 30 homes for foster care, a maximum of 240 foster children on 333-acre ranch. Withdrawn July 2003.
03-033	Major Use Permit		W	W	W	W	W	W	W	W	W	W	W	W	W	W	Construction of an elementary school site on two parcels (1.06 acres and 1.08 acres). Withdrawn May 2004.
03-034	Administrative Permit		W	W	W	W	W	W	W	W	W	W	W	W	W	W	Two oversized storage buildings at 2115 Campo Truck Trail. IS was determined to be incomplete. Withdrawn June 2003.
03-036	Site Plan and Minor Use Permit	Chapman Ranch – AT&T Wireless Account	W	W	W	W	W	W	W	W	W	W	W	W	W	W	5 communication antennas. Withdrawn April 20, 2007.
03-046	Administrative Permit (Minor Use Permit)		CE	CE	CE	CE	CE	CE	CE	CE	CE	CE	CE	CE	CE	CE	Categorical Exemption completed. Minor Use Permit for two communication antennas located north of Old Hwy 80 on 8.9-acre parcel with an existing SFR.
03-052-01	Minor Deviation	T-Mobile Cell Site	CE	CE	CE	CE	CE	CE	CE	CE	CE	CE	CE	CE	CE	CE	Categorical Exemption completed. Minor Use Permit for the construction of a 51' flagpole cell tower. Withdrawn May 24, 2007.
03-053	Minor Use Permit	AT&T Mountain Empire Redhawks	W	W	W	W	W	W	W	W	W	W	W	W	W	W	Two communication antennae and cell phone towers on existing SDG&E tower. Withdrawn July 9, 2004.
03-068	Major Use Permit	AT&T Wireless c/o Velocitel	W	W	W	W	W	W	W	W	W	W	W	W	W	W	Six antennae with one microwave antenna on exiting 100 foot tower. Withdrawn October 2003.
03-081	Administrative Permit	Berguund	W	W	W	W	W	W	W	W	W	W	W	W	W	W	Withdrawn December 2003.
03-089	Minor Use Permit	AT&T REGENERATION FACILITY/NEEDHAM	LS	LS	LS	LS	LS	LS	LS	LS	LS	LS	LS	LS	LS	LS	MND completed. Two fabricated buildings on a concrete slab east of Old Hwy 80, south of Old Buckman Springs Road.
03-100	Minor Use Permit	Brockman Second Dwelling Unit	CE	CE	CE	CE	CE	CE	CE	CE	CE	CE	CE	CE	CE	CE	Categorical Exemption completed. Minor Use Permit for a second dwelling unit (1,128 sf).
03-115	Major Use Permit	Ozbirn – Cingular	NI	NI	LS	LS	N	LS	LS	N	LS	N	LS	N	N	N	Negative Declaration completed in Nov 2004. Construction of a wireless telecommunications facility of a 45-foot camouflage utility pole with three antennas located at 1524 Kimberly Way, Campo. Approved March 23, 2005.
04-004, 04-053	Reclamation Plan and MUP	Miller Creek Reclamation Plan	PSI	N	PSI	PSI	PSI	PSI	PSI	PSI	LS	LS	PSI	LS	PSI	PSI	NOP completed Feb. 2005. Major Use Permit and Reclamation Plan for the extraction of sand resources in Campo. Operations would encompass 136 acres on 763 acres. MUP would allow for extraction of sand on 58.2 acres. 16.4 acres would be used for the creation of wetlands. General operations for processing would consist of 61.9 acres. Project to be completed over 25 years in 4 phases. Draft EIR currently in the process. Impacts to aesthetics identified, including potential visual impacts to the state scenic highway view shed (state scenic highway I-8) and visual impacts to the area. Impacts to wildland fires anticipated. Funds not available for EIR submittal. Inactive status January 2010.
04-013	Admin. Permit	Vawter Avocado Grove	CE	CE	CE	CE	CE	CE	CE	CE	CE	CE	CE	CE	CE	CE	Categorical Exemption completed. Clearing of 20.86 acres of avocado trees for the replanting of new avocado trees.

Project Number	Type of Project	Project Name	Aesthetics	Agricultural Resources	Air Quality	Biological Resources	Cultural & Paleontological Resources	Geologic Issues	Hazards	Hydrology & Water Quality	Land Use & Planning	Mineral Resources	Noise	Public Services	Transportation	Utilities and Services	Description
04-014	Administrative Permit	La Posta Circle Agricultural Brushing and Clearing Permit	CE	CE	CE	CE	CE	CE	CE	CE	CE	CE	CE	CE	CE	CE	Categorical Exemption completed. The project consists of clearing of Chemise chaparral and a small portion of Granitic northern mixed chaparral.
04-019	Major Use Permit	Cameron Corners	LS	LS	LS	LS	LS	LS	NI	NI	LS	LS	LS	NI	NI	NI	Wireless facility consisting of a 60-foot high faux water tower with a 16' wide access road from Old Highway 80 in the La Posta area. Approved in February 2009.
04-026	Rezone	Fadem Rez and Disestablishment of AG. Per	CE	CE	CE	CE	CE	CE	CE	CE	CE	CE	CE	CE	CE	CE	Categorical Exemption completed. The project consists of a rezone for the removal of the "A" special Area Designator Ag Preserve and an alteration to the existing boundary of Ag Preserve No. 30 to remove the subject parcels which total 1,722 acres of the larger 14,000 acre AG preserve. No other changes to zoning proposed. The project site is located adjacent to I-8 on both sides of McCain Valley road. Approved in April 2006.
05-021	Minor Use Permit	Stone	W	W	W	W	W	W	W	W	W	W	W	W	W	W	Construction of a 920 sf manufactured home on a 20-acre parcel. Withdrawn February 19, 2006.
05-046	Major Use Permit	Gasoline Curve	CE	CE	CE	CE	CE	CE	CE	CE	CE	CE	CE	CE	CE	CE	Categorical Exemption approved in September 2007 for a Sprint Nextel wireless faux broad leaf tree facility on an 8.16-acre parcel on Shockey Truck Trail.
06-009	Plan Amendment	Jacumba Valley Ranch															Plan Amendment for Jacumba Valley Ranch. Change in the land use designation for 1,250 acres located south of I-8 at Carrizo Gorge Road off ramp. Authorized August 2006, but not approved to date.
06-018	Major Use Permit	Buck man Springs/ Sprint Nextel	LS	LS	NI	LS	NI	LS	NI	LS	LS	LS	LS	NI	PS	NI	MND completed in 2/2007 for a faux pine tree located on Buckman Springs Road in Pine Valley. Potential Impacts identified included a minimal addition to ADT. The project was determined not to exceed level of service standard at the direct project level impact on the LOS standards. The project applicant will contribute to the transportation impact fee (TIF) program.
06-026	Administrative Permit	Carport	CE	CE	CE	CE	CE	CE	CE	CE	CE	CE	CE	CE	CE	CE	Categorical Exemption completed for oversized structures including a 1,296 sf (24 x24) carport.
07-038	Major Use Permit	Rancho Finistierra	W	W	W	W	W	W	W	W	W	W	W	W	W	W	The first iteration of the IS was determined to be incomplete. Withdrawn June 2005.
20393	Tentative Parcel Map	Serio Minor Subdivision	LS	PSM	LS	PS-M	PS-M	LS	LS	LS	LS	LS	LS	N	LS	LS	Negative Declaration completed June 1999. Unspecified amount of oak riparian woodland identified. Mitigation to include open space easement for the protection of oak riparian woodland, with County overlay for fire fuel maintenance. Fire Department is not expected to adequately service the project within the next five years. Mitigation to include alternate design, sprinklers, water storage take, and Class "A" roofing. Approved on August 12, 1999.
20580	Tentative Parcel Map	Frankie Smith	LS	LS	LS	PS	PS	LS	LS	LS	LS	LS	LS	LS	LS	LS	An AEIS application was filed on 11/30/ 2000. Minor subdivision of 168 acres into 5 single family residence lots. A Quino Checkerspot Butterfly Habitat Assessment was done, per the Dept. of Fish and Game request. Report determined a low sensitivity status to the species, with a proposed open space easement for the protection of wetlands and habitat. Direct impacts to Coast Live Oak Woodland 2.2 acres, Southern Willow Scrub 0.08 acres, Alkali Meadow 0.07 acres, Chamise chaparral 206.4 acres, Redshank Chaparral 23.5, Great Basin Sage Scrub 21,8 acres, Great Basin Sage Scrub-disturbed 1.5 acres, Semi-.desert Chaparral 0.9 acres, Semi-desert Chaparral-disturbed 1.3 acres, Non-native Grassland 0.2 acres, Disturbed habitat 9.5 acres, Developed 0.8 acres. Project impacts to vegetation community totals 16.6 acres. An archaeological evaluation was conducted in June 2004, open easements were offered as mitigation for the six sites and two historic sites. Denied by the council November 17, 2005 for inadequate progress.

Project Number	Type of Project	Project Name	Aesthetics	Agricultural Resources	Air Quality	Biological Resources	Cultural & Paleontological Resources	Geologic Issues	Hazards	Hydrology & Water Quality	Land Use & Planning	Mineral Resources	Noise	Public Services	Transportation	Utilities and Services	Description
20675	Tentative Parcel Map	Dart	LS	Ni	LS	PS-M	LS	LS	NI	LS	LS	LS	PS-M	NI	PS-M	LS	MND for 33.46-acre subdivision into 3 lots. 2 for SFR and 1 for General commercial uses. The project is expected to add an additional ADT of 400. The Ribbonwood Road is currently at 250 with an LOS of A. 400 ADT is not expected to be a significant increase. The project applicant will contribute to TIF. A noise protection easement will be applied to the entire area of parcel 1, 2, and 3 to mitigate the impact of noise to future residents from I-8 and Ribbonwood Road. The site contains 27.9 acres of semi-desert chaparral. 13.95 acres will be preserved within an open space easement. A limited building zone easement will be dedicated adjacent to the open space to limit construction within the 100-foot open space easement. Onsite mitigation at a ratio of 1 to 1 for project impacts to Semi-desert Chaparral vegetation. Open space habitat to be no less than 13.95 acres of Semi-desert Chaparral. FNOA Nov. 27, 2006.
20698	Tentative Parcel Map	Erdmann Subdivision	LS	NI	LS	PS-M	LS	LS	NI	LS	LS	LS	LS	NI	LS	LS	MND determined impacts may be significant. The project includes subdividing 101.6 acres into 4 parcels. Mitigation will place 56.4 acres of habitat into biological open space. Impacts to 0.1 acres of live oak woodland, 0.8 acres of flat-topped buckwheat, and 24.5 acres of semi-desert chaparral. Impact on-and off-site will result in the loss of 3 Sticky Geraea (o off-site), approximately 860 Desert beauty (70 off-site); and 1 Pride of California. Approximately 100% of the Tecate tar plants, 50% of the Sticky Geraea, 88% of the Desert beauty, 89% of the 9 Pride of California will be preserved on site. Proposed mitigation will place 56.4 acres of habitat in a biological open space including: 0.8 acres of Coast live oak woodland; 0.3 acres of Great basin sage scrub; 0.8 acres of Flat topped buckwheat; 2.3 acres of Red shank chaparral; and 0.1 acres of Non-native grasslands. Open space
20719	Tentative Parcel Map	Grizzle	LS	NI	LS	PS-M	PS-M	LS	LS	LS	LS	NI	PS-M	NI	PS-M	LS	MND determined there may be significant impacts. Subdivision of 1 lot into 4 parcels with a remainder parcel for SFR development. 13.6 acres of habitat impacted requiring 19.5 acres of mitigation. 219.3 acres of the 248.21 acres of the project site is to be placed in an Open Space easement. 6.7 acres of southern willow scrub riparian habitat is to be protected within this O/S easement. Need to look up HDR project June 2005. Nine archaeological resources were identified. Of those, six sites will be placed into a biological open space easement. The remaining three were determined to be not significant and the NAHC was contacted and letters were sent out to area tribes for consultation. Parcels have the potential to be exposed to agricultural uses and noise from such uses. The proposed project will add an additional 48 ADT's. Currently, the level of service along Old Hwy 80 is A; and has an ADT of 1200 and the addition of ADT of 48 is not considered substantial. The project applicant will contribute to TIF.
20740	Tentative Parcel Map	Rios	W	W	W	W	W	W	W	W	W	W	W	W	W	W	Clearing of a building site on the proposed lots and grading from an access pad and proposed driveway. Withdrawn July 2003.
20774	Tentative Parcel Map	Madsen	W	W	W	W	W	W	W	W	W	W	W	W	W	W	Withdrawn January 2004.

Project Number	Type of Project	Project Name	Aesthetics	Agricultural Resources	Air Quality	Biological Resources	Cultural & Paleontological Resources	Geologic Issues	Hazards	Hydrology & Water Quality	Land Use & Planning	Mineral Resources	Noise	Public Services	Transportation	Utilities and Services	Description
20784	Tentative Parcel Map	Bennett	LS	LS	LS	PS	PS	LS	LS	PS	LS	LS	LS	PS	LS	LS	AEIS competed October 2003. Project proposes the split of 48 acres into 5 lots, no smaller than 8 acres. Private easement road for fire access. Impacts identified to cultural resources. Requesting Water Quality /testing, Stormwater Plan, Cultural report was accepted. Groundwater issues identified. Letter as of November 2009, 60 days to provide a second means of access. Does not comply with fire safety regulations for the maximum length of a dead-end road. Three adjacent but separate projects (20777, 20784, 20798) which propose to collectively mitigate biological impacts through on-site habitat with open space easement. The proposed open space is fragmented and would introduce significant edge effects. Open space will not fully mitigate impacts to wildlife habitat. Project denied January 29, 2010, case closed March 16, 2010.
20798	Tentative Parcel Map	Powell	LS	LS	LS	PS	LS	LS	LS	PS	LS	LS	LS	LS	LS	Ls	AEIS completed Sept 2005. Under 6th iteration review, project proposes to split 40 acres into four parcels ranging in size from 8 to 10 acres. Groundwater issue with groundwater samples collected in wells in Morena Village for radioactivity. Access issues identified. Collective biological impacts identified. Redesign biological open space area, but open space easement is fragmented. Project denied January 29, 2010, cased closed April 20, 2010.
20882	Tentative Parcel Map	Totora	W	W	W	W	W	W	W	W	W	W	W	W	W	W	Minor subdivision into four parcels. Withdrawn September 2007.
20889	Tentative Parcel Map	Volli	LS	LS	LS	PS	PS	LS	PS	PS	PS	LS	LS	LS	LS	LS	Subdivision to create four 8-acre parcels, and one 7.9 parcel for single family residence. Land use and planning slope density not current. Biological open space not viable mitigation. County requesting fire protection plan, hydrology study, grading plan, and stormwater plan. Project determined to have inactive status as of November 2009.
20981	Tentative Parcel Map	Elder															No identified Initial Study. The project consists of a 109.29-acre subdivision of land into four parcels and a remaining parcel, and is located south of I-8. No activity since 2006.
21003	Tentative Parcel Map	40760 Old Highway 80	W	W	W	W	W	W	W	W	W	W	W	W	W	W	TPM and Minor Grading Permit for 36 acres proposed to be subdivided into 3 parcels. Withdrawn May 2007.
5133	Tentative Map	Big County Ranch	W	W	W	W	W	W	W	W	W	W	W	W	W	W	Specific plan and TSM for a residential development with a maximum of 71 residential lots on 2,280 acres site. Lots to be an average of 6.75 acres. Withdrawn and case closed Sept. 2006.
98-002	Specific Plan		W	W	W	W	W	W	W	W	W	W	W	W	W	W	
5265	Tentative Map	Curran Sunrise Estates	W	W	W	W	W	W	W	W	W	W	W	W	W	W	Major subdivision of 80 acres into nine residential lots. Withdrawn July 2004.
5371	Tentative Map	Legacy Ranch Estates	W	W	W	W	W	W	W	W	W	W	W	W	W	W	Subdivision of 79.6 acres into three lots west of La Posta Road and 51.5 acres into five lots east of La Posta Road. Withdrawn December 2006.
5524	Major Use Permit	Ketchum Ranch	LS	PS	PS	PS	PS	PS	PS	PS	PS	LS	PS	PS	PS	PS	NOP for an EIR July 2007. Idle project status January 2010. Initial study completed, EIR requested, but not completed to date. 19 native habitat communities have the potential to be impacted, including; alkali meadow, riparian woodlands, southern willow scrub, sagebush scrub, semi-desert chaparral, Sonoran desert scrub, Sonoran mixed-woody and succulent scrub, and non-native grasslands. Threatened, endangered, or rare plant or animal species have not been identified to date. Potential to impact wildlife corridors. Subject to County RPO. Inactivity notification and 60-day notice issued Nov 2009, with an extension to January 2010. Mixed Use Project in Jacumba for 2,126 residential units and 272 townhomes, reclamation plan, elementary school and park. General Plan Amendment to change regional category from RDA to CT. MUP for Wastewater treatment plant. County does not recommend approval February 2007.
06-019	Rezone																
06-014	General Plan Amendment																
06-003	Specific Plan																
06-055	Site Plan																
06-069	Administrative Permit																
06-099	Major Use Permit																
88-064-02	Major Use Permit	White Star	W	W	W	W	W	W	W	W	W	W	W	W	W	W	Cell phone tower application Withdrawn June 1, 2007.

Project Number	Type of Project	Project Name	Aesthetics	Agricultural Resources	Air Quality	Biological Resources	Cultural & Paleontological Resources	Geologic Issues	Hazards	Hydrology & Water Quality	Land Use & Planning	Mineral Resources	Noise	Public Services	Transportation	Utilities and Services	Description
90-018-04	Major Use Permit – minor deviation		LS	NI	NI	LS	NI	NI	NI	NI	Ni	NI	NI	NI	LS	Ni	Jan. 2008 submitted revised plot plan with a minor deviation from a plot plan approved in connection with a Major Use Permit 90-018W3. Replace one existing panel antenna with a new panel antenna and add four additional panel antennas on top of the existing 100-foot tall lattice tower. Approved April 2008.
90-018	Major Use Permit	Boulevard- Cingular 90-018W1	LS	NI	N	N	N	PS	N	N	N	N	LS	N	N	N	MND completed in August 2004 for a Major Use Permit for 8 antennas up to 78 feet tall and a base transceiver station with equipment enclosure. A less than significant impact was identified for Aesthetics and Noise due to the existing antennae tower already onsite. The project would comply with local noise ordinance. The project was approved in April 2008.
90-018-02	Major Use Permit	Verizon White Star back-up generator	LS	NI	NI	LS	NI	NI	NI	NI	Ni	NI	NI	NI	LS	Ni	MUP approved in November 2007.
County projects missing document information – not included in cumulative project list.																	
4918	Tentative Map	Pine Valley															
21081	Tentative Parcel Map	Davis-Inman															No IS listed in project file. Subdivision of a 96.2-acre parcel into four parcels ranging from 20.8 to 33.8 acres. Problem with project with site access identified. Appeal due to fire code filed October 2009.
81-015-01	Major Use Permit, minor deviation	Holes															No environmental documents. Major Use Permit Minor Deviation to delete a 2,400 sf area from the boundaries of the Major Use Permit to utilize a collection facility located at 42748 Old Hwy 80 in Jacumba.
81-076-01	Major Use Permit deviation	Outdoor World Retreat															No environmental documents. Major Use Permit for the continued use of a 146 space RV Park and relocation of the pool.
81-076-03	Major Use Permit deviation																
81-076-04	Major Use Permit deviation																
06-039	Major Use Permit																
08-014	Major Use Permit	Outdoor World															Third iteration of AEIS found adequate Nov. 2009. One 30' mono-tree communication antennae located at 37113 Hwy. 94. Traffic mitigation identified requiring payment into TIF.
88-044-WI	Major Use Permit	SDG&E Empire Operator Training Facility															No environmental documents. Major Use Permit modification for the operation of an explosives storage facility at 30763 Old Hwy 80.
02-055	ZAP and Minor Use Permit	Merit Recycling															Negative Declaration completed March 2004 for a recycling collection facility. No IS found in project file, no mitigation was include with the ND. Approved February 2004.
90-018-03	Major Use Permit	Jamul Butte 8411W3															Approved April 2008.

LS- Less than Significant
PS – Potentially Significant
NI – No Impact
PSM- Potentially Significant unless Mitigated

MND – Mitigated Negative Declaration
EIR – Environmental Impact Report
MUP – Major Use Permit
IS – Initial Study

138 kV Transmission Line

An approximately 13.3-mile-long 138 kV transmission line will be constructed from the ECO Substation to the rebuilt Boulevard Substation (located within the unincorporated community of Boulevard in southeastern San Diego County). The line will travel west out of the ECO Substation for approximately 300 feet and then turn north until reaching the SWPL. The 138 kV line will then continue parallel to the south side of the SWPL for approximately 5.7 miles. At this point, the line will cross under the SWPL and continue parallel for approximately 3.2 miles along its north side until it intersects with an existing dirt access road. At this point, the line will turn to the northwest for approximately 750 feet before turning and continuing generally north for approximately 1.5 miles. The line will then turn east for approximately 0.6 mile, north for approximately 0.3 mile, and northwest for approximately 0.3 mile until it crosses over Tule Jim Lane. The line will then run north along the west side of Tule Jim Lane for approximately 1.3 miles until it crosses Eady Lane. At this point, the line will change from an aboveground line to an underground line and turn northeast for approximately 0.1 mile until it enters the rebuilt Boulevard Substation. The new 138 kV transmission line will require an approximately 100-foot-wide permanent ROW (50 feet on either side of the centerline). Approximately nine miles of the new transmission line that parallels the SWPL will be adjacent to SDG&E's existing easements. This area is predominantly privately owned, undeveloped open space.

Boulevard Substation Rebuild

The existing Boulevard Substation and its rebuild site are located approximately 12 miles northwest of the proposed ECO Substation site. SDG&E has acquired one 8.5-acre parcel immediately east of the existing Boulevard Substation to rebuild the substation. Nine existing structures located on this property will be removed prior to substation construction. In addition, the existing Boulevard Substation will be dismantled and removed after the new substation is put in service. Single-family residences on large lots surround the existing and rebuilt substation sites. The site can be accessed by traveling east from San Diego on I-8, heading south on Highway 94 (Jewel Valley Road), and then heading west on Old U.S. Highway 80, on Ozz Road.

White Star Communication Facility Rebuild

The communication path for the White Star Communication Facility will be from the ECO Substation to the existing White Star Communication Facility on Tierra Del Sol Road, at which point SDG&E will lease two existing T1 lines from White Star to Monument Peak. SDG&E will then intercept the leased circuits into SDG&E's network at Monument Peak for transmission back to the City of San Diego. The communication facilities at the ECO Substation will be constructed within the fenced area of the substation and are discussed as part of the ECO Substation project component. The existing White Star Communication Facility and its rebuild site are located approximately 14 miles northwest of the proposed ECO Substation. The scope of work at the White Star Communication Facility includes the removal of an existing equipment enclosure, removal of two wood poles, height reduction of an existing pole, installation of a new steel monopole, and installation of a new equipment enclosure. No new land rights will be required for the installation or reconstruction of these facilities; however, because the new White Star Communication Facility will be connected to existing facilities owned by San Diego County, the existing lease agreement will be modified.

Energia Sierra Jaurez United States Transmission Generation Tie Line Project[5]

The ESJ project consists of the construction and operation of generation-tie lines that would connect the La Rumorosa Project to the proposed ECO Substation. The description of the project is as follows:

> This project proponent for the ESJ project has applied for a Presidential permit to Department of Energy's (DOE) Office of Electricity Delivery and Energy Reliability (OE) to construct either a double-circuit 230 kV or a single-circuit 500 kV transmission line on either lattice towers or steel monopoles to connect wind turbines (from the La Rumorosa Project located in the vicinity of La Rumorosa, Baja California, Mexico) to the existing SWPL 500 kV transmission line. One portion of the proposed transmission project would consist of two miles of transmission located in Mexico that will be owned and operated by Sempra Energy Mexico. The remaining portion of the transmission line would consist of a one-mile transmission line constructed by the ESJ proponent within the United States on private land. The entire electrical output of the La Rumorosa Project (1,250 MW) would be dedicated to the U.S. market and delivered using the proposed international transmission line. The ESJ transmission line would connect to the SDG&E ECO Substation in the community of Boulevard.

The ESJ project proponent has submitted an application for an MUP for a Major Impact Service and Utility pursuant to Zoning Ordinance Section 1350 of the County of San Diego. The project description is as follows[6]:

> The current project description proposes two alternatives a Single Circuit 500 kV Route Alternative (A1) and a 230kV Double Circuit Route Alternative (A2). The project also proposes anywhere from 3 to 5 lattice towers ranging from 150 to 170 feet in height. The project consists of the construction and continued operation of the lattice towers and the associated generation-tie lines that would connect a proposed Wind Energy Facility located in Northern Baja Mexico to a proposed SDG&E ECO Substation. The project site is located on the following parcels: 661-090-(04, 05, 06) 661-080-10, 661-050-04, 661-041-04, in the Mountain Empire Subregional Community Planning area, within unincorporated San Diego County. The site is subject to the General Plan Regional Category 1.4 Rural Development Area (RDA) and the Non-Urban Residential Land Use Designation of Multiple Rural Use (18). The zoning for the site is General Rural (S-92), and the proposed sites are undeveloped. Access would be provided by a private road connecting to Old Highway 80. The proposed project does not require the extension of any public utilities and does not require sewer or water. The earthwork is undetermined, but the project does not propose to import or export any soils. The project could potentially include off-site private road improvements.

Campo Indian Reservation

The Campo Indian Reservation currently has an existing wind farm owned by Babcock & Brown located atop of the Tecate Divide. The turbines produce 50 MW of electricity to SDG&E. The Campo Band of Kumeyaay Indians and Invenergy are currently in negotiations to add 160 MW of energy with an 80 wind turbine project.

[5] As described in the SDG&E ECO Substation Project Description.
[6] County of San Diego DPLU

Sunrise Power Link Project

The Sunrise Power Link proposes to construct a 150-mile transmission line consisting of 91 miles of single-circuit 500 kV overhead electric transmission line between the existing Imperial Valley Substation to the proposed Central East Substation. Between the Central East ECO Substation and SDG&E's existing Peñasquitos Substation (in the City of San Diego), SDG&E would construct a new 59-mile 230 kV double-circuit or single-circuit transmission line, portions of which would be underground.

The McCain Valley area is proposed for the construction of a 230 kV transmission line. This line would connect the I-8 Substation Alternative off of SR-79 in Pine Valley to the proposed overhead 500 kV transmission line along I-8. Once constructed, there will be a 230 kV transmission line in close proximity to the proposed 138 kV transmission line of the Tule Wind Project.

2.11 ALTERNATIVES TO THE PROPOSED ACTION

2.11.1 Introduction

In developing the alternatives to be addressed in this environmental document, the potential alternatives were evaluated in terms of their ability to meet the basic objectives of the project, while avoiding or reducing the environmental impacts of the project. The alternatives will contain the same components and construction corridor as the proposed project except they may vary in number and location. **Figure 2.0-12** shows the Alternate Transmission Line Alternative # 1 utilizing either the proposed or deviant O&M/Substation Facility location; **Figure 2.0-13** shows the Alternate Transmission Line #2 and Collector Substation Alternative, in addition to both the Alternate O&M Facility Locations; and **Figure 2.0-14** shows the Alternate Transmission Line #3 and Collector Substation Alternative. For the purposes of comparing the potential impacts of each alternative to the proposed project, the deviant Collector Substation location calculations were used for the proposed project and Alternative #1 to analyze the maximum potential impacts.

The construction of each alternative will result in both temporary and permanent ground disturbances. An estimate of surface land disturbances has been calculated for each alternative. There is a difference between the potential temporary and permanent impacts for each project component and the total disturbed area due to the fact that some project components fall into the same disturbance footprint. For example, some of the road disturbance areas overlap with the 200-foot turbine radius areas. In an effort to identify the breakdown of each of the project components, and an overall total of surface land disturbance for each alternative, **Tables 2.0-9 through 2.0-11** (referenced below) are presented with a calculated total (Total Disturbed Area) with the overlapping areas removed.

2.11.2 Criteria for Alternatives Analysis

National Environmental Policy Act Criteria

Under NEPA Guidelines (40 CFR 1502.14), based on the information and analysis presented in the sections on the Affected Environment (Sec. 1502.15) and the Environmental Consequences (Sec. 1502.16), it should present the environmental impacts of the proposed and the alternatives in comparative form, thus sharply defining the issues and providing a clear basis for choice among options by the decision maker and the public.

Figure 2.0-12. Alternate Transmission Line Alternative # 1

Figure 2.0-13. Transmission Line Alternative #2, Collector Substation Alternative, and Alternate O&M Facility Locations

Figure 2.0-14. Transmission Line Alternative #3 & Collector Substation Alternative

In this section, agencies shall:

(a) Rigorously explore and objectively evaluate all reasonable alternatives, and for alternatives which were eliminated from detailed study, briefly discuss the reasons for their having been eliminated.

(b) Devote substantial treatment to each alternative considered in detail including the proposed action so that reviewers may evaluate their comparative merits.

(c) Include reasonable alternatives not within the jurisdiction of the lead agency.

(d) Include the alternative of no action.

(e) Identify the agency's preferred alternative or alternatives, if one or more exists, in the draft statement and identify such alternative in the final statement unless another law prohibits the expression of such a preference.

(f) Include appropriate mitigation measures not already included in the proposed action or alternatives.

In accordance with the requirements of the NEPA Act Handbook (H-1790-1) January 30, 2008, the EIS must describe the Proposed Action and Alternatives (40 CFR 1502.14). The EIS must consider a range of reasonable alternatives, and provide a description of alternatives eliminated from further analysis (if any exist) with the rationale for elimination (40 CFR 1502.14(a)). NEPA guidelines also require a No Action Alternative (40 CFR 1502.14(c)). The No Action Alternative is the only alternative that must be analyzed in an EIS that does not respond to the purpose and need for the action.

California Environmental Quality Act Criteria

The CEQA regulations also direct that an EIS "…include reasonable alternatives not within the jurisdiction of the lead agency" (40 CFR 1502.14(c)). When there are multiple agencies cooperating to develop one EIS for several agency-specific decisions, the alternatives should be developed to ensure that each agency will be able to develop its ROD from the FEIS.

Section 15126.6 of the *CEQA Guidelines* states that an EIR shall "describe a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives." The range of alternatives evaluated in an EIR is governed by the "rule of reason" that requires the EIR set forth only those alternatives necessary to permit a reasoned choice. An EIR need not consider an alternative whose effects cannot be reasonably ascertained and whose implementation is remote and speculative (Section 15126.6(a) of the *CEQA Guidelines*). Under *CEQA Guidelines* (Section 15126.6(e)), a No Project Alternative is also required, to analyze the effects of not implementing a project.

2.11.3 No Project/No Action Alternative

Selection of the No Project/No Action Alternative would mean that that Tule Wind Project as proposed would not be implemented. The project activities would not occur and the potential environmental impacts associated with the proposed project would not occur. The 200 MW of electricity that would be generated by the project would not occur.

In the absence of the proposed project, under the No Project/No Action Alternative, the following events or scenarios related to electricity generation and transmission are reasonably expected to occur in the foreseeable future:

- The State of California will be required to identify other renewable energy projects to meet the goals set forth in the State Renewable Portfolio Standard Program and Executive Order S-14-08 to increase the renewable energy electricity mix of the State to 33 percent by the year 2020.
- The BLM and other agencies within the U.S. Department of the Interior will be required to look for other renewable energy projects to meet goals set forth in the Energy Policy Act of 2005.
- The County of San Diego would need to identify other ways in which to reduce the amount of greenhouse gas emissions and air quality impacts related to particulate matter, in particular (PM_{10} and $PM_{2.5)}$ to the extent feasible.

2.11.4 Alternate Transmission Line Alternative #1

The Alternate Transmission Line Alternative #1 (T-line Alternative #1) would include all of the same components as the proposed project except for an alternate overhead 138 kV transmission line (T-line Alternative #1), as shown in **Figure 2.0-12**. The T-line Alternative #1 would be located parallel to, but in-lieu of, the proposed transmission line. T-line Alternative #1 would be located further west and run from either the proposed or deviant collector substation approximately 5.5 miles south to the Rough Acres Ranch (south of turbine G-19). From Rough Acres Ranch, the line would continue west to Ribbonwood Road. The line would continue south on Ribbonwood Road to Old Highway 80, and east along Old Highway 80 to the SDG&E proposed Rebuilt Boulevard Substation.

Table 2.0-9 presents the surface area disturbances associated with Transmission Line Alternative #1. This alternative would increase the land disturbance by approximately 7.6acres; from 772.7 acres to 780.3 acres, utilizing the deviant collector substation. The 138 kV transmission line would increase in distance from 9.7 miles to 11.7 miles and would increase the amount of transmission line poles from 116 poles to 152 poles, utilizing the deviant collector substation. The 34.5 kV overhead collector lines would remain the same distance of 9.4 miles, and would require the same amount of collector line poles (250), and the underground collector lines would also remain the same distance of 29.3 miles, utilizing the deviant collector substation.

2.11.5 Alternate Transmission Line #2 and Collector Substation Alternative

The Alternate Transmission Line #2 and Collector Substation Alternative would include the alternate O&M/Substation facility co-located on Rough Acres Ranch (T17S R7E Sec9), the Alternate Transmission Line #2 (138 kV), as well as an alternate overhead collector system, as shown in **Figure 2.0-13**. This alternative would consist of two 34.5 kV lines connecting the turbines to the alternate collector substation location. All other elements of the project including the turbine locations, parking and laydown areas, roadway upgrades, and batch plant would remain as described in the proposed project. The Alternate Transmission Line #2 would run from the alternate collector substation south along McCain Valley Road, and then west along Old Highway 80 until reaching the SDG&E proposed Rebuilt Boulevard Substation.

Table 2.0-10 presents the surface land disturbances associated with the Alternate Transmission Line #2 and Collector Substation Alternative. This alternative would increase the land disturbance by 1.9 acres; from 772.7 acres to 774.6 acres. The 138 kV transmission line would decrease in distance as a result of this alternative from 9.7 miles to 3.8 miles and would decrease the amount of transmission line poles from 116 poles to 44 poles. The 34.5 kV overhead collector lines would increase in distance from 9.4 miles to 17 miles, and would increase the amount of collector line poles from 250 to 452 poles. The underground collector lines would decrease in distance from 29.3 miles to 28.9 miles.

Table 2.0-9. Alternate Transmission Line Alternative #1 Estimate of Surface Land Disturbance

Project Component	Quantity	Area Disturbed per Feature	Disturbance Type	T-Line Alt. #1	T-Line Alt. # 1 with Deviant Substation
Turbine	134	400-foot diameter	Perm	386.57	386.57
Transmission Line	1	24-foot width	Temp	32.16	34.12
Transmission Line Poles	144 (152)	50 feet x 150 feet	Temp	24.51	25.88
Transmission Line Poles	144 (152)	8-foot diameter	Perm	0.17	0.18
Overhead Collector Line	1	24-foot width	Temp	25.12	27.36
Collector Poles	232 (250)	2-foot diameter	Perm	0.02	0.02
Underground Collector Line	1	24-foot width	Temp	83.09	84.17
New Roads	89	36 feet	Temp	60.43	61.23
New Roads	89	20 feet	Perm	86.93	87.93
Improvements to Existing Roads	21	16-20 feet	Temp	23.00	23.00
Improvements to Existing Roads	21	20 feet	Perm	91.00	92.00
Substation	1	5 acres	Perm	5.00	5.00
O&M Facility	1	5 acres	Perm	5.00	5.00
Parking Lot	1	10 acres	Temp	10.00	10.00
Batch Plant	1	5 acres	Temp	5.00	5.00
Staging Area (Laydown Areas)	19	2 acres	Temp	38.00	38.00
Met Tower	2	700 sf	Temp	0.032 (1,400 sf)	0.032 (1,400 sf)
Met Tower	2	900 sf	Perm	0.041 (1,800 sf)	0.041 (1,800 sf)
SODAR	1	700 sf	Temp	0.016 (700 sf)	0.016 (700 sf)
SODAR	1	900 sf	Perm	0.021 (900 sf)	0.021 (900 sf)
Totals		Acres Disturbed (Temporary)		238.6	244.7
		Acres Disturbed (Permanent))		541.8	542.8
		Total Disturbed Area		780.3	787.4

2.11.6 Alternate Transmission Line #3 and Collector Substation Alternative

The Alternate Transmission Line #3 and Collector Substation Alternative would include the alternate O&M/Substation facility co-located on Rough Acres Ranch (T17S R7E Sec9), the Alternate Transmission Line #3 (138-kV), as well as an alternate overhead collector system as shown in **Figure 2.0-14**. This alternative would consist of two 34.5 kV lines connecting the turbines to the alternate collector substation. All other elements including the turbine locations, parking and laydown areas, roadway upgrades, and batch plant would remain as described in the proposed project. The Alternate Transmission Line #3 would run from the alternate collector substation west to Ribbonwood Road, continue south along Ribbonwood Road, and then east along Old Highway 80 until reaching the SDG&E proposed Rebuilt Boulevard Substation.

Table 2.0-10. Alternate Transmission Line #2 and Collector Substation Alternative Estimate of Surface Land Disturbances

Project Component	Quantity	Area Disturbed per Feature	Disturbance Type	T-Line Alt #2 & Alternate O&M/Substation
Turbine	134	400-foot diameter	Perm	386.57
Transmission Line	1	24-foot width	Temp	11.08
Transmission Line Poles	44	50 feet x 150 feet	Temp	7.34
Transmission Line Poles	44	8-foot diameter	Perm	0.05
Overhead Collector Line	1	24-foot width	Temp	49.41
Collector Poles	452	2-foot diameter	Perm	0.03
Underground Collector Line	1	24-foot width	Temp	82.98
New Roads	89	36 feet	Temp	60.43
New Roads	89	20 feet	Perm	91.00
Improvements to Existing Roads	21	16-20 feet	Temp	23.00
Improvements to Existing Roads	21	20 feet	Perm	74.10
Substation	1	5 acres	Perm	5.00
O&M Facility	1	5 acres	Perm	5.00
Parking Lot	1	10 acres	Temp	10.00
Batch Plant	1	5 acres	Temp	5.00
Staging Area (Laydown Areas)	19	2 acres	Temp	38.00
Met Tower	2	700 sf	Temp	0.032 (1,400 sf)
Met Tower	2	900 sf	Perm	0.041 (1,800 sf)
SODAR	1	700 sf	Temp	0.016 (700 sf)
SODAR	1	900 sf	Perm	0.021 (900 sf)
Totals		Acres Disturbed (Temporary)		233.3
		Acres Disturbed (Permanent))		541.3
		Total Disturbed Area		774.6

*Adjusted disturbed areas reflects the removal of project components that share a footprint that were double counted under the "total disturbed area" calculation.

Table 2.0-11 presents the surface land disturbances associated with the Alternate Transmission Line #3 and Collector Substation Alternative. This alternative would increase the land disturbance by 7.3 acres; from 772.7 acres to 780.0 acres. The 138 kV transmission line would decrease in distance as a result of this alternative from 9.7 miles to 5.4 miles and would decrease the amount of transmission line poles from 116 poles to 60 poles. The 34.5 kV overhead collector lines would increase in distance from 9.4 miles to 17 miles, and would increase the amount of collector line poles from 250 to 452 poles. The underground collector lines would decrease in distance from 29.3 miles to 28.9 miles.

Table 2.0-11. Alternate Transmission Line #3 and Collector Substation Alternative Estimate of Surface Land Disturbances

Project Component	Quantity	Area Disturbed per Feature	Disturbance Type	T-Line Alt. # 3
Turbine	134	400-foot diameter	Perm	386.57
Transmission Line	1	24-foot width	Temp	15.63
Transmission Line Poles	44	50 feet x 150	Temp	10.04
Transmission Line Poles	44	8-foot diameter	Perm	0.07
Overhead Collector Line	1	24-foot width	Temp	49.41
Collector Poles	452	2-foot diameter	Perm	0.03
Underground Collector Line	1	24-foot width	Temp	82.98
New Roads	89	36 feet	Temp	60.43
New Roads	89	20 feet	Perm	91.00
Improvements to Existing Roads	21	16-20 feet	Temp	23.00
Improvements to Existing Roads	21	20 feet	Perm	74.10
Substation	1	5 acres	Perm	5.00
O&M Facility	1	5 acres	Perm	5.00
Parking Lot	1	10 acres	Temp	10.00
Batch Plant	1	5 acres	Temp	5.00
Staging Area (Laydown Areas)	19	2 acres	Temp	38.00
Met Tower	2	700 sf	Temp	0.032 (1,400 sf)
Met Tower	2	900 sf	Perm	0.041 (1,800 sf)
SODAR	1	700 sf	Temp	0.016 (700 sf)
SODAR	1	900 sf	Perm	0.021 (900 sf)
Totals		Acres Disturbed (Temporary)		238.7
		Acres Disturbed (Permanent))		541.3
		Total Disturbed Area		780.0

2.11.7 Operation and Maintenance Facility Location #1 Alternative

The O&M Facility Location #1 Alternative would be located on private property (T17S R7E Sec4), north of the alternate collector substation and located west of McCain Valley Road, as shown in **Figure 2.0-13**. This alternative would consist of separating the 5-acre O&M building site from the collector substation; however, both would remain on Rough Acres Ranch property. Alternate Transmission Line #2 would be utilized under this alternative as well as the Alternate Overhead Collector System consisting of two 34.5 kV lines connecting the turbines to the alternate collector substation. All other elements of the project including the turbine locations, parking and laydown areas, and batch plant would remain as described in the proposed project.

This alternative is estimated to have the same land disturbance impacts as the Alternate Transmission Line #2 and Collector Substation Alternative, as shown in **Table 2.0-10**. However, by relocating the O&M building site to the northern portion of Rough Acres Ranch, this alternative would require an approximate 650-foot new access road to be constructed on the west side of McCain Valley Road, thus necessitating an approximate . 0.07 acres of permanently impacted area and a temporary impact of .55 acres. In comparison to the proposed project, this alternative would decrease the land disturbance by approximately 2.5acres; from 772.7 acres to 775.2 acres. The 138 kV transmission line would decrease in distance as a result of this alternative from 9.7 miles to 3.8 miles and would decrease the amount of transmission line poles from 116 poles to 44 poles. The 34.5 kV overhead collector lines would increase in distance from 9.4 miles to 17 miles, and would increase the amount of collector line poles from 250 to 452 poles. The underground collector lines would decrease in distance from 29.3 miles to 28.9 miles.

2.11.8 Operation and Maintenance Facility Location #2 Alternative

The O&M Facility Location #2 Alternative would be located on private property, (T17S R7E Sec 16), south of the alternate collector substation and located west of McCain Valley Road, as illustrated in **Figure 2.0-13**. This alternative would consist of separating the 5-acre O&M building site from the collector substation; however, both would remain on Rough Acres Ranch property. Alternate Transmission Line #2 would be utilized under this alternative as well as the Alternate Overhead Collector System consisting of two 34.5 kV lines connecting the turbines to the alternate collector substation. All other elements of the project including the turbine locations, parking and laydown areas, and batch plant would remain as described in the proposed project.

This alternative is estimated to have the same land disturbance impacts as the Alternate Transmission Line #2 and Collector Substation Alternative, as shown in **Table 2.0-10**. However, by relocating the O&M building site to the southern portion of Rough Acres Ranch, this alternative would result in a very slight difference 1.0 acres of permanent impacts and 0.08 acres of temporary impacts resulting from the construction of new access roads than those described in Table 2.0-10. In comparison to the proposed project, this alternative would increase the land disturbance by approximately 2.0 acres; from 772.7 acres to 774.7acres. The 138 kV transmission line would decrease in distance as a result of this alternative from 9.7 miles to 3.8 miles and would decrease the amount of transmission line poles from 116 poles to 44 poles. The 34.5 kV overhead collector lines would increase in distance from 9.4 miles to 17 miles, and would increase the amount of collector line poles from 250 to 452 poles. The underground collector lines would decrease in distance from 29.3 miles to 28.9 miles.

1.0 acres of in permanent impacts and 0.08 acres of temporary impacts resulting from the construction of new access roads than those described in **Table 2.0-10**. In comparison to the proposed project, this alternative would increase the land disturbance by approximately 2.0 acres; from 772.7 acres to 774.7 acres.

2.12 COMPARISON OF IMPACTS AND ALTERNATIVES

In accordance with NEPA and CEQA requirements, an analysis of the proposed project and the alternatives has been completed. **Table 2.0-12** presents a matrix of the potential environmental effects of each alternative as a comparison summary and is colored coded to assist the reader in identifying potential impacts for the proposed project and the alternatives. Green represents no impacts, pink as potential impacts, and blue as reduced significance with the implementation of mitigation measures.

Table 2.0-12. Comparison of Proposed Project and Alternatives

Issue Area	No Project/ No Action	Proposed Project		Alternate T-line #1		Alternate T-line #2 and Collector Substation Alternative	Alternate T-line #2 and Collector Substation Alternative		Alternate T-line #3 and Collector Substation Alternative
		Proposed O&M/Substation	Deviant O&M/Substation	Proposed Substation	Deviant Substation		O&M Alternative #1	O&M Alternative #2	
Total Impacted Area (acres)	0	765.3	772.7	780.3	787.4	774.6	775.2	774.7	780.0
Air Quality									
Conflict with applicable air quality plans or create exposure to substantial pollutant concentrations	Continue to leave region dependent on electricity generated by fossil fuels.	0	0	0	0	0	0	0	0
Aesthetics and Visual Resources									
Substantially degrade existing visual character	0 turbines. 0 miles of transmission line or overhead collector system.	134 turbines. 9.1 mile 138 kV transmission line. 8.6 miles of overhead collector system.	134 turbines. 9.7 mile 138 kV transmission line. 9.4 miles of overhead collector system.	134 turbines. 11.1 mile 138 kV transmission line. 8.6 miles of overhead collector system.	134 turbines. 11.7 mile 138 kV transmission line. 9.4 miles of overhead collector system.	134 turbines. 3.8 mile 138 kV transmission line. 17.0 miles of overhead collector system.	134 turbines. 3.8 mile 138 kV transmission line. 17.0 miles of overhead collector system.	134 turbines. 3.8 mile 138 kV transmission line. 17.0 miles of overhead collector system.	134 turbines. 5.4 mile 138 kV transmission line. 17.0 miles of overhead collector system.
Agricultural Resources									
Convert Farmland to non-agricultural use (acres)	0	0	0	0	0	0	0	0	0
Conflict with existing zoning (acres)	0	0	0	0	0	0	0	0	0
Biological Resources									
Quino checkerspot butterfly habitat	0	Approximately 23.6 acres of suitable QCB habitat is within .62 mile of the 2010 QCB observation is presumed occupied and would be permanently impacted.	Approximately 23.6 acres of suitable QCB habitat is within .62 mile of the 2010 QCB observation is presumed occupied and would be permanently impacted.	Approximately 23.6 acres of suitable QCB habitat is within .62 mile of the 2010 QCB observation is presumed occupied and would be permanently impacted.	Approximately 23.6 acres of suitable QCB habitat is within .62 mile of the 2010 QCB observation is presumed occupied and would be permanently impacted.	Approximately 23.6 acres of suitable QCB habitat is within .62 mile of the 2010 QCB observation is presumed occupied and would be permanently impacted.	Approximately 23.6 acres of suitable QCB habitat is within .62 mile of the 2010 QCB observation is presumed occupied and would be permanently impacted.	Approximately 23.6 acres of suitable QCB habitat is within .62 mile of the 2010 QCB observation is presumed occupied and would be permanently impacted.	Approximately 23.6 acres of suitable QCB habitat is within .62 mile of the 2010 QCB observation is presumed occupied and would be permanently impacted.

Issue Area	No Project/ No Action	Proposed Project		Alternate T-line #1		Alternate T-line #2 and Collector Substation Alternative	Alternate T-line #2 and Collector Substation Alternative		Alternate T-line #3 and Collector Substation Alternative
		Proposed O&M/Substation	Deviant O&M/Substation	Proposed Substation	Deviant Substation		O&M Alternative #1	O&M Alternative #2	
Golden eagle	0	It is anticipated that there is 4,334.6 acres of foraging habitat in the survey corridor. Permanent impacts are expected to occur to 468 acres, or 10.8 percent of foraging habitat. Temporary impacts to included 220.8 acres, or 5.1 percent.	It is anticipated that there is 4,334.6 acres of foraging habitat in the survey corridor. Permanent impacts are expected to occur to 468 acres, or 10.8 percent of foraging habitat. Temporary impacts to included 220.8 acres, or 5.1 percent.	It is anticipated that there is 4,334.6 acres of foraging habitat in the survey corridor. Permanent impacts are expected to occur to 468 acres, or 10.8 percent of foraging habitat. Temporary impacts to included 220.8 acres, or 5.1 percent.	It is anticipated that there is 4,334.6 acres of foraging habitat in the survey corridor. Permanent impacts are expected to occur to 468 acres, or 10.8 percent of foraging habitat. Temporary impacts to included 220.8 acres, or 5.1 percent.	It is anticipated that there is 4,334.6 acres of foraging habitat in the survey corridor. Permanent impacts are expected to occur to 468 acres, or 10.8 percent of foraging habitat. Temporary impacts to included 220.8 acres, or 5.1 percent.	It is anticipated that there is 4,334.6 acres of foraging habitat in the survey corridor. Permanent impacts are expected to occur to 468 acres, or 10.8 percent of foraging habitat. Temporary impacts to included 220.8 acres, or 5.1 percent.	It is anticipated that there is 4,334.6 acres of foraging habitat in the survey corridor. Permanent impacts are expected to occur to 468 acres, or 10.8 percent of foraging habitat. Temporary impacts to included 220.8 acres, or 5.1 percent.	It is anticipated that there is 4,334.6 acres of foraging habitat in the survey corridor. Permanent impacts are expected to occur to 468 acres, or 10.8 percent of foraging habitat. Temporary impacts to included 220.8 acres, or 5.1 percent.
Sensitive Vegetation	0	223.50 temporary 541.71permanent	229.87 temporary 542.73 permanent	238.77 temporary 531.19 permanent	244.57 temporary 542.77 permanent	233.19 temporary 541.31 permanent	233.43 temporary 541.65 permanent	233.18 temporary 541.37 permanent	238.60 temporary 541.33 permanent
Cultural and Paleontological Resources									
Historic or archaeological resource	0	Cultural Impacts will be avoided by project design and turbine layout.	Cultural Impacts will be avoided by project design and turbine layout.	Cultural Impacts will be avoided by project design and turbine layout.	Cultural Impacts will be avoided by project design and turbine layout.	Cultural Impacts will be avoided by project design and turbine layout.	Cultural Impacts will be avoided by project design and turbine layout.	Cultural Impacts will be avoided by project design and turbine layout.	Cultural Impacts will be avoided by project design and turbine layout.
Energy									
Wasteful or inefficient use or requirement for substantial additional capacity.	Lack of renewable energy resources.	0	0	0	0	0	0	0	0
Fire and Fuels Management									
Increase probability of wildfire due to the project components.	0	0	0	0	0	0	0	0	0

Issue Area	No Project/ No Action	Proposed Project		Alternate T-line #1		Alternate T-line #2 and Collector Substation Alternative	Alternate T-line #2 and Collector Substation Alternative		Alternate T-line #3 and Collector Substation Alternative
		Proposed O&M/Substation	Deviant O&M/Substation	Proposed Substation	Deviant Substation		O&M Alternative #1	O&M Alternative #2	
Geology, Minerals, and Soils									
Impacts to earthquakes and seismic shaking and	0	Engineering of proper foundations for the location of the proposed turbines J-6, K-1, K-2, K-3, J-13, L-1, L-2, A-4, A-5, A-6, and P-5 for adequate foundation to resist an earthquake and seismic shaking.	Engineering of proper foundations for the location of the proposed turbines J-6, K-1, K-2, K-3, J-13, L-1, L-2, A-4, A-5, A-6, and P-5 for adequate foundation to resist an earthquake and seismic shaking.	Engineering of proper foundations for the location of the proposed turbines J-6, K-1, K-2, K-3, J-13, L-1, L-2, A-4, A-5, A-6, and P-5 for adequate foundation to resist an earthquake and seismic shaking.	Engineering of proper foundations for the location of the proposed turbines J-6, K-1, K-2, K-3, J-13, L-1, L-2, A-4, A-5, A-6, and P-5 for adequate foundation to resist an earthquake and seismic shaking.	Engineering of proper foundations for the location of the proposed turbines J-6, K-1, K-2, K-3, J-13, L-1, L-2, A-4, A-5, A-6, and P-5 for adequate foundation to resist an earthquake and seismic shaking.	Engineering of proper foundations for the location of the proposed turbines J-6, K-1, K-2, K-3, J-13, L-1, L-2, A-4, A-5, A-6, and P-5 for adequate foundation to resist an earthquake and seismic shaking.	Engineering of proper foundations for the location of the proposed turbines J-6, K-1, K-2, K-3, J-13, L-1, L-2, A-4, A-5, A-6, and P-5 for adequate foundation to resist an earthquake and seismic shaking.	Engineering of proper foundations for the location of the proposed turbines J-6, K-1, K-2, K-3, J-13, L-1, L-2, A-4, A-5, A-6, and P-5 for adequate foundation to resist an earthquake and seismic shaking.
Soils of liquefaction present	0	The closest turbines to a spring are turbines D-1 and F-4.	The closest turbines to a spring are turbines D-1 and F-4.	The closest turbines to a spring are turbines D-1 and F-4.	The closest turbines to a spring are turbines D-1 and F-4.	The closest turbines to a spring are turbines D-1 and F-4.	The closest turbines to a spring are turbines D-1 and F-4.	The closest turbines to a spring are turbines D-1 and F-4.	The closest turbines to a spring are turbines D-1 and F-4.
Impacts due to septic tanks soil capability.	0	Further geologic study to determine correct location and compatible soils for the placement of the O&M septic tank.	Further geologic study to determine correct location and compatible soils for the placement of the O&M septic tank.	Further geologic study to determine correct location and compatible soils for the placement of the O&M septic tank.	Further geologic study to determine correct location and compatible soils for the placement of the O&M septic tank.	Further geologic study to determine correct location and compatible soils for the placement of the O&M septic tank.	Further geologic study to determine correct location and compatible soils for the placement of the O&M septic tank.	Further geologic study to determine correct location and compatible soils for the placement of the O&M septic tank.	Further geologic study to determine correct location and compatible soils for the placement of the O&M septic tank.
Interference with active mines	0	0	0	0	0	0	0	0	0
Hazards and Hazardous Materials									
Create significant hazard to public	0	0	0	0	0	0	0	0	0

Issue Area	No Project/ No Action	Proposed Project		Alternate T-line #1		Alternate T-line #2 and Collector Substation Alternative	Alternate T-line #2 and Collector Substation Alternative		Alternate T-line #3 and Collector Substation Alternative
		Proposed O&M/Substation	Deviant O&M/Substation	Proposed Substation	Deviant Substation		O&M Alternative #1	O&M Alternative #2	
Hydrology and Water Quality									
Change existing drainage patterns.	0	Impacts will be avoided with implementation of BMPs and mitigation measures.	Impacts will be avoided with implementation of BMPs and mitigation measures.	Impacts will be avoided with implementation of BMPs and mitigation measures.	Impacts will be avoided with implementation of BMPs and mitigation measures.	Impacts will be avoided with implementation of BMPs and mitigation measures.	Impacts will be avoided with implementation of BMPs and mitigation measures.	Impacts will be avoided with implementation of BMPs and mitigation measures.	Impacts will be avoided with implementation of BMPs and mitigation measures.
Alter groundwater levels or recharge		0	0	0	0	0	0	0	0
Land Use and Planning									
Land Use Conflict	0	0	0	0	0	0	0	0	0
Noise									
Exceed County Noise Level Limits.	0	Without mitigation, using the current turbine layout is predicted to exceed nighttime allowable noise limits at adjacent property boundaries in the project-area.	Without mitigation, using the current turbine layout is predicted to exceed nighttime allowable noise limits at two adjacent property boundaries in the project-area.	Without mitigation, using the current turbine layout is predicted to exceed nighttime allowable noise limits at two adjacent property boundaries in the project-area.	Without mitigation, using the current turbine layout is predicted to exceed nighttime allowable noise limits at two adjacent property boundaries in the project-area.	Without mitigation, using the current turbine layout is predicted to exceed nighttime allowable noise limits at two adjacent property boundaries in the project-area.	Without mitigation, using the current turbine layout is predicted to exceed nighttime allowable noise limits at two adjacent property boundaries in the project-area.	Without mitigation, using the current turbine layout is predicted to exceed nighttime allowable noise limits at two adjacent property boundaries in the project-area.	Without mitigation, using the current turbine layout is predicted to exceed nighttime allowable noise limits at two adjacent property boundaries in the project-area.
Exposure to excess noise levels	0	Increased ambient noise during roadway and transmission line construction.	Increased ambient noise during roadway and transmission line construction.	Increased ambient noise during roadway and transmission line construction.	Increased ambient noise during roadway and transmission line construction.	Increased ambient noise during roadway and transmission line construction.	Increased ambient noise during roadway and transmission line construction.	Increased ambient noise during roadway and transmission line construction.	Increased ambient noise during roadway and transmission line construction.
Population and Housing									
Displaces existing housing or people (number)	0	0	0	0	0	0	0	0	0
Public Health and Safety									
Exposure to potential health and safety hazards	No exposure to hazards.	Possible equipment failure.	Possible equipment failure.	Possible equipment failure.	Possible equipment failure.	Possible equipment failure.	Possible equipment failure.	Possible equipment failure.	Possible equipment failure.

Issue Area	No Project/ No Action	Proposed Project: Proposed O&M/Substation	Proposed Project: Deviant O&M/Substation	Alternate T-line #1: Proposed Substation	Alternate T-line #1: Deviant Substation	Alternate T-line #2 and Collector Substation Alternative	Alternate T-line #2 and Collector Substation Alternative: O&M Alternative #1	Alternate T-line #2 and Collector Substation Alternative: O&M Alternative #2	Alternate T-line #3 and Collector Substation Alternative
Public Services and Utilities									
Physically alter public services	0	0	0	0	0	0	0	0	0
Recreation and Wilderness									
Disrupts or degrades wilderness or recreation opportunities	0	Temporary disruption during construction and decommissioning	Temporary disruption during construction and decommissioning	Temporary disruption during construction and decommissioning	Temporary disruption during construction and decommissioning	Temporary disruption during construction and decommissioning	Temporary disruption during construction and decommissioning.	Temporary disruption during construction and decommissioning.	Temporary disruption during construction and decommissioning.
Socioeconomics and Environmental Justice									
Impact to population and housing, employment, local business revenue, public revenue, and private property value	0	18 to 24-month influx of non-local labor and generate expenditures to the local community and businesses. Generate one-half million dollars annually in property tax revenues.	18 to 24-month influx of non-local labor and generate expenditures to the local community and businesses. Generate one-half million dollars annually in property tax revenues.	18 to 24-month influx of non-local labor and generate expenditures to the local community and businesses. Generate one-half million dollars annually in property tax revenues.	18 to 24-month influx of non-local labor and generate expenditures to the local community and businesses. Generate one-half million dollars annually in property tax revenues.	18 to 24-month influx of non-local labor and generate expenditures to the local community and businesses. Generate one-half million dollars annually in property tax revenues.	18 to 24-month influx of non-local labor and generate expenditures to the local community and businesses. Generate one-half million dollars annually in property tax revenues.	18 to 24-month influx of non-local labor and generate expenditures to the local community and businesses. Generate one-half million dollars annually in property tax revenues.	18 to 24-month influx of non-local labor and generate expenditures to the local community and businesses. Generate one-half million dollars annually in property tax revenues.
Traffic and Circulation									
Traffic hazards and conflicts	0	0	0	0	0	0	0	0	0

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