OCOTILLO WIND ENERGY FACILITY

PLAN OF DEVELOPMENT

Draft

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1.0 PROJECT DESCRIPTION

1.1 INTRODUCTION

1.1.1 Type of facility and generation capacity (Federal and non-Federal lands)

Pattern Energy, through Ocotillo Express LLC (OE LLC), proposes to construct, operate, maintain and decommission a 474 megawatt (MW) wind generation facility on approximately 13,000 acres in the Ocotillo Wind project area (Figure 1.1-1). OE LLC acquired from Greenhunter, another developer, its rights to approximately 5,967.70 acres of BLM administered lands. OE LLC also acquired from its affiliate Wind Development Contract Co. its application for an additional 9,034 acres of adjacent BLM administered lands but relinquished approximately 3,000 of those acres to eliminate impacts to some biological and cultural resources. OE LLC also has entered into an agreement with the owner of approximately 26 acres of private land near the center of the wind project area for wind monitoring and development. In addition, 487 acres of private land will be utilized for road access and collection line right-of-ways. The combined separate parcels are consolidated into a single 474MW wind project in this Plan of Development.

The proposed action consists of the construction, operation, maintenance and decommissioning of wind turbine generators and associated facilities necessary to successfully generate up to 474 MW in Imperial County west of Ocotillo, California. Due to the fact that a power purchase agreement for 315 MW of capacity is in place, discussions with potential offtakers for the remaining 159 MW of capacity are not as advanced but the project will be constructed in two phases. Up to 158 wind turbine generator sites with a total nameplate capacity of up to 474 MW will be utilized. Phase 1 is anticipated to total approximately 315 MW. The remainder of the capacity will be constructed in Phase II, likely to be built in the year immediately following completion of Phase 1. Since wind turbine technology is continually improving and the cost and availability of specific types of turbines vary from year to year, a representative range of turbine types that are most likely to be used for the project, are being considered. See Table 2.1-1.

The expected operational life of a wind energy project is at least 30 years, and possibly up to 40 years due to improvements to the latest wind turbine designs. Typically the project would be repowered with new turbines, under a new agreement with the BLM at the end of the useful life of the original turbines. However, if it was decided repowering was not appropriate, then when operations cease, the project would be fully decommissioned and the site fully reclaimed. All disturbed areas will be reclaimed and restored to near existing conditions. See section 2.13 for further detail.

1.1.2 Proposed schedule for project (including anticipated timelines for permitting, construction and operation, and any phased development as appropriate)

- Draft EIS – 1st quarter 2011
- Record of Decision – 3nd quarter 2011

Phase 1 Schedule

- Execute LGIA – 3rd quarter 2011
- Execute TSA – 1st quarter 2011
- Execute BOP Construction Contract – 3rd quarter 2011
- Commence civil works (roads, underground electrical, foundations) – 3rd quarter 2011

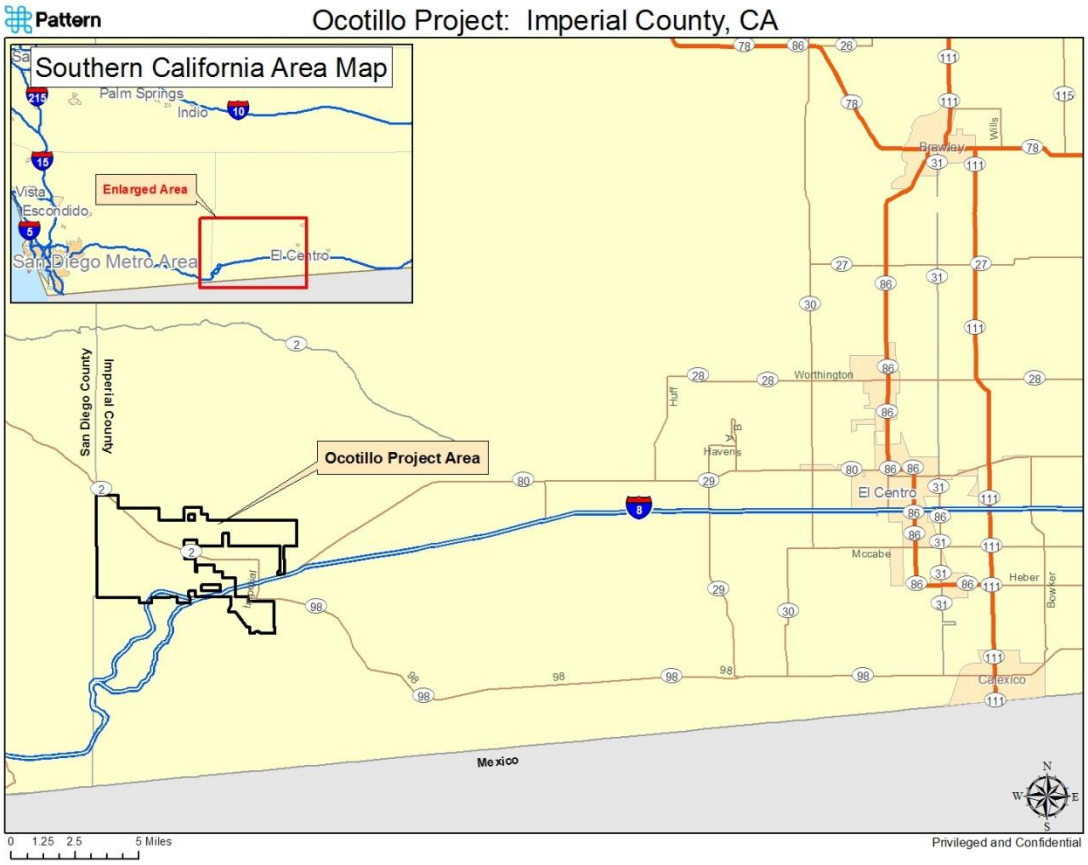
- Commence balance of plant electrical/civil works – 3rd quarter 2011
- Turbine deliveries commence – 2nd quarter 2012
- Turbine commissioning, testing, and commercial operation – 4th quarter 2012
- Decommissioning 2042

Phase 2 Schedule

- Execute LGIA – 4th quarter 2012
- Execute TSA – TBD
- Execute BOP Construction Contract – 1st quarter 2013
- Commence civil works (roads, underground electrical, foundations) – 1st quarter 2013
- Commence balance of plant electrical/civil works – 1st quarter 2013
- Turbine deliveries commence – 2nd quarter 2013
- Turbine commissioning, testing, and commercial operation – 4th quarter 2013

Decommissioning 2043

Figure 1.1-1 Project Location Map



1.2 PROPONENT'S PURPOSE AND NEED FOR THE PROJECT

Proponent's objective is to construct, operate, maintain and decommission a 474 MW wind generation facility that is environmentally and economically feasible. Recent national and

regional electrical demand forecasts predict that the growing consumption of electrical energy will continue to increase into the foreseeable future and will require development of new resources to satisfy this demand. The Department of Energy (DOE) Energy Information Administration (EIA) has forecasted a 41 percent growth in electricity sales by 2030, including a projected increase of 39 percent in the residential sector, 63 percent in the commercial sector, and 17 percent in the industrial sector. This growth will require an increase in generating capacity of 347 gigawatts (347,000MW) nationwide over the next 25 years (EIA 2007).

Executive Order 13212 signed in 2001 states that the production and transmission of energy in a safe and environmentally sound manner is essential to the well-being of the American people. Reports from the Department of Energy postulate that wind power can provide 20% of the nation's electricity by 2030. The Department of Energy report finds that achieving a 20% wind contribution to U.S. electricity supply would:

- Reduce carbon dioxide emissions from electricity generation by 25 percent in 2030.
- Reduce natural gas use by 11%;
- Reduce water consumption associated with electricity generation by 4 trillion gallons by 2030;
- Increase annual revenues to local communities to more than $1.5 billion by 2030; and
- Support roughly 500,000 jobs in the U.S., with an average of more than 150,000 workers directly employed by the wind industry.

On January 25, President Obama also outlined high-profile clean energy goals including a target of producing 80% of U.S. electricity from clean energy sources by 2035.

In response to National Energy Policy recommendations on renewable energy and increased interest in wind energy development, the BLM prepared a Programmatic Environmental Impact Statement (PEIS) to analyze the potential impacts of wind energy development on public lands. The PEIS was published in June, 2005 and the Record of Decision (ROD) to implement a comprehensive Wind Energy Development Program was signed in December, 2005. As stated in the PEIS/ROD (BLM 2005), the BLM is responsible for the development of energy resources on BLM-administered lands in an environmentally sound manner in accordance with the requirements of the Federal Land Policy and Management Act of 1976 (FLPMA) (United States Code, Title 43, Section 1701 et seq. [43 USC 1701 et seq.]). BLM Instruction Memorandum No. 2009-043 was issued December 19, 2008 to provide updated guidance on processing of right-of-way applications for wind energy projects on public lands administered by the BLM.

Additionally, the State of California has recognized the need for new and diverse energy resources including renewable energy generation options. In fact, on September 15, 2009, California Governor Arnold Schwarzenegger signed an Executive Order mandating a 33 percent renewable energy target be reached by calendar year 2020. In addition, California's Proposition 23, which would have suspended California's landmark clean energy and climate solutions law, AB 32, was soundly defeated on November 2, 2010.

1.3 General Facility Description, Design, and Operation

1.3.1 Project location, land ownership, and jurisdiction

The proposed wind energy project would be located almost entirely on BLM administered lands in the Imperial Valley, near Ocotillo and Coyote Wells/Nomirage, Imperial County, California. The Imperial Valley of California has been recognized as an area having high renewable energy development potential. A new high-voltage transmission line designed to foster development of renewable resources, known as the Sunrise Powerlink (SPL), has been approved by the BLM and other regulatory agencies. The SPL route crosses the Ocotillo Wind Project site, facilitating interconnection of the project and transmission of its renewable energy output to large load centers in Southern California.

1.3.2 Legal land description of facility (BLM-administered and private lands)

A legal description of the entire right-of-way (ROW) is provided in Appendix B.

1.3.3 Total acreage and general dimensions of all facilities and components

Facilities for the proposed action would consist of wind turbine generators, pad-mounted transformers, permanent 80 meter tall meteorological towers an electrical collection system for collecting the power generated by each wind turbine generator (WTG), an electrical substation, an interconnection switchyard, access roads, and an operation and maintenance (O&M) building including an observation tower for monitoring for presence of biological species. The project area totals approximately 15,000 acres, of which all but 26 acres occur on BLM-administered lands covered by the requested ROW for the proposed action. The 26 acres of private land is a private parcel which OE LLC has leased for wind monitoring and development. The total area estimated for use by the wind energy facility (including short term disturbance) is approximately 730 acres, or approximately 5% of the total ROW. The permanent footprint of the wind energy facility is shown in Figure 6.1-1 and will only occupy approximately 156 acres or slightly more than 1.0% of the total ROW.

1.3.4 Number and size of wind turbines (BLM-administered and private lands)

The site layout presented in Figure 6.1-1 shows 158 potential turbine locations representing the Proposed Action. This layout has been significantly reconfigured, including a reduction in total number of turbine locations, in order to avoid impacts to sensitive areas identified during biological, cultural and other studies conducted as part of the NEPA and CEQA processes. A range of turbine sizes and types are being considered ranging from 2.3 MW to 3.0 MW turbines. However, the dimensions for each of the proposed turbines is relatively consistent with a hub height of 80 meters (262.4 feet) and a rotor diameter ranging from 101 meters (328 feet) to 113 meters (370.6 feet). For additional details, please refer to section 2.10.

1.3.5 Wind turbine configuration and layout (BLM-administered and private lands)

The current site layout presented in Figure 6.1-1 is based on preliminary environmental and archeological findings learned through coordination with the BLM and Imperial County during the ongoing NEPA process. The final site layout will incorporate any new findings at the conclusion of the NEPA process and the type of wind turbine selected, with the total number of turbines generating not more than the 474 MW allowed under the interconnection applications

that OE LLC has filed with the California Independent System Operator ("CAISO"). Section 2.1 of this report provides more details on turbine design and the site layout. The final site layout will be in accordance with industry standards, safety measures and appropriate guidance as stated in the BLM's Wind Energy PEIS/ROD.

1.3.6 Substations, Transmission Lines, Access Roads and, Buildings

The proposed action includes the following permanent facility components: a maximum of 158 WTGs and padmounted transformers, substation, interconnection switchyard, above and below ground transmission/collection system, internal access roads, meteorological towers and an operations and maintenance building, including an observation tower to monitor for presence of s biological species.

The proposed substation is located in a 31.7 acre parcel adjacent to the proposed SPL transmission line. The size of the substation is approximately 4.2 acres. The major substation components include circuit breakers, 2 34.5/500 kV step-up transformers, overhead electrical bus work, switches and controls, a control building, and capacitor banks and the entire substation yard will be enclosed inside a security fence.

The proposed SDG&E 500kV switchyard is adjacent to the proposed substation and will be connected to both the proposed Project substation and the SPL transmission line via a short overhead transmission line, approximately 200 yards in length. In addition, a 50 yard overhead transmission line will connect the switchyard and substation. Both the proposed substation and switchyard are located in the 31.7-acre parcel described above. The size of the switchyard is approximately 21 acres. The proposed switchyard may include circuit breakers, overhead electrical bus work, switches and controls, and a control building and the entire substation and switchyard area will be enclosed inside a security fence.

Both overhead and below ground transmission lines are proposed for the project. Overhead transmission lines will be limited to the short transmission line connection from the substation to the adjacent SDG&E switchyard and from the switchyard to the adjacent SPL transmission line. The remainder of the project will feature below-ground collection lines that will provide the connection between wind turbines and the substation. The collection lines are located adjacent to the proposed access roads and will be buried approximately 4 feet below the ground. At specific locations along the collection line, junction boxes are required to connect cable segments. Junction boxes will also be underground, and will be located adjacent to the road.

The project road system will be a network of 16 or 20 foot wide roads that will provide access to each turbine location and to the project's O&M building (during construction such roads will be up to 36 feet in width). These roads will consist of compacted native material, but may also require approximately 4 to 6 inches of aggregate and/or geo-synthetic material to provide the soil strength needed for construction. The road layout is designed to address environmental, archeological, drainage, and grade related issues. The turbine manufacturer provides the minimum design criteria of the site access roads for delivery of components. These requirements are discussed in further detail in Section 2.1.

Two permanent 80 meter meteorological towers will be located on the site for each phase, for a total of four such towers. The towers feature 80 meter free standing (not guyed) lattice towers with wind speed and other ancillary instrumentation installed at various heights. The towers will be installed inside a small security fence on concrete foundation. Electricity for the towers will

be supplied from a nearby turbine and access to the tower will be via a 16 foot permanent access road.

1.3.7 Ancillary Facilities

The project will include four permanent administrative, maintenance and storage building structures, in addition to the control buildings described above for the substation and switchyard, all of which are located in the 3.4 acres O&M facility. The buildings include an office building, a maintenance/storage garage, a biological monitoring facility, and oil storage shed. The full O&M facility, including buildings and parking area, will be enclosed within a security fence.

1.3.8 Temporary Construction Workspace, Yards, and Staging Area

Temporary ancillary facilities required during construction include a 12 acre batch plant/laydown area, 10 acre railroad unloading area, 6.5 acre substation storage and work area, one or more potential sand and gravel source areas (15 acres total), temporary crane walks, temporary turbine construction areas, and Temporary Linear Use Areas (TLUA).

The batch plant/laydown area will include space for a temporary concrete batch plant, material/equipment storage, construction vehicle and employee parking, and office trailers. The temporary concrete batch plant will be used for preparing and mixing the concrete used for the foundations for the WTGs, the transformers at the substation, the O&M building, and other project facilities. The batch plant complex will consist of a mixing plant, areas for sand and gravel stockpiles, an access road, and truck load out and truck turnaround areas. The batch plant itself will consist of cement storage silos, water and mixture tanks, gravel hoppers, and conveyors to deliver different materials.

An alternate nearby batch plant location nearby is also being considered in lieu of an onsite batch plant. This alternate location being considered is currently approved and permitted with the county for use as a batch plant.

The railroad unloading will be used to unload nacelles and turbine blades by crane and stage the components for transport to turbine site. The substation storage and work area will include space for equipment storage for both the substation and the switchyard construction as well as office trailers. Currently only offsite sand and aggregate materials locations are being evaluated, but reference section 2.9 for more details including provisions for possible use of onsite sources.

1.3.9 Water Usage, Amounts, Sources (during construction and operations)

Approximately 50 acre-ft of water will be needed for construction including batching concrete, road construction, and dust control, Approximately 6.5 acre-ft will be needed for turbine foundations and approximately 43.5 acre-ft are expected to be required for road maintenance and dust suppression. The current plan is that water will be purchased from a private water well owner near Pine Valley and transported by truck approximately 50 miles (one-way) to the batch plant/laydown area. Investigation into alternative sources of water is ongoing, but in no event will water from the Ocotillo sole-source aquifer be used. Up to two 12,000 gallon temporary water storage tanks may be installed at the concrete batch plant/laydown area to support these water needs.

Water supply for the Operation & Maintenance (O&M) building during the Project's operational phase will be purchased from a local vender and trucked to the site. This ongoing water usage for drinking water and toilets is estimated to be approximately 0.19 acre-feet per year. Drinking water will be supplied from a regional commercial drinking water bottling company. Water for toilets and flushing will be stored in a storage tank at the O&M facility. The Imperial County Fire Department will also require that a separate 10,000 gallon water supply be provided at the O&M facility for fire suppression. The source of the water for toilets and fire suppression may be the Pine Valley location discussed above, or an alternate location.

1.3.10 Erosion Control and Stormwater Drainage

Prior to construction, a Storm Water Pollution Prevention Plan (SWPPP) will be developed and implemented during the construction process. The SWPPP would include structural and non-structural best management practices (BMP's) for erosion and sediment control as well as a monitoring and corrective action plan.

Currently the site features many small to medium size drainage ways and a limited number of larger drainage paths. The storm water drainage plan for the site will be coordinated with the US Army Corp of Engineers (USACE) which is the agency taking jurisdiction on the waters of U.S. All drainage ways within the project are considered waters of the U.S. Generally, the drainage system for the site will be maintained to as near existing as possible. Access roads will cross all drainage ways via at-grade crossing. No culverts with be installed. Drainage ways disturbed by temporary construction activities will be restored to as near existing conditions as possible.

1.3.11 Vegetation treatment, weed management, and any proposed use of herbicides

During construction, operation, maintenance and decommissioning phases, Ocotillo Wind will abide by noxious weed control procedures as developed in cooperation with the BLM and Imperial County. The establishment of noxious/invasive vegetation can be avoided by early detection and eradication. Ocotillo Wind will work with the BLM and Imperial County to develop procedures to prevent the spread of noxious weeds and invasive plants. If chemical treatment is applied, it would be consistent with BLM's Record of Decision: Vegetation Treatments Using Herbicides (September 2007), as supported by the FEIS for Vegetation Treatments Using Herbicides (June 2007). Specific control measures may include:

- Cleaning of vehicles that are required to go off designated roadways;
- Reseeding of temporarily disturbed areas (e.g., portions of access roads, trenches for the underground collection system, turbine work areas) with an agency-certified weed-free mixture of native grasses, forbs, and shrubs;
- Using weed-free fill;
- Annual post-construction monitoring and treatment of access roads and turbine sites for a designated period following construction;
- Storing equipment, materials, and vehicles at specified work areas or construction yards; and
- Confining personal vehicles, sanitary facilities, and staging areas to a limited number of specified weed-free locations.
- Restricting and/or monitoring soil import from outside the project site.

1.3.12 Waste and Hazardous Materials Management

All construction related waste will be kept within designated area within the temporary use area(s) prior to collection and transport to a final landfill destination. Materials that can be recycled will be stored and transported separately. Ocotillo Wind will coordinate with local landfills prior to commencement of construction.

Hazardous materials are typically limited for a project of this nature. However, the following materials are anticipated to be used or produced during construction and operation of the proposed action:

- Fuel (Diesel and Unleaded) for construction equipment and vehicles
- Lubricants and Mineral Oils
- Cleaners, industrial material
- Concrete effluent

These substances will be contained and disposed of according to local, state, and federal regulations. In addition, Ocotillo Wind will work with the BLM and other appropriate agencies to implement the following actions:

- Develop a hazardous materials management plan addressing storage, use, transportation, and disposal of each hazardous material anticipated to be used at the site. The plan shall identify all hazardous materials that would be used, stored, or transported at the site. It shall establish inspection procedures, storage requirements, storage quantity limits, inventory control, nonhazardous product substitutes, and disposition of excess materials. The plan shall also identify requirements for notices to federal and local emergency response authorities and include emergency response plans. Develop a waste management plan identifying the waste that is expected to be generated at the site and addressing hazardous waste determination procedures, waste storage locations, waste-specific management and disposal requirements, inspection procedures, and waste minimization procedures. This plan shall address all solid and liquid wastes that may be generated at the site.

Concrete ready-mix trucks will be washed out at specific containment area designed for that purpose. At those locations, all effluent will be fully contained and refuse concrete will be reclaimed after all the water has evaporate

Waste water from toilet flushing at the O&M building will be treated onsite with an onsite septic tank and absorption field. Based on the percolation tests, Imperial County has indicated that the septic system size would be approximately 1,000 gallons per day. The system will be designed and installed by a licensed engineer or licensed installer in compliance with the county requirements. Typical configuration and disturbance areas for the septic system and absorption field are shown in figure 6.2-6. The septic tank and absorption field will be located adjacent to the O&M office building, at least 10’ from the edge of the building foundation. The septic system will be maintained by a licensed water treatment contractor.

1.3.13 Fire Protection

The potential exists for on-site, man-caused fires to occur both during the project construction and operation periods due to exhaust fumes, storage of flammable liquids, fueling practices, and smoking. All workers will be trained to prevent fire emergencies and to deal with them quickly and effectively if they do occur. Crews would carry fire prevention equipment and consult with the fire department and the BLM during high fire danger.

The Imperial County fire department requires that a separate 10,000 gallon water supply be provided at the O&M facility for fire suppression.

Comprehensive Fire Management Plans will be prepared for the construction and operation phases of the project and included in the COM Plan.

1.3.14 Site Security and Fencing Proposed (during construction and operations)

The security fence surrounding the substation, interconnection switchyard, meteorological towers and the O&M building will be the only permanent fencing associated with the proposed action. The type and height of this security fence, and the need for temporary security fencing around temporary construction areas, will be determined based on an assessment of risk prior to commencement of construction. The gates in all fenced facilities will remain locked whenever these facilities are unattended. During the construction phase, access roads may have temporary gates or signs installed, as determined to be necessary in consultation with the BLM, to control public access to the site for safety reasons. However, access will be preserved for private landowners and BLM-permitted uses. BLM -permitted uses will be limited during construction.

Motion activated safety and security lights will also be installed at the susbstation, interconnection switchyard, and O&M buildings. Directional lighting measure will be employed to minimize light migration into the night sky and in non-critical areas. A lighting designer will design the lighting system to meet the applicable security and safety standards.

1.3.15 Spill Prevention and Containment for Construction and Operation of facility

A construction Spill Prevention and Response (SPAR) plan will be prepared by the General Contractor prior to beginning construction activities. This plan provides rules and procedures for the storage, transport and disposal of hazardous construction materials, which include diesel fuel, lubricants, solvents, paint, and oil products during construction phase. The SPAR plan also provide clear action plan for responding to and giving notification to public agencies in the event of an accidental spill.

Prior to any hazardous materials being onsite for operations, Ocotillo Wind will prepare and implement a Hazardous Materials Business Plan/Spill Prevention Control and Countermeasures (SPCC) Plan to avoid spills and minimize impacts in the event of a spill. The plan will ensure that adequate containment would be provided to control accidental spills, that adequate spill response equipment and absorbents would be readily available, and that personnel would be properly trained in how to control and clean up any spills. Secondary containment measure that would be employed include containment for pad mount transformer at the turbine sites, containment for the step-up transformers at the substation, and containment for the new and used oil at storage shed located in the O&M facility.

1.3.16 Health and safety program

All personnel assigned to this project will work under strict approved safety guidelines that will be established prior to the start of construction and remain in place throughout construction. Prior to the start of project commercial operation, the site safety guidelines will be updated to reflect the unique requirements of an operational electric generating facility.

Safety is of the utmost importance on the project site. Hazards exist, both to the workers, and to those traveling through or near the site on public access roads. During construction, warning signs will be posted along the access roads indicating the dates of construction activities, and recommending that the public take alternate routes during that time period. In addition, areas where supplies and equipment will be stored or areas deemed hazardous will also be properly secured (e.g. fenced) to prevent theft, tampering, or injury. Areas with construction and work in progress will be secured so that no one without proper safety training will be able to access them. WTG access doors will be locked whenever the turbine sites are unattended, as will all fenced areas.

Workers will be trained in health and safety at the work site in order to prevent safety issues from arising and to address those that do. In case of emergency, there will be an emergency response plan in place, one during construction and another during operation, and workers will be trained in proper implementation of its protocols. During construction, the general construction contractor has primary responsibility for site safety. During operation, overall site safety responsibility is assigned to the operations manager.

1.4 OTHER FEDERAL, STATE AND LOCAL AGENCY PERMIT REQUIREMENTS

1.4.1 Required permits (entire project area on both BLM-administered and private lands)

FEDERAL AGENCY	PROCESS/PERMIT	JURISDICTION
Bureau of Land Management	**Draft PA**/draft EIS/EIR **Proposed PA/final EIS/EIR** **Record of Decision (ROD)**	National Environmental Policy Act compliance required for Federal actions. Likely joint EIR/EIS with Imperial County
	Land Use Plan Amendment	Part of EIR process; Federal Land Policy and Management Act of 1976; BLM Planning Regulations (43 CFR Part 1600); BLM Land Use Planning Handbook (H-1601-1_
	Native American Consultation	Indian tribes must be consulted to identify sacred sites and other places of traditional religious and cultural importance. Consultation will be done by BLM
	Right of Way (ROW) Grant	Authorized under Title V of FLPMA (43 U.S.C. 1761-1771)
	National Historic Preservation Act, Section 106 Compliance	Identification and evaluation of cultural resources within Area of Potential Effects in accordance with BLM requirements. BLM will consult with State Historic Preservation Officer and other parties consistent with BLM/SHPO Protocol.
BLM State Office	**Archeological Resources Protection Act, Cultural Resource Use Permit**	A BLM Cultural Use Permit must be obtained for the purposes of testing to determine the NRHP significance of identified sites and to conduct data recovery on sites adversely affected by project construction and operation.
BLM, El Centro Field Office	**Fieldwork Authorization**	A BLM Fieldwork Authorization must be obtained prior to conducting Class II or Class III cultural resource inventories.
US Fish & Wildlife Service	**Biological Opinion**/Endangered Species Act/Section 7 Consultation	Based on listed or proposed species, designated or proposed critical habitat on-site or affected by project
U. S. Army Corps of Engineers	**Nationwide Permit 12**/Clean Water Act Sect. 404	Depending on water discharges
Federal Aviation Agency	**Determination of No Hazard**	Confirming no hazard to military or other air operations in area – on line filing: https://oeaaa.faa.gov/oeaaa/external/portal.jsp
U.S. DoD	**Consultation**	Operations, military radar impacts
Homeland Security	**Consultation**	Affect on border surveillance aircraft
NOAA National Weather Service/Radar Operations	**Consultation**	Affect on weather radar. [Nearest Yuma, 140 km ESE , San Diego 140 km WNW]
STATE AGENCY	**PROCESS/PERMIT**	**JURSIDICTION**
California Energy Commission	**Renewables Portfolio Standards (RPS) Certification**	
Colorado River RWQCB Region 7	**National Point Discharge Elimination System (NPDES)**	

	Permit **Stormwater Pollution Prevention Plan (SWPPP)** **Water Quality Certification/**Clean Water Act Sect 401	
Caltrans	**ROW Encroachment Permit** **Transportation Permit**	Access across State ROW Weight, size, route
Native American Heritage Commission	**Consultation on Sacred Areas to comply with State requirements**	The NAHC must be contacted to determine the presence of known Native American sacred areas in the project vicinity. Consultation is ongoing and will be completed by the applicant prior to the onset of NEPA analysis.

LOCAL AGENCY	PROCESS/PERMIT	JURISDICTION
Imperial County	**Environmental Impact Report (EIR)** **Determination /Findings** **Mitigation Monitoring and Reporting Plan** **Conditional Use Permit/Variance** **ROW Encroachment Permit** **Water Well Permit** **Septic System Permit** **Building, Grading Permits**	California Environmental Quality Act compliance required for State and Local actions. Likely joint EIR/EIS with BLM Turbines and Met Towers Access across road ROW If on-site water supply If on-site disposal Site construction

1.4.2 Status of permits

FEDERAL AGENCY	PROCESS/PERMIT	STATUS
Bureau of Land Management	**Environmental Impact Statement** (EIS) **Record of Decision** (ROD) **Management Plan Amendment** **Native American Consultation** **Right of Way (ROW) Grant**	Type III Development Application – NOI published December 13th 2010. Joint EIS/EIR with Imperial County. ROD Anticipated September 2011 Pending (part of EIR process) Pending (to be conducted by BLM) Pending (Authorized under Title V of FLPMA (43 U.S.C. 1761-1771) Anticipated September 2011.
	Amendment to California Desert Conservation Area Plan	CDCA Plan to be amended currently with EIS/EIR process
US Fish & Wildlife Service	**Biological Opinion**/Endangered Species Act/Section 7 Consultation	Based on listed species and habitat on-site or affected by project. Expected June 2011
U. S. Army Corps of Engineers	**Nationwide Permit 12**/Clean Water Act Sect. 404	Depending on water discharges. Expected September 2011
Federal Aviation	**Determination of No Hazard**	DNH's have been issued by FAA

Agency		Some of the DNHs need to be revised due to shifted turbine locations. Expected April 2011.
U.S. DoD	**Consultation**	OE consultant has been verbally advised that Navy has no objection but a portion of the project would need to remain at 400ft height limit elevation
Homeland Security	**Consultation**	To be completed as pat of Final FAA process
NOAA National Weather Service/Radar Operations	**Consultation**	To be completed as part of Final FAA process
STATE		
California Energy Commission	**Renewables Portfolio Standards (RPS) Certification**	Application will be filed in due course
Colorado River RWQCB Region 7	**National Point Discharge Elimination System (NPDES) Permit** **Stormwater Pollution Prevention Plan (SWPPP)** **Water Quality Certification/**Clean Water Act Sect 401	Expected September 2011
Caltrans	**ROW Encroachment Permit** **Transportation Permit**	Expected April 2011 Expected April 2011
California State Fish And Game (CDFG)	**Consultation** **2081 Permit (State Incidental Take Permit)** **Streambed Alteration Agreement** Consultation	California Endangered Species Act (CESA) of 1984, Fish and Game Code §§ 2050-2098 If applicable, CA Incidental Take Permit required if determined take is likely for any state listed species. Application will be filed after 404 and 401 process is underway
California Public Utilities Commission	**Power Purchase Agreement** **Utility Upgrades**	PPA Board Approval Dec 2011.
State Historic Preservation Officer	**Section106 Consultation**/ National & State Historic Preservation Acts	Ongoing process throughout EIS/EIR process.
Native American Heritage Commission	**Consultation**	Ongoing process throughout EIS/EIR process.
LOCAL		
Imperial County Air Pollution Control District	**Authority to Construct/ Permit to Operate**	Procedural Construction Permit for batch plant. Expected Early 2012
Imperial County	**Environmental Impact Report (EIR)** **Determination /Findings** **Mitigation Monitoring and Reporting Plan** **Conditional Use Permit/Variance** **ROW Encroachment Permit** **Septic System Permit** **Building, Grading Permits**	California Environmental Quality Act compliance required for State and Local actions. Joint EIR/EIS with BLM. Expected Aug 2011. For wind turbine and met towers. Expected August 2011. Expected April 2011 Procedural construction permit – obtained in due course Expected September 2011

1.5 FINANCIAL AND TECHNICAL CAPABILITY OF APPLICANT

Pattern Energy is one the most experienced and best-capitalized renewable energy and transmission development companies in the U.S. The team comprising Pattern Energy has successfully developed, financed and placed into operation approximately 2,000 MW of wind power across 11 states, representing over $3 billion in investment. In addition to having a full range of development capabilities, the Company provides construction management during the building phase in addition to operations management, turbine and BOP service and maintenance, financial management and reporting functions. The table below summarizes the track record of projects placed into service by the Pattern team while at Babcock & Brown, and excludes certain projects which were acquired by our team as late-stage developments (Pattern Energy was formed when Riverstone Holdings acquired the energy and transmission group, including personnel and development pipeline, from Babcock & Brown in 2009).

Pattern recently financed and completed construction on the 101MW Hatchet Ridge Wind Farm in Shasta County, California, with a cost of approximately $200 million. In April 2010, Pattern began building the138-megawatt St. Joseph Wind Farm, located in the southern Manitoba community of St. Joseph and the Rural Municipalities of Montcalm and Rhineland. When complete, the St. Joseph Wind Farm will be the largest operating wind energy project in Manitoba The Ocotillo Wind Energy Project will likely cost approximately $1 billion. As noted below, the Pattern team has significant experience and a successful track record in completing projects of similar size and scale.

Table 1.5-1 Project Team Development Projects

No	Description	Locn	Mfr	Units	MW	Total MW	Compl Date
1	Sweetwater 1	TX	GE	25	37.5	37.5	2003
2	Caprock	NM	MHI	80	80.0	171.5	2004
3	Sweetwater 2	TX	GE	61	91.5		
4	Bear Creek	PA	Gamesa	12	24.0	216.5	2005
5	Jersey Atlantic	NJ	GE	5	7.5		
6	Kumeyaay	CA	Gamesa	25	50.0		
7	Sweetwater 3	TX	GE	90	135.0		
8	Aragonne Mesa	NM	MHI	90	90.0	208.0	2006
9	GSG	IL	Gamesa	40	80.0		
10	Buena Vista	CA	MHI	38	38.0		

11	Cedar Creek	CO	MHI	221	300.5	701.8	2007
			GE	53			
12	Sweetwater 4a	TX	MHI	135	135.0		
13	Sweetwater 4b	TX	Siemens	46	105.8		
14	Sweetwater 5	TX	Siemens	35	80.5		
15	Allegheny 1*	PA	Gamesa	40	80.0		
16	Gulf Wind	TX	MHI	118	283.2	568.9	2008
17	South Trent	TX	Siemens	44	101.2		
18	Butler Ridge	WI	GE	36	54.0		
19	Wessington	SD	GE	34	51.0		
20	Majestic	TX	GE	53	79.5		
			Total	1281		1904.2	

*Construction Management Agreement

2.0 CONSTRUCTION OF FACILITIES

2.1 WIND TURBINE DESIGN, LAYOUT, INSTALLATION, AND CONSTRUCTION PROCESSES INCLUDING TIMETABLE AND SEQUENCE OF CONSTRUCTION

2.1.1 WIND TURBINE DESIGN

Wind turbines consist of three main components: the turbine tower, the nacelle, and the rotor consisting of the hub and the blades (Figure 6.2-3). The nacelle is the portion of the wind turbine mounted at the top of the tower, which houses the gearbox and electrical generator. Turbine hub heights and rotor diameters (RD) for the potential turbines may have slight variations, but for purposes of analysis will not exceed the 2.3 MW turbine specifications.

Table 2.1.1-1 Turbine Technology

Turbine	Hub Height	Rotor Diameter	Total Height	Rated Capacity Wind Speed	Rotor Speed (RPM)	Tower Base Diameter
2.3/3.0 MW Siemens	80 m	101m/113m	130.5 m	13rpm	6-16	4.5
1.6/2.75 MW GE	80 m	100m/107m	130m	13.5rpm	14.8rmp	4.3m

The towers will be a tapered tubular steel structure manufactured in three or four sections depending on the tower height, and approximately 15 feet (4.5 meters) in diameter at the base. The towers will be painted white per FAA requirements. A service platform at the top of each section will allow for access to the tower's connecting bolts for routine inspection. A ladder inside the structure will ascend to the nacelle to provide access for turbine maintenance. The tower will be equipped with interior lighting and a safety glide cable alongside the ladder. The towers will be fabricated and erected in sections.

The nacelle houses the main mechanical components of the wind turbine generator, the drive train, gearbox, and generator. The nacelle will be equipped with an anemometer and a wind vane that signals wind speed and direction information to an electronic controller. A mechanism will use electric or hydraulic motors to rotate (yaw) the nacelle and rotor to keep the turbine pointed into the wind to maximize energy capture. An enclosed steel-reinforced fiberglass shell houses the nacelle to protect internal machinery from the elements.

Modern wind turbines have three-bladed rotors. The diameter of the circle swept by the blades will be no more than 371 feet (113 meters). Generally, larger wind turbine generators have slower rotating blades, but the specific RPM values depend on aerodynamic design and vary across machines. Based on the turbines considered, the blades will turn at no more than 16 rotations per minute (RPM).

Each turbine will be equipped with a computer control system to monitor variables consisting of wind speed and direction, air and machine temperatures, electrical voltages, currents, vibrations, blade pitch, and yaw (side to side) angles. In addition to monitoring, a primary function of the control system will be nacelle and power operations. Nacelle functions include yawing the nacelle into the wind, pitching the blades, and applying the brakes if necessary.

Power operations controlled at the bus cabinet inside the base of the tower include operation of the main breakers to engage the generator with the grid as well as control of ancillary breakers and systems. The control system will always run to ensure that the machines operate efficiently and safely.

Each turbine will be connected via fiber optic cables to a central Supervisory Control and Data Acquisition (SCADA) system that will be owned by the Proponent. The SCADA system allows for controlling and monitoring individual turbines and the wind plant as a whole from a central host computer or a remote personal computer. In the event of problems, the SCADA system can

also send signals to a fax, pager, or cell phone to alert operations staff. The SCADA system will also be connected to CAISO and SDG&E, through a third party telecommunications provider, whose system will need to be extended to the control room of the Project's substation.

Turbines will be equipped with a braking system to stop the rotor. The braking system is designed to bring the rotor to a halt under all foreseeable conditions. The turbines also will be equipped with a parking brake used to keep the rotor stationary while maintenance or inspection is performed. The area immediately surrounding the concrete pedestal will be covered with clean rock to provide safety grounding and a stable surface for future maintenance vehicles accessing the turbine. After construction, temporary disturbances associated with the turbine installation excluding the compacted crane pad, would be reclaimed to BLM specifications. The crane pad will be retained for future turbine maintenance needs.

Turbine towers and foundations will be designed to survive a gust of wind more than 133.1 miles per hour (mph) with the blades pitched in their most vulnerable position. Figure 6.2-2 provides the approximately dimensions of the turbine foundations. The foundation contains approximately 375 cubic yards of concrete, including both the leveling mat and the foundation.

2.1.2 LAYOUT

Turbines will be placed in a series of southeast-northwest oriented rows (or arrays) to best utilize prevailing wind flows across the project site. Turbines within each array will be connected by gravel or compacted native soil 16 or 20 foot wide access roads and underground 34.5 kV collection circuits. To minimize downwind array losses, spacing between turbine rows will be at least 8x rotor diameters (RD) (808 meters) and 2.0 to 3.5 RD (202 to 353.5 meters) for in-row spacing.

The current site layout presented in Figure 6.1-1 is based on environmental and archeological findings learned through coordination with the BLM and Imperial County during the ongoing NEPA process. The final site layout will incorporate any new findings at the conclusion of the NEPA process. Table 2.1.2-1 shows the approximate length and acreage for the major site feature including TLUA, access roads, and collection cable.

Table 2.1.2-1 – Length/Acreage for Major Site Features

TLUA	1,232 acres
Access Roads	40.5 miles
Underground Collection Line	81.8 miles

2.1.3 CONSTRUCTION PROCESS

Construction of each of the two phases of the wind generation facility is anticipated to be completed over a period of 12 to 15 months. During construction, the number of construction employees needed on site will vary throughout the construction period, but a total of approximately 246 employees are expected. In general, the project team will work 6 x 10 hour-days, daylight hours, Monday through Saturday. However, to meet schedule it may be necessary to work early morning, evenings, or even nights and/or Sundays during the foundation concrete

pours to take advantage of the cooler times of the day and during the turbine erection period to take advantage of the times the wind speed is below the maximum safe working conditions. Power supply for construction will be through the use of diesel generators and/or purchase of power from the local utility. A summary of facility components and associated ground disturbance from those components is provided in table 2.1.3-1. This section is followed by detailed descriptions of each project component.

Table 2.1.3-1 Ocotillo Wind Facility Components; Maximum Disturbance Summary Table, Based on Construction of 158 Turbines.

Facility Component	Temporary Disturbance (Acres)	Permanent Disturbance (Acres)
Turbine Foundations & Crane Pads	286	40
Access Roads	108	86
Collector Lines	149	1
Substation / Switchyard	6.5	25.2
O&M Facility	0	3.4
Railroad Unloading Area	10	0
Batching Plant & Laydown/Parking Area	12	0
Meteorological Towers	1	1
Gravel Source(s)	0	15 (if needed)
Total	**572.5**	**171.6**

Five to ten WTGs can be erected weekly. Construction of Phase I is anticipated to commence in September, 2011, with the final mechanical completion, commissioning, and electrical testing of Phase I planned to be completed before year-end 2012. Phase II is anticipated to follow in 2013.

Major construction activities at each turbine location include foundation construction; crane pad construction; wind turbine component unloading and laydown; and turbine erection. All of these activities occur inside the temporary turbine work area described in Section 1.3.8. As directed

by the tower supplier and geotechnical engineer's recommendations, foundations would be excavated, constructed of steel reinforced concrete, and backfilled with native soil. Crane pads are required to support the crane used during erection and lifting the turbine components into place. They consist of a compacted native soil or compacted aggregate base gravel area with approximate dimensions and maximum grade of 60 x 100 and 1%. Turbine components will arrive to each turbine site by truck. A crane will unload each component and stage the component in a specific pre-determined location within the temporary construction area. The delivery trucks will then move either backward or forward to the nearest vehicle turn-around location. Details on turbine erection are provided in Section 2.10.

Construction methods for other facilities are discussed in further detail in section 2.

2.2 GEOTECHNICAL STUDIES THAT MAY BE PLANNED

A preliminary geotechnical analysis of the project has been conducted to describe soil and geology suitability. The completed study includes the results of geotechnical drilling at 6 sites, surface seismic testing at 18 sites, and laboratory testing of soil samples as well as recommendations for foundation design and construction quality control.

Additional site specific geotechnical studies will be required for use in the final design of the turbine foundations, substation, and interconnection switchyard. The final geotechnical studies will include drilling (standard penetration testing, SPT) and sampling at each turbine locations to a depth of 50 feet below existing grade. In addition, a limited number of SPT tests, electrical resistivity and bulk sampling would be performed at the O&M, substation, and interconnection switchyard locations.

2.3 PHASED PROJECTS, DESCRIBE APPROACH TO CONSTRUCTION AND OPERATIONS

Construction of a wind project is a relatively straightforward process with the actual ground disturbance of the turbines and plant infrastructure (civil and electrical) typically taking up less than 3% of the total project area (AWEA 2008). Large projects such as Ocotillo Wind are often concentrated in two or more phases. Each phase of construction begins with installation of civil improvements, including construction of the site access/maintenance roads, grading of the turbine sites, construction of turbine/transformer foundations, and the preparation of crane pads for erection of the turbines. The second construction phase, where some of the works will proceed in parallel with the civil works, includes trenching and installation of the underground electrical cabling, construction of the main substation, placement of the pad mount transformers, construction of the maintenance facility, and erection of the turbines. The third and final construction phase includes assembly and mechanical completion of all wind turbine generators, substation and other facilities followed by commissioning and testing of each turbine, the substation, utility interconnection, testing of the electrical system, and restoration of temporary construction areas and laydown areas. These three construction phases can overlap and/or be concentrated in specific sites of the project area in order meet aggressive construction schedules and minimize fugitive dust and noise generation from construction activities.

2.4 ACCESS AND TRANSPORTATION SYSTEM, COMPONENT DELIVERY, WORKER ACCESS

New internal long-term access roads will be constructed to provide construction vehicle access to the turbine locations during the construction phase, and service vehicle access during the operations phase. During the construction phase of the project, new road width will be 36 feet. This will be reduced to 16 or 20 feet during the operations phase and the remaining 16 or 20 foot wide area of short term disturbance will be reclaimed to BLM specifications. These long term access roads may include a turn-around where needed at the end of each turbine array, which will enable construction and post-construction operational personnel to safely access the turbine locations throughout the project area.

The total number of miles of new internal project access roads is given in Table 2.1.2-1, along with the total long term disturbance from new road construction. The final long term roads will consist of either compacted native soil and/or gravel aggregate or crushed caliche from BLM-permitted sources.

Internal access road layout will incorporate existing BLM standards regarding road design, construction, and maintenance such as those described in the 2005 Wind Energy PEIS and ROD (BLM 2005), BLM 9113 Manual (BLM and USFS 1985) and the Surface Operating Standards for Oil and Gas Exploration and Development (Fourth Edition 2006) (i.e., the Gold Book), as well as BLM Visual Resource Management Manuals.

The anticipated travel route for delivery of construction materials and worker access to the general vicinity will be determined and included as part of the COM plan. The planned access route into the project site, as shown in Figure 6.4-2 will include a the Imperial Highway, a temporary road north of the I-8 and adjacent to the railroad and/or the existing by-pass road north and east of Ocotillo. OE LLC has applied for a right-of-way to use the existing by-pass road, and is pursuing a road-use agreement with the private mining companies who also have rights-of-way for the by-pass road.

The batch plant/laydown yard will be the primary destination for initial equipment deliveries and worker arrival.

2.5 CONSTRUCTION WORK FORCE NUMBERS, VEHICLES, EQUIPMENT, TIMEFRAMES

2.5.1 CONSTRUCTION WORKFORCE NUMBERS

Up to 246 workers will be employed during the construction period. The majority of construction personnel are expected to be local residents of the Imperial Valley; other personnel from outside the area will likely stay in hotels and rental properties in El Centro, California or other communities in the Imperial Valley. During construction, potable water and sanitary facilities will be provided to support the construction crews. Mobile construction trailers and temporary port-a-potty facilities will be available at the laydown area and O&M Building. Bottled water from a commercial provider will be utilized and will be delivered to the site. A plan for employee transportation to and from the project area will be developed and included as part of the COM plan. It is anticipated that employee carpooling will be required to minimize vehicle traffic to and from the site, and minimize the area necessary for construction phase parking. The peak number of employees onsite at one time is approximately 230.

2.5.2 CONSTRUCTION VEHICLES AND EQUIPMENT

The construction phase vehicles will include excavators, graders, bulldozers, backhoes, compactors, cranes, forklifts, delivery trucks, semi trucks, and trenchers, pick-up trucks, and SUVs. Table 2.5.2-1 shows the vehicle, use area, and activities expected during the construction phase.

Table 2.5.2-1 Construction Use Areas and Activities

Vehicles	Use Areas	Activities
Bull Dozers and Excavators	Turbine locations and major earth work locations	Clearing, excavating, moving, and grading large quantities of soil
Crane and forklifts	Turbine locations, O&M, and substation/switchyard	Lifting and erecting turbine components and unloading and placement of equipment and materials
Graders	Access roads, turbine locations, O&M, and substation/switchyard	Clearing, moving small amounts of soil and finish grading
Trenchers and backhoes	Turbine locations and collection system	Small area and trench excavation and backfill
Delivery trucks and semi trucks	Access roads and all major construction areas and the concrete batch plan	Delivery of finished concrete water, aggregate, cement, steel, cable, and other bulk construction items.
Pick-up trucks and SUVs	Access roads and all construction areas	Worker and small equipment transport

2.5.3 CONSTRUCTION TIMEFRAMES

- Commence civil works (roads, underground electrical, foundations) – 3rd quarter 2011
- Commence balance of plant electrical/civil works – 1st quarter 2012
- Turbine deliveries commence – 2nd quarter 2012
- Turbine commissioning, testing, and commercial operation – 4th quarter 2012

2.6 SITE PREPARATION, SURVEYING, AND STAKING

Prior to construction, the limits of construction disturbance areas along road, collection system, and at turbine location will be clearly defined. These limits will be staked and flagged and other construction staking methods will be employed for the road alignment and turbine construction. Where necessary, the limits of the ROW will also be flagged. All construction activities will be confined to these areas to prevent unnecessarily impacting sensitive areas. Stakes and flagging

that are disturbed during construction will be repaired or replaced before construction continues. Stakes and flagging will be removed when construction and restoration are completed.

2.7 SITE PREPARATION, VEGETATION REMOVAL, AND TREATMENT

Vegetation would be removed from permanent facility sites, such as the O&M building and substation and interconnection switchyard, by blading and grading. Topsoil will be removed and stored where applicable and according to the BLM approved restoration plan. At other locations, such as along the temporary shoulders or in turbine assembly areas, where excavation is not required, vegetation will be removed by moving or trimming where possible in order to maintain the roots of existing vegetation. Temporary disturbance sites would be reclaimed to BLM specifications. Further restoration plans are described in Section 2.13.

2.8 SITE CLEARING, GRADING, AND EXCAVATION

Clearing and grading would be necessary for new roads, turbine pads, O&M facility, substation, and the batching plant/laydown area and will be accomplished using bulldozers, road graders or other standard earth-moving equipment. Excavation will be necessary for foundations and collection system construction and will be accomplished using large excavators, backhoes, and trenching machines. There will be no excess excavated material from project construction. Soil excavation (cut) and fill will be balanced. Soil excavated for roads will be used as fill for roads. The top soil component of the turbines excavation will be spread evenly around the base of the turbine to blend with existing grades.

2.9 GRAVEL, AGGREGATE, CONCRETE NEEDS AND SOURCES

Table 2.9-1 shows the expected location for gravel, aggregate, and concrete needs for the project. This material includes road aggregate and water, cement, coarse aggregate, and sand for concrete foundation including wind turbine foundations and foundation at the O&M building and for the substation and the interconnection switchyard.

Table 2.9-1 Gravel, Aggregate, and Concrete Needs

Material Description	Source Location	Estimated Quantity
Water (for concrete)	Near Pine Valley, CA	6.5 acre-ft
Coarse Aggregate	Thermal, CA	60,100 tons
Fine Aggregate (sand)	Ocotillo, CA	33,200 tons
Cement	Victorville, CA.	16,000 tons

Alternate appropriate sources of sand and gravel in proximity to the project area may be identified by a construction contractor and permitted through the BLM. Any sand and gravel source will require biological and cultural resource clearance and the appropriate level of BLM NEPA analysis would have to be completed prior to utilization.

2.10 WIND TURBINE ASSEMBLY AND CONSTRUCTION

Turbine construction will consist of foundation construction, tower and nacelle, and blade erection, pad mount installation, misc. mechanical and electrical installation, finish grading, installation of the rock ring around the outside of the tower, and restoration of the temporary disturbed ground and vegetation.

Turbine towers, nacelles, and blades are erected in three phases. The first phase included installation of the tower base (lower level of three tower section) over the foundation anchor bolts. The tower base is leveled and high strength grout is applied in the space between the tower and the foundation. The second phase includes installation of the top two tower sections. The third phase includes installation of the nacelle and the full rotor assembly (including hub with three blade attached).

2.11 ELECTRICAL CONSTRUCTION ACTIVITIES

The new SDG&E 500 kV transmission line that will cross through the central part of the site will be the interconnecting transmission line for the facility. Wind turbine generator power will feed into a 34.5 kV underground electrical collector system which connects to the project substation then to a new SDG&E switchyard and transmission line tie in. Construction of the collection system, substation and switchyard are further discussed in Section 3.2.1 below.

2.12 AVIATION LIGHTING (WIND TURBINES, TRANSMISSION)

Turbines will be lit as required by the Federal Aviation Administration (FAA). Based on the FAA Obstruction Marking and Lighting Advisory Circular (AC70/7460-1K), no structural markings or alternative colors are proposed for the wind turbines. For nighttime visibility, two flashing red beacons will be mounted on the top of a select number the nacelles. Lights are not recommended to be placed on all turbines, so it is likely that only those turbines at each end of the array will have lights to mark the extent of the facility. The FAA is currently evaluating a new technology that would only activate the red beacon lights when an aircraft is approaching the site. If approved by the FAA, this "on demand" technology will be employed at this site.

2.13 SITE STABILIZATION, PROTECTION, AND RECLAMATION PRACTICES

Upon completion of the construction aspect of the project, all soils disturbed by short term access roads and facilities will be reclaimed by stabilization and rehabilitation according to the site restoration plan approved by the BLM. The core feature of the stabilization and restoration plans will be minimizing disturbance areas to the most practical extent and preserving the root zones of existing vegetation. Other features may include preservation of the top soil or desert crust, reseeding, replanting, fertilization, vertical mulching, and monitoring.

The Ocotillo Wind Energy project will have a lifetime after which cost-effective operation will no longer be feasible. The anticipated life of the Ocotillo Wind Generation Facility is 30 years, and it is likely that after that time the site would be decommissioned and existing facilities and equipment would be removed. It is also possible that OE LLC may wish to work with the BLM to replace the old facilities with a new project on the same site. However, that option is not considered in this Plan of Development (POD).

The useful life of the 500kV switchyard will extend beyond the useful life of the wind project, and will likely remain in operation as an integral part of the CAISO grid, owned and operated by San Diego Gas & Electric (SDG&E). The switchyard area will be subject to a distinct BLM Right-of-Way Grant between SDG&E and the BLM, to be executed prior to commencement of commercial operations of the wind energy project.

Prior to the termination of the ROW authorization for the wind energy project, a decommissioning plan will be developed consistent with the BLM Wind Energy PEIS/ROD, and approved by the BLM. The BMPs and stipulations developed for construction activities will be applied to similar activities during decommissioning. Reclamation includes removal and disposal of the turbine tower, above-ground electrical tower components, and substation components. All below ground infrastructure such as tower foundations and electrical collection line will be removed to 3 feet below the ground surface and the remaining infrastructure that is deeper than 3 feet will be left in-place. Project roads will be removed and the impacted areas restored. Roads may be left in place at the land owner's discretion. All roads and tower pads would be reclaimed in accordance with the BLM approved decommissioning plan. More information on the decommissioning process can be found in Appendix A.

3.0 RELATED FACILITIES AND SYSTEMS

3.1 O&M FACILITY

A 3.4-acre O&M facility will be located in the central portion of the project area. The O&M buildings and yard will be constructed to store critical spare parts and provide a building for maintenance services. The buildings will include an office building, maintenance garage, oil storage shed, and a biological monitoring station. A concrete foundation will be required for the buildings and the area immediately surrounding the building will be covered with gravel for vehicle parking. A permanent 7-foot high security fence surrounding the O&M facility and directional motion activated security lighting will be installed. This chain link fence will have an open weave to enable viewing through to background landscape. Colors for the building and fence will be selected in consultation with BLM.

3.2 ELECTRICAL SYSTEMS AND TRANSMISSION SYSTEM INTERCONNECT

3.2.1 Collection System

The project would include the construction of twenty-three 34.5 kV underground collection system circuits connecting into 500kV step-up transformers located in the project substation at the center of the project area adjacent to the new SDG&E interconnection switchyard and Sunrise Powerlink 500 kV line. The collection system cables that connect one turbine to the next and to the project substation would be buried underground and generally adjacent to the interior maintenance roads. The burial depth of the proposed underground 34.5 kV collector circuits is between 36" and 48". A typical cross section per trench would be as shown below:

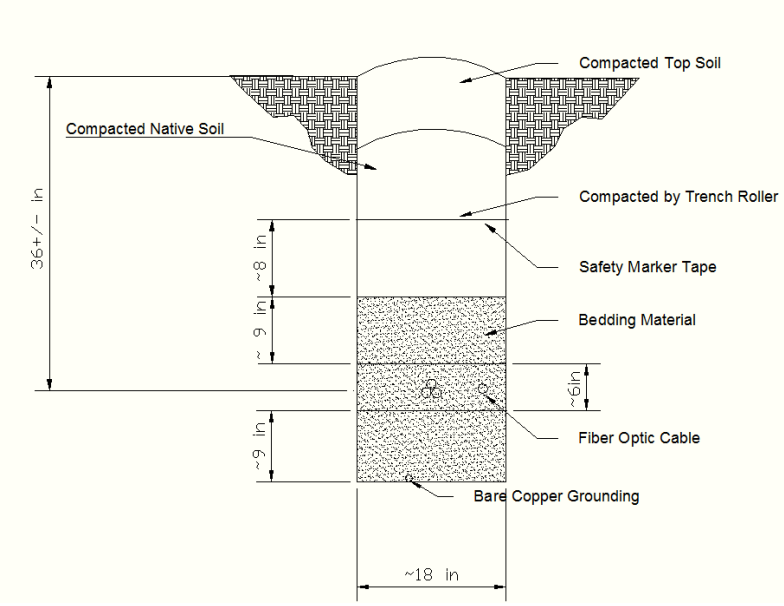


Figure 3.2-1 – Underground Collection Cable Installation, Typical

Above ground components to the collection system would include pad mounted transformers and secondary containment structure alongside each turbine, junction boxes and grounding transformers. The main substation and interconnection switchyard as well as the overhead 500 kV stub line connecting the interconnection switchyard to the new 500 kV transmission line are comprised of both underground and overhead features. The stub line is anticipated to be approximately 200 yards in length.

3.2.2 500 kV Substation

An approximately 4.2 acre substation will be located adjacent to the Interconnection Switchyard, both of which are located inside a 31.7 acre parcel adjacent to the proposed 500 kV transmission line.

Construction of the substation will begin with clearing vegetation and organic material from the site. The site will then be graded to subgrade elevation. Structural footings and underground utilities, along with electrical conduit and grounding grid will be installed, followed by aboveground structures and equipment. A chain link fence will be constructed around the new substation for security and to restrict unauthorized persons and wildlife from entering the substation. The site will be then finish graded and a gravel surface will be applied.

The substation includes a control building which likely be a modular design, constructed of prefabricated steel. The estimated dimensions is 12’ x 40’. Major equipment to be installed inside the control building consists of relay and control panels, alternating current and direct current load centers to provide power to equipment inside and outside the control building, a battery bank to provide a back-up power supply, a heating/cooling system to prevent equipment failure, and communications equipment for remote control and monitoring of essential equipment.

Steel structures will be erected on concrete footings to support switches, electrical buswork, instrument transformers, lightning arrestors, and other equipment, as well as termination structures for incoming and outgoing transmission lines. Structures will be fabricated from

tubular steel and galvanized or painted a BLM-approved color to blend in with predominant vegetation and soil types. Structures will be grounded in accordance with industry standards.

Major equipment will be set by crane and either bolted or welded to the foundations to resist seismic forces. Oil spill containment basins will be installed around the oil-filled transformers. Smaller equipment, including air switches, current and voltage instrument transformers, insulators, electrical buswork, and conductors will be mounted on the steel structures.

Control cables will be installed between the control building and station equipment through underground conduits and a concrete trench system. After the cables are connected, the controls will be set to the proper settings, and all equipment will be tested before the substation is energized.

The project will require a stand-by auxiliary power source for the substation . The power source will be propane or natural gas generator between 50 and 75 kW of rated power capacity.

3.2.3 Interconnection 500kv Interconnection switchyard

A new approximately 21 acre, 500 kV interconnection switchyard for SDG&E will be constructed inside the 31.7 acre parcel adjacent to the proposed 500 kV transmission line. The interconnection switchyard will include circuit breakers, disconnects, switches and associated structures, buildings, and relay protection. The construction process for the interconnection switchyard would be similar to the project substation detailed above however structure clearances would be larger since the entire yard is 500kV.

3.2.4 Status of Power Purchase Agreements

OE LLC has entered into a Power Purchase Agreement with SDG&E under which all of the energy production of the planned 315MW first phase of the OE LLC wind energy project will be purchased by SDG&E for a 20-year term. Based on the quality of the wind resource at the Ocotillo Wind Project Site, compared to potentially competing sites, and based on knowledge of the market demand for cost-effective renewable energy in California, there is high confidence a power purchase agreement or agreements for the planned second phase of the project will also be secured.

3.2.5 Status of Interconnect Agreement

Ocotillo Wind posted the required deposit to be included in the first Phase I Interconnection Cluster Study, and applied for 549.5 MW of transmission capacity on the new Sunrise Powerlink, scheduled for completion in June 2012. On September 23, 2010, OE LLC posted letters of credit with SDG&E pursuant to the CAISO tariff, in order to have the interconnection process completed. Subsequently, OE LLC amended the original interconnection application to cover 299MW of net interconnection capacity to support the 315MW of phase 1 nameplate capacity, and simultaneously filed a second interconnection request for 250MW of net interconnection capacity to match the planned Phase 2 nameplate capacity.

Under the new CAISO Large Generator Interconnection Procedures, the Phase I Interconnection Cluster Study was completed in June 2010, and the Phase II Study is expected to be completed, and an Interconnection Agreement entered into by September, 2011.

3.3 COMMUNICATIONS SYSTEMS

Fiber optic cable for communications are necessary for phone, internet and controller communication within and external to the project. Fiber optic cable will be used throughout the project, the majority of which will be contained in the collection system underground trenches. Approximately 82 miles of fiber optic cables will be placed underground in trenches adjacent to access roads. It is anticipated that a third party telecommunications provider will extend cable to the project O&M building and substation control rooms to interconnect the internal communications system with CAISO, SDG&E and other users of project information.

4.0 OPERATIONS AND MAINTENANCE

4.1 OPERATION AND FACILITY MAINTENANCE NEEDS

Once the project has been constructed, the Ocotillo Wind Energy Project will be monitored and operated year-round by Pattern Energy and will have a permanent staff of approximately 17 full-time technicians, who would normally be on-site daily. In addition, approximately 10 temporary employees or contractors may be onsite for approximately 12 weeks per year for major maintenance activities. Current plans are for the O&M facility to be located on-site, and to include 4 offices for technicians to work from. In addition, for the first five full years of operations, a staff biologist will remain on site during the day year-round to monitor the movements of Eagles and other wildlife from the biological monitoring tower. The SCADA system, which monitors the site operating conditions, has a secure communications link which allows a remote operator from the 24-7 Operations Center in Houston, Texas to monitor and control the facility 24 hours per day, ensuring each turbine is functioning at peak performance. Routine maintenance activities consisting of visual inspections, oil changes, and gearbox lubrication will result in regular truck traffic on project access roads throughout the year.

Annual maintenance activities requiring the shutdown of turbines will be coordinated to occur during periods of little or no wind to minimize the impact on the amount of overall energy generation. Annual maintenance procedures will consist of inspection of wind turbine components and fasteners.

All equipment used in the operation of this project will be maintained and inspected regularly by authorized and trained facility staff. A complete schedule will be established before the start of operations.

The internal access roads built and used during the construction phase will be maintained throughout commercial operations. During operations, all project access roads will be evaluated and graded as necessary to facilitate operations and maintenance. In addition to grading, the periodic application of new gravel may be necessary to maintain road surfaces.

Five or six service vehicles will normally be utilized, as crews work and travel in pairs. These vehicles will be kept on site, and personnel will travel to the site in personal vehicles. Car pooling will be encouraged.

5.0 ENVIRONMENTAL CONSIDERATIONS

PA/EIR/EIS SCHEDULE (TO BE UPDATED BY BLM)

Activity	Deadline
BLM POD Approved	10/15/2010
BLM publishes Notice of Intent in Federal Register	12/13/2010
Complete Draft Lake and Streambed Alteration Agreement (LSAA) Notification Package submitted to DFG (if applicable)*	2/11/2011
BLM scoping meeting	1/6/2011
Scoping Period Ends	2/7/2011
Administrative Draft Environmental Impact Statement (DEIS) to staff for review	2/21/2011
BLM submits BA to USFWS (Start 135-day consultation)	2/21/2011
DEIS Printed and Sent to EPA	3/11/2011
NOA of DEIS in Federal Register/Notice of Completion	3/18/2011
DEIS filed (90-day comment period begins: EPA / FR)	3/18/2011
BA determined adequate by FWS	3/21/2011
DEIS public meetings	4/20/2011 & 4/21/2011
Close BLM comment period	6/16/2011
USFWS issues Biological Opinion	7/5/2011
Prepare responses to comments and add to FEIS	6/21/2011
Administrative FEIS internal staff review	6/27/2011
FEIS Printed and Sent to EPA	7/22/2011
NOA of FEIS in Federal Register	7/29/2011
FEIS distributed/PA protest resolution starts	7/29/2011
60 day CA State Governor's consistency review	7/29/2011
Plan Amendment Protest period ends	8/28/2011
CA State Governor's consistency review ends/Plan Amendment Resolution Period ends (JKC added - 30 day review only)	8/28/2011
BLM Record of Decision (Secretary Signs ROD Potentially)	9/27/2011
30 day appeal period	10/27/2011
Grant and Notice To Proceed	9/28/2011 or 11/3/2011

5.1 General description of site characteristics and potential environmental issues

Potential environmental issues potentially include, but would not necessarily be limited to:

- Local vegetation and native plant species
- Wildlife and Endangered or Special Status Species
- Cultural and paleontological resources
- Visual and noise, recreation
- Watershed and fire management
- Special Designations (Protected Areas)
- Local economic and social conditions
- Native American concerns
- Health and Safety
- Community Issues and Aviation

Many of these issue areas are discussed below.

5.1.1 Special or Sensitive Species and Habitats

The Ocotillo Wind project would be located near Ocotillo, Imperial County. The project would be located in the Colorado Desert bioregion. This area consists primarily of desert habitats including Sonoran creosote bush scrub, Sonoran desert mixed scrub, Sonoran west scrub, and Sonoran mixed woody and succulent scrub (CPUC, 2008). The wind project would be located immediately north of the in Peninsular Bighorn Sheep Designated Critical Habitat Unit 3 (USFWS, 2009).

The Colorado Desert is the western extension of the Sonoran desert, which covers southern Arizona and northwestern Mexico. Much of the Colorado Desert land lies below 1,000 feet in elevation. Mountain peaks rarely exceed 3,000 feet. Common habitats include sandy desert, scrub, palm oasis, and desert wash. Summers are hot and dry, and winters are cool and moist (CERES, 2009).

The Colorado Desert supports a diverse array of wildlife species including the Yuma antelope ground squirrels, white-winged doves, muskrats, southern mule deer, coyotes, bobcats, and raccoons. Rare animals include desert pupfish, FTHL, prairie falcon, Andrew's dune scarab beetle, Coachella Valley fringe-toed lizard, Le Conte's thrasher, black-tailed gnatcatcher, and California leaf-nosed bat. Rare plants include Orcutt's woody aster, Orocopia sage, foxtail cactus, Coachella Valley milk vetch, and crown of thorns (CERES, 2009).

Sensitive species that could be located in or adjacent to the project site include Peninsular Bighorn Sheep, flat-tailed horned lizard, barefoot banded gecko, Golden Eagles and migratory birds and bats.

Peninsular Bighorn Sheep. On April 14, 2009, the USFWS revised the final critical habitat for the Peninsular bighorn sheep, excluding from designation approximately 460,487 acres of habitat in Riverside, San Diego, and Imperial counties identified in the 2001 designation (see 50 Fed. Reg. Part 17). This revision excluded the critical habitat that would have been located on the proposed site. Peninsular bighorn sheep live on steep, open slopes, canyons, and washes in hot and dry desert regions where the land is rough, rocky, and sparsely vegetated. Elevation ranges have been recorded between 300 and 4,000 feet where average annual precipitation is less than four

inches and daily high temperatures average 104ºF in the summer. Caves and other forms of shelter (e.g., rock outcrops) are used during inclement weather and for shade during the hotter months. Lambing areas are associated with ridge benches or canyon rims adjacent to steep slopes or escarpments. Alluvial fans are also used for breeding, feeding, and movement. Designated critical habitat is located from the San Jacinto Mountains south to the U.S.-Mexico border, generally along the eastern escarpment of the Peninsular Ranges that steeply descend into the Sonoran Desert along the Coachella Valley, Anza-Borrego Desert, and Salton Trough.

Flat-Tailed Horned Lizard. The FTHL has the most limited distribution of any horned lizard species in the U.S. It is found in the extreme southwestern corner of Arizona, the southeastern corner of California, and adjoining portions of Sonora and Baja California, Mexico. FTHLs occur entirely within the largest and most arid subdivision of the Sonoran Desert. Most records of this lizard come from the creosote-white bursage series of Sonoran Desert Scrub, although in California the species has been recorded in a wide range of habitats including sandy flats and hills, badlands, salt flats, and gravelly soils. Ants constitute approximately 97 percent of the FTHL's diet; harvester ants (genera *Messor* and *Pogonomyrmex*) are far more important to this diet than smaller ant species. Water is obtained primarily from food; free-standing water is usually not available (Flat-Tailed Horned Lizard Interagency Coordinating Committee, 2003). Unlike other iguanid lizards that often flee when approached, the FTHL remains still or may bury itself in loose sand. This reluctance to move, along with its cryptic coloration and body-flattening habit, makes the FTHL very susceptible to mortality, especially from vehicles (Flat-Tailed Horned Lizard Interagency Coordinating Committee, 2003).

Barefoot Banded Gecko. In California, the State-listed threatened barefoot banded gecko inhabits the eastern edge of the Peninsular Ranges from Palms to Pines Highway (SR74) to the Baja California border. It occupies arid, rocky areas on flatlands and in canyons and thornscrub, especially where there are large boulders and rock outcrops and the vegetation is sparse (CaliforniaHerps.com, 2007). This species is known only from five localities in eastern San Diego County and western Imperial County. Anza- Borrego Desert State Park (ABDSP) affords protection for some gecko habitat (CDFG, 2006b). The natural history of this gecko is not well known; this secretive nocturnal animal hides by day in deep crevices. It is active in fairly cool ambient temperatures during periods of increased humidity, typically spring through fall. It hibernates through the winter (CaliforniaHerps.com, 2007).

Biological surveys have been conducted to identify any possible biological resources that would be impacted by the project. These surveys determined what species are present on the project site and help to assess potential impacts and determine appropriate conservation and mitigation measures.

5.1.1Potential Impacts

As stated in the BLM Programmatic EIS (2005), impacts to vegetation and wildlife during construction could occur from (1) erosion and runoff; (2) fugitive dust; (3) noise; (4) the introduction and spread of invasive vegetation; (4) modification, fragmentation, and reduction of habitat; (5) mortality of biota; (6) exposure to contaminants; and (7) interference with behavioral activities. Site clearing and grading, along with construction of access roads, towers, support buildings, utility and transmission corridors, and other ancillary facilities, could reduce, fragment, or dramatically alter existing habitat in the disturbed portions of the project area.

Wildlife in surrounding habitats might also be affected if the construction activity (and associated noise) disturbs normal behaviors, such as feeding and reproduction.

The BLM has identified the following as types of impacts that could occur during the construction and operation of wind projects.

Construction impacts on vegetation. Construction activities may directly impact vegetation at wind project sites due to clearing and grading for towers and related infrastructure, utility corridors and access roads, assembly of turbines and towers, etc. Impacts would be of long and short duration and would be primarily localized to the immediate project area. Introduction of invasive vegetation would impact the project area and potentially impact the surrounding habitat. During construction, vegetation may be impacted through injury or mortality, fugitive dust, and exposure to contaminants or invasive species.

According to the BLM Wind PEIS, approximately five to ten percent of the entire project area would be potentially subject to direct injury or loss of vegetation due to permanent disturbance. Additional temporary impacts to vegetation could occur along transmission lines or at staging areas. Impacts to vegetation would also potentially occur due to compaction, loss of topsoil, and removal or reductions in seed banks.

Construction impacts on wildlife. Direct and indirect impacts to wildlife could occur during the construction of the wind project. Impacts to wildlife could include habitat reduction, alteration, and fragmentation, introduction of invasive species, injury or mortality, decrease of water quality due to erosion and runoff, fugitive dust, noise, and exposure to contaminants, as well as interference with behavioral activities. The location and timing of construction would potentially impact migration routes of some species.

Impacts to wildlife habitat include reduction, alteration, or fragmentation of habitat due to project related infrastructure. Existing habitat would be disturbed within the turbine footprints and support facilities, along new access roads, and within new utility right-of-way (ROW). The amount of habitat that would be subject to direct impact would be approximately five to ten percent of the project site (BLM, 2005).

Additional impacts to wildlife could occur through direct injury or mortality, if wildlife is not sufficiently mobile to avoid construction operations, or if the wildlife is using burrows or defending nest sites.

Construction impacts on wetland and aquatic biota. Wind energy development typically occurs on ridges and other elevated land where wetlands and surface bodies are not likely to occur; however, access roads and transmission lines may cross lands where these features may be more common. This may result in impacts to wetland and aquatic biota during construction. Desert washes may be impacted.

Construction impacts on Threatened and Endangered Species. Construction activities could impact threatened, endangered or sensitive species through injury or mortality, habitat disturbance, introduction of invasive species, erosion or runoff, fugitive dust, noise, exposure to contaminants, and interference with behavioral activities. Because of the regulatory requirements of the Endangered Species Act (ESA) and various state laws and regulations, and the requirements specified in BLM Manual 6840 – Special Status Species Management (BLM 12/12/2008) and other resource-specific regulations and guidelines, appropriate survey, avoidance, and mitigation measures would be identified and implemented prior to any

construction activities to avoid impacting any sensitive species or the habitats on which they rely.

Operational Effects on Wildlife. Wildlife may be affected by wind energy project operations through electrocution from transmission lines; noise; the presence of, or collision with, turbines, meteorological towers, and transmission lines; site maintenance activities; exposure to contaminants; disturbance associated with activities of the wind energy project workforce; interference with migratory behavior; and increased potential for fire. Wildlife may be affected by human activities that are not directly associated with the wind energy project or its workforce but instead are associated with the potentially increased access to BLM-administered lands that previously received little use. The construction of new access roads or improvements to old access roads may lead to increased human access into the area. Potential impacts associated with increased access include the disturbance of wildlife, including an increase in legal and illegal take, an increase in invasive vegetation, and an increase in the incidence of fires.

Collision with turbines meteorological towers, and transmission lines. Operation of a wind energy project is expected to result in mortality of birds due to collision with wind turbine blades. Recent studies have shown that taller tower heights are likely to reduce raptor mortality due to an increase in ground-to-rotor clearance, especially for red-tailed hawks, golden eagles and American kestrels that use spaces closer to the ground for hunting prey. Ground disturbance around wind turbines (roads and work pads) increases the vertical/horizontal edge near turbines, which also may increase prey densities and raptor use. Also, ground disturbance that creates rock piles creates habitat for small mammals and reptiles that could attract raptors to the turbine sites. Small mammals and reptiles may also burrow near the turbine bases where soil has been disturbed. Fatalities among of raptors are of special concern because of their generally low numbers and protected status. Depending on the species and its population size, the number of fatalities may result in population-level effects to the affected raptors. To date (2005), no studies have shown population-level effects in raptor populations associated with wind energy projects (BLM, 2005).

Operation of the Ocotillo wind energy project may result in mortality of bats due to collision with wind turbine blades. Studies show that bat mortality from collision with wind turbines is highest during the late summer and fall migration season. Preliminary data from the Buffalo Ridge WRA suggest that while a number of bats may be susceptible to turbine collisions, the observed mortality is not sufficient to cause population declines in the vicinity of the facility (BLM, 2005). If the species killed were uncommon, impacts could result in population-level effects, while impacts from killing small numbers of common bat species would not be expected to result in population-level effects. Site-specific studies for the Ocotillo project show very low levels of bat activity throughout the project site.

5.1.2 SPECIAL LAND USE DESIGNATIONS

The Ocotillo Wind project would be in an area governed by the California Desert Conservation Area Plan. The site is located immediately north of the Jacumba Wilderness, approximately two miles east of the Yuha Area of Critical Environmental Concern, approximately 1.5 miles southwest of the Plaster City Open Area, approximately one mile south of the Coyote Mountains Wilderness, and adjacent to Anza-Borrego Desert State Park and the Jacumba Mountain Wilderness. The Ocotillo Wind Energy project would be potentially visible from these special land use areas.

California Desert Conservation Area Plan. The 25-million-acre CDCA is a special planning area administered by the BLM that contains over 12 million acres of public lands within the California Desert, which includes the Mojave, the Sonoran, and a small portion of the Great Basin Deserts. The goal of the CDCA Plan is to provide for economic, educational, scientific, and recreational uses of public lands and resources in the CDCA in a manner that enhances use without diminishing the environmental, cultural, and aesthetic values of the desert.

California Desert District. The mission of the California Desert District (CDD) of the BLM is to protect the natural, historic, recreational and economic riches of the California Desert for generations to come. In 1976, the United States Congress created the California CDCA, which covers nearly one quarter of the State. As one of the government's primary authorities for the management of public lands, the BLM - through the CDD - acts as steward for 10.4 million acres of this 26 million acre preserve. In an effort to provide the most benefit to the most people, while preserving this rugged and awe inspiring landscape, the CDD developed a balanced, multiple-use plan to guide the management of this vast expanse of land. The plan, completed in 1980 with the help of the public, divides the desert into multiple-use classes. These classes were created in order to define areas in critical need of protection, while allowing for the use and development of less-vital parts of the desert.

Jacumba Wilderness. The Jacumba Wilderness is a 31,237-acre federal wilderness area administered by BLM. The Jacumba Mountains sit on the eastern flank of southern California's coastal peninsular ranges, extending to the international border. The Jacumba's are a broad range, made up of ridges and intervening valleys (BLM, 2009b). The Davies Valley is the largest valley in the wilderness area and is used for hiking, equestrian use, photography, and nature study. A staging area for hiking and riding into Davies Valley is located at the end of Clark Road, south of Ocotillo on State Highway 98.

Yuha Basin Area of Critical Environmental Concern. The Yuha Basin ACEC is managed by the BLM and is designated as an ACEC because of its significant natural, cultural and historic resources (e.g., FTHL populations, Yuha well, Yuha geoglyph, and Juan Bautista de Anza National Historic Trail) (BLM, 2004). Camping is permitted only within six BLM-designated primitive campgrounds located south of the Proposed Project and Interstate 8 in the Yuha Desert. BLM primitive campgrounds are widely dispersed, and undeveloped (i.e., without toilets, electricity, or water). These BLM primitive campgrounds are located along the Juan Bautista de Anza National Historic Trail (BLM, 2004).

Plaster City Off Highway Vehicle Open Area. This area provides 41,000 acres of open desert terrain for OHV recreationists and includes two staging areas, Plaster City East and Plaster City West, that are popular primitive camping and day use areas (BLM, 2009c). Vehicles and camping are permitted anywhere in the area.

Coyote Mountain Wilderness. The Coyote Mountains make up 40 percent of this wilderness. It encompasses approximately 18,000 acres. Part of the Carrizo Badlands lies within the northern portion of the wilderness, their narrow and twisting gullies giving the landscape a harsh, forbidding appearance. A group of unusual sandstone rock formations, believed to be six million years old, adds to the character of this wilderness. Fossil Canyon ACEC is within the Coyote Mountains Wilderness (BLM, 2009c).

Anza-Borrego Desert State Park and Jacumba Mountain Wilderness. Anza-Borrego Desert State Park is the largest state park in California. Five-hundred miles of dirt roads, 12 wilderness areas and miles of hiking trails are found in this part of the California Desert.

5.1.2.1 Potential Impacts to BLM-Administered Land.

Public lands -- unless otherwise classified, segregated, or withdrawn -- are available at the BLM's discretion for ROW authorization for wind energy development under the FLMPA (BLM, 2005). The *California Desert Conservation Area Plan, as Amended* (BLM 1999), identifies wind energy development as an authorized use of public lands, consistent with the Plan and NEPA. Consequently, public lands located in the CDCA are not restricted from wind energy development.

Site monitoring and testing associated with the meteorological towers and minimum-specification access roads (if required) would generally result in temporary, localized impacts to existing land uses. Meteorological data would be collected for 1 to 3 years and would require the installation of meteorological towers to characterize the wind regime at a potential wind resource area (WRA). Since a meteorological tower would occupy only a few square feet, only a negligible impact to most existing land uses would be expected. However, the presence of the towers, including guy-wires and possible access roads, may impact more remote recreational experiences.

According to the BLM Wind PEIS, construction activities could result in temporary impacts to existing land uses. For example, construction activities such as blasting could impact other uses of BLM land. Based on preliminary geotech studies completed for the Ocotillo wind project, no blasting is anticipated to be required for construction of this project.

Permanent land use impacts are based on the amount of land that would be displaced by a proposed project and by the compatibility of the proposed use with existing uses. Permanently converted acreage would usually involve only a small portion of that available within a project area. Given the overall footprints of wind turbine towers and ancillary structures, the amount of acreage required for most wind energy development projects should be a small fraction of the grant area (BLM, 2005). Generally, wind turbines need to be separated by a distance equivalent to at least several tower heights in order to allow wind strength to reform and for the turbulence created by one rotor not to harm another turbine downwind. Therefore, only a small percentage of land area is taken out of use by the turbines, access roads, and other associated infrastructure. Depending on the location, size, and design of a wind energy project, wind development is compatible with a wide variety of land uses and generally would not preclude recreational, wildlife habitat conservation, military, livestock grazing, oil and gas leasing, or other activities that currently occur within the proposed project area (BLM, 2005). Development of the wind farm and security measures may impact the off-highway vehicular (OHV) traffic and associated recreational experiences due to rerouting of roads, closures of existing travel routes, creation of strong visual contrasts, and implementation of site security measures. As discussed above, the land disturbance anticipated for the Ocotillo wind energy project are minimal.

Overall, establishment of a wind energy project and its ancillary structures (e.g., transmission lines and access road) would modify the existing land cover (BLM, 2005). Indirect land use impacts would not be expected, because it is anticipated that a wind energy project would not substantially induce or reduce regional growth to the extent that it would change off-site land uses or use of off-site resource-based recreation areas.

Upon decommissioning, most land use impacts from facility construction and operation would be reversible. No permanent land use impacts would be expected from decommissioning (BLM, 2005). The BLM could decide to continue the use of, and maintain, access roads.

5.1.3 CULTURAL AND HISTORIC RESOURCE SITES AND VALUES

The Ocotillo Wind project would be located in the Colorado Desert in Imperial County. The following is a brief description of the cultural and historic setting of the Colorado Desert taken from the Sunrise Powerlink Project Final Environmental Impact Report/Environmental Impact Statement (EIR/EIS) (2008). According to the Sunrise Powerlink Project EIR/EIS, current research of precontact occupation in San Diego County and western Imperial County recognizes the existence of at least two major cultural traditions, discussed here as Early Period/Archaic and Late Period. Within the region, the Early Period/Archaic spans from roughly 9,500 to 1,300 years ago, and the Late Period begins approximately 1,300 years ago and ends with historic contact. The Historic Period covers the time from Spanish contact to the present.

5.1.3.1 ARCHAIC PERIOD

The Archaic period in western Imperial County is not strongly represented. The Salton Trough is unique in having contained a large freshwater lake that filled, dried out, and filled numerous times in prehistory in response to the western diversion of the Colorado River into the Salton Trough. While the general timing of several of these lacustral intervals is fairly well established for the late Holocene (Waters, 1983), data for earlier periods is currently lacking. The Archaic period is represented in the western Colorado Desert by occasional surface finds of isolated dart points, a cairn burial from the Yuha area dated between 1,650 and 3,850 years B.P. (Taylor et al., 1985), stratified deposits spanning the Archaic and Late Periods at Indian Hill Rockshelter in Anza-Borrego Desert State Park (Wilke and McDonald, 1989; McDonald, 1992), and by an unusually high concentration of Archaic points and crescentics at the Salton Sea Test Base (Apple et al., 1997).

5.1.3.2 LATE PERIOD

It is not possible to understand the Late Period of the western Colorado Desert and eastern slopes of the Peninsular Range without reference to Lake Cahuilla. Combining radiocarbon evidence from core samples and archaeological sites with ethnohistoric information, Waters (1983) determined that the Salton Trough experienced four major lacustrine episodes during the period between approximately 400 and 1,200 years ago. A fifth partial refilling has since been proposed based on faunal evidence recovered from the Dunaway Road site in southeastern Imperial County. Numerous communities exploited many resources along the Lake Cahuilla shoreline, although there is debate regarding it the occupations were year-round residential bases or seasonal, temporary camps. Variability and flexibility in the face of changing environmental circumstances seem to have been the main principles governing Late Period adaptation throughout the area (Schaefer, 1994). Following desiccation of Lake Cahuilla, major out-migrations to other areas of interior California would have occurred (Wilke, 1978).

The extensive system of trails that crisscross the desert attests to the importance of long-range resource extraction and trade during the Late Period. Extensive travel and trade between the Pacific coast and well beyond the California-Arizona and California-Mexico borders are well documented in ethnohistoric accounts and in the archaeological record.

5.1.3.3 HISTORICAL BACKGROUND

The history of the region is generally divided into the Spanish (1769-1821), Mexican (1821-1846), and American (after 1846) periods. The Spanish Period began with the establishment of a mission and presidio on a hill overlooking San Diego Bay in July 1769. The Spaniards introduced European crops, cattle, and other livestock. Their goal was to convert the Native Americans to Christianity and teach them to be agriculturists. The Mexican Period began in 1821 when Mexico achieved independence from Spain. During the 1820s, a small village began to form at the base of Presidio Hill that became the Pueblo of San Diego (present-day Old Town). In 1846, San Diego was occupied by American troops and officially became part of the United States when the Treaty of Guadalupe Hidalgo formalized the transfer of territory from Mexico to the United States in 1848.

5.1.3.4DEVELOPMENT OF WESTERN IMPERIAL VALLEY

In May 1901, the California Development Company, under the direction of engineer George M. Chaffey, succeeded in bringing water into the Imperial Valley from the Colorado River. Within one year, 400 miles of ditches had been excavated to irrigate more than 10,000 acres of fertile land that up until that time had remained barren desert for lack of water. The area prospered quickly and towns formed including Imperial City, Calexico, Mexicali, Holtville, Seeley, Brawley, and El Centro (Pourade, 1965). In 1907, Imperial County was formed out of the eastern portion of San Diego County with an estimated population of 6,940. El Centro was the county seat (Pourade, 1965).

Transportation. Development brought the need for better transportation routes. Between 1912 and 1915, three major projects: the completion of an automobile road down Mountain Springs Grade; construction of the Plank Road across the Algodones Sand Dunes; and, the building of the Ocean to Ocean Highway Bridge that crosses the Colorado River at Yuma, gave Imperial Valley major automobile connections with the east and west coasts. This route was eventually paved in 1924 as Highway 80 (Wray, 2004). Between 1917 and 1925, the Julian-Kane Springs Road, which closely follows current Highway 78, was completed between Julian and Kane Springs at the junction of the Brawley to Indio Road, now Highway 86. A small service station was located at Kane Springs (Wray, 2004). The Imperial Highway was completed through Sweeney Pass in the 1930s. Modern San Diego County Highway S-2 now follows this route. The town of Ocotillo developed at the junction of the Imperial Highway and Highway 80 (Wray, 2004). In addition, during the 1920s, Plaster City was established along Highway 80 to process gypsum ore from the company's mine at Split Mountain. A railroad carries the ore from the mine to the plant (Wray, 2004).

5.1.3.4.1Potential Impacts

A Class III cultural resource inventory survey is being completed. As necessary, project components will be relocated to avoid direct impacts to any eligible sites. Information from a Class I record search is available upon request.

Site Monitoring and Testing. Potential impacts to cultural resources could occur during site monitoring and testing; however, the causes of possible impacts would be limited to minor ground-disturbing activities and activities that result in the potential for unauthorized collection of artifacts and acts of vandalism (BLM, 2005). Typically, excavation activities and road construction to provide access to the project area would be very limited. Some clearing or

grading might be needed in order to install monitoring towers and equipment enclosures. If more extensive excavation or road construction was needed during this phase, more extensive impacts would be possible

Site Construction. Ground disturbance during project construction could impact cultural resources by damaging and displacing artifacts, resulting in loss of significant information. Increased erosion caused by construction could impact cultural resources by dispersing artifacts and destroying archeological deposits. Project construction would potentially open up new areas of BLM-Administered land to humans which increases the potential for adverse impacts caused by looting, vandalism, and inadvertent destruction to resources (BLM, 2005). Visual impacts to cultural resources are also likely during project construction.

Site Operation. As during construction, project operation would potentially open up new areas of BLM-Administered land to humans which increases the potential for adverse impacts caused by looting, vandalism, and inadvertent destruction to resources (BLM, 2005). Visual impacts could occur during operation, as wind turbines could potentially be perceived as indirect impacts to cultural resources.

Site Decommissioning. Few impacts to cultural resources would be expected during site decommissioning. Ground disturbance during decommissioning would be confined primarily to areas that were originally disturbed during construction. Most cultural resources are nonrenewable and would either have been removed professionally prior to construction or would have been already disturbed or destroyed by prior activities. Should access roads remain, the potential for looting and vandalism would also remain (BLM, 2005)

5.1.4 NATIVE AMERICAN TRIBAL CONCERNS

Pursuant to section 106 of the National Historic Preservation Act, the BLM would initiate Native American consultation. The BLM, El Centro Field Office would conduct government to government Native American consultation.

According to the BLM Wind PEIS, the BLM should consult with Native American governments early in the planning process to identify issues and areas of concern regarding the proposed wind energy development. Consultation is required under the National Historic Preservation Act of 1966, as Amended and consultation is necessary to establish whether the project is likely to disturb properties of traditional religious or cultural importance. To comply with the American Indian Religious Freedom Act, the BLM must consider the views of American Indian religious practitioners regarding sacred sites and must seek ways to avoid or minimize disturbance to traditional religious places or disruption of traditional religious practices.

5.1.5 SPECIAL AREAS, RECREATION AND OHV CONFLICTS

The Ocotillo Wind project site is located in the Yuha Desert Recreation Area, and is adjacent to a number of points of interest. As stated above, the project site would be adjacent to a variety of recreational opportunities. The Jacumba Wilderness offers camping, hiking, equestrian and unique geologic formations. The Plaster City Open Area provides a variety of terrain for off-highway vehicles. Additional open routes cross the project site; the wind turbines would be sited to avoid the open roads.

The project area would be visible from the Yuha Desert ACEC, Yuha Geoglyphs, Plaster City ORV Open Area, Coyote Mountain Wilderness, Juan Bautista de Anza National Historic Trail, and the Jacumba Wilderness Area.

5.1.5.1Special Designations

The NEPA analysis will determine the degree is significance of impacts to the existing tow Wilderness and the Historic Trail Designations.

5.1.5.2 Recreation

Ocotillo Wind will consult with the BLM to determine impacts o the proposed project area to the recreation outcomes and benefits. BLM will identify what it will do to provide management, marketing, monitoring, and administrative actions to meet recreation demands for this area as a result of the proposed project changing the setting character of the area.

5.1.5.3OHV

The applicant will work with BLM staff, interested public, organizations, and agencies to develop a travel management plan for the project area to provide systematic access across and within the project area to facilitate OHV and other public traffic.

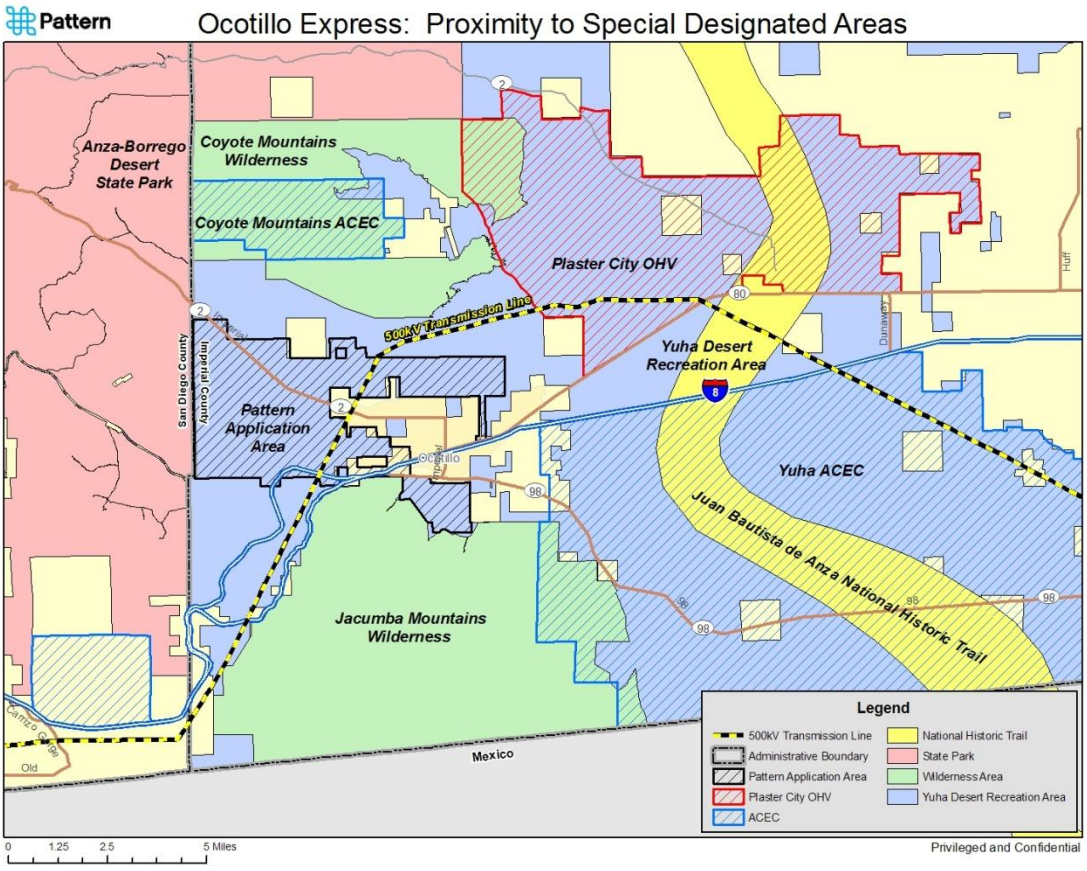


Figure 5.1.5.3-1 Special Designated Areas

5.1.5.3.1Potential Impacts

Impacts to recreational resources include noise impacts, dust or air quality impacts, and/or visual impacts (BLM, 2005). The potential for impacts increases if the project is located in an area of high-density, concentrated, and developed recreation or if the visual impact is to a remote setting or landscape.

Noise, dust, traffic and the presence of construction crews could temporarily impact the character of nearby recreational resources. People engaged in hiking, camping, birding, and hunting would be affected the most by construction activities. Some campsites may experience increased use by transient workers who seek temporary accommodations during project construction.

Operation of the wind project could improved accessibility to the area and as such, could increase recreational opportunities; although at the same time, this could alter the experience for people wanting a backcountry setting (BLM, 2005). However, development of a wind energy project could modify the Recreation Opportunity Spectrum class within which the proposed project would be located. Most long-term effects would relate to visual disturbances.

5.1.6 NOISE

Site-specific data on outdoor sound levels in the project area are not available. Varying noise levels occur in the project area. Rural communities or unpopulated lands are the quietest, but noise can be sporadically elevated in localized areas where influenced by on-road traffic or aircraft. Natural noise levels absent human activity are generally low. Unpopulated natural areas are expected to be as low as 35 to 50 dBA, and ambient levels tend to be below 50 dBA in open areas. Part of the project site would be adjacent to I-8 where noise levels are the highest (over 80 dBA). Parallel to the existing 500 kV Southwest Powerlink transmission line, corona noise can be heard as a crackling or hissing sound at levels of approximately 50 dBA.

Noise-Sensitive Receptors. Residences are near the project in Ocotillo. Non-motorized recreational users would also be considered as noise-sensitive receptors.

5.1.6.1Potential Impacts

Site testing. Most activities associated with site monitoring and testing would generate relatively low levels of noise. Potential short-term sources of noise at the beginning or end of this phase could include the use of a grader or bulldozer [about 85 dB(A)] if an access road was needed and there was traffic caused by heavy-duty or medium-duty trucks used to transport the towers to and from the site. Light-duty pickup trucks would potentially be used periodically for meteorological data collection and instrument maintenance during the course of the monitoring and testing phase. All these activities would be expected to occur during daytime hours when noise is tolerated more than at night, because of the masking effect of background noise. Accordingly, potential impacts of site monitoring and testing activities on ambient noise would be expected to be temporary and intermittent in nature (BLM, 2005).

Construction. Average noise levels for typical construction equipment range from 74 dB(A) for a roller, to 85 dB(A) for a bulldozer, to 101 dB(A) at a pile driver (impact) (BLM, 2005). In general, the dominant noise source from most construction equipment is the diesel engine, which is continuously operating around a fixed location or with limited movement. According to BLM calculation, it is estimated that with the two noisiest pieces of equipment operating simultaneously at peak load, noise levels would exceed the EPA guideline for residential Ldn noise [55 dB(A)] for a distance of about 1,640 ft (500 m) (EPA 1974). As sensitive receptors occur within 1,640 ft of the project site, there is potential for noise impacts during construction of the project.

Noise could be generated during construction from vehicular traffic including hauling materials, movement of heavy equipment, and commuter or visitor traffic. Noise levels associated with traffic would increase and decrease rapidly and would be greatest at the highest number of peak-hour trips and total heavy-duty truck traffic.

Additional noise impacts could occur should blasting be required for wind turbine foundations. Blasting would create a compressional wave in the air (air blast overpressure), the audible portion of which would be manifested as noise (BLM, 2005).

Operation. During operation, noise sources would include mechanical and aerodynamic noise; transformer and switchgear noise from substations; corona noise from transmission lines; vehicular traffic noise, including commuter and visitor and material delivery; and noise from an operation and maintenance (O&M) facility.

Wind Turbine Noise. Aerodynamic noise from wind turbines originates mainly from the flow of air over and past the blades and generally increases with tip speed. The aerodynamic noise has a broadband character, often described as a "swishing" or "whooshing" sound, and is typically the dominant part of wind turbine noise today (BLM, 2005). The noise caused by this process is unavoidable. Although aerodynamic noise mostly has a broadband character, airfoil-related noise can also create a tonal component and there can be both impulsive and low-frequency components.

Impulsive noise and low-frequency noise are primarily associated with older-model downwind turbines, the blades of which are on the downwind side of the tower; these types of noise are caused by the interaction of the blades with disturbed air flow around the tower. Impulsive noise is characterized by short acoustic impulses or thumping sounds that vary in amplitude (level) as a function of time. Low-frequency noise is a more steady sound in the range of 20 to 100 Hz. These types of noise can be avoided, however, with appropriate engineering design (BLM, 2005).

There are many wind turbine designs. In general, upwind turbines are less noisy than downwind turbines and their lower rotational speed and pitch control results in lower noise generation (BLM, 2005). A variable speed wind turbine generates relatively lower noise emissions than a fixed speed turbine. A large variable speed wind turbine operates at slower speeds in low winds, resulting in much quieter operation in low winds than a comparable fixed speed wind turbine. As wind speed increases, the wind itself masks the increasing turbine noise.

To determine the potential noise impacts at the nearest residences from wind turbine operations, sound level data would be needed. Whether the turbine noise is intrusive or not depends not only on its distribution of amplitude and frequency but also on the background noise, which varies with the level of human and animal activities and meteorological conditions (primarily wind speed).

Substation Noise. Two sources of noise are associated with substations, transformer noise and switchgear noise (BLM, 2005). A transformer produces a constant low-frequency humming noise primarily because of the vibration of its core. Current transformer design trends have shown decreases in noise levels. The cooling fans and oil pumps at large transformers produce broadband noise only when additional cooling is required; in general, this noise is less noticeable than the tonal noise. Switchgear noise is generated by the operation of circuit breakers used to break high-voltage connections at 132 kV and above. An arc formed between the separating contacts has to be "blown out" using a blast of high-pressure gas. The resultant noise is impulsive in character (i.e., loud and of very short duration). The industry is moving toward the use of more modern circuit breakers that use a dielectric gas to extinguish the arc and generate significantly less noise.

Corona Noise. Potential transmission line noise can result from corona discharge, which is the electrical breakdown of air into charged particles. Corona noise is composed of broadband noise, characterized as a crackling or hissing noise, and pure tones, characterized as a humming noise of about 120 Hz. Corona noise is primarily affected by weather and, to a lesser degree, by altitude and temperature. It is created during all types of weather when air ionizes near isolated irregularities (e.g., nicks, scrapes, and insects) on the conductor surface of operating transmission lines. Modern transmission lines are designed, constructed, and maintained so that during dry conditions the line will generate a minimum of corona-related noise. In wet conditions, however, water drops collecting on the lines provide favorable conditions for corona discharges.

Occasional corona humming noise at 120 Hz and higher is easily identified and, therefore, may become the target of complaints (BLM, 2005).

Noise related to Maintenance Activities. Regular maintenance activities would include periodic site visits to wind turbines, communication cables, transmission lines, substations, and auxiliary structures. These activities would involve light- or medium-duty vehicle traffic with relatively low noise levels. Infrequent but noisy activities would be anticipated, such as road maintenance work with heavy equipment, or repair or replacement of old or inoperative wind turbines or auxiliary equipment.

5.1.7 PALEONTOLOGICAL RESOURCES

Portion of the Ocotillo Wind site is underlain by the following geologic units:

- **Quaternary alluvium.** Quaternary alluvium consists of partly dissected, mostly unconsolidated, poorly sorted sand, silt, clay, and gravel located at the margins of canyons and within valley floors. "Younger" alluvium is Holocene (10,000 years ago to Recent) in age and "Older alluvium" is Pleistocene (1.8 million years ago to 10,000 years ago) in age. Fossil localities in older alluvium deposits throughout southern California have yielded terrestrial vertebrates such as mammoths, mastodons, ground sloths, dire wolves, short-faced bears, saber-toothed cats, horses, camels, and bison (Scott, 2006). Younger alluvium is determined to have a low potential for paleontological resources but is often underlain by older alluvium, which is determined to have a high potential for paleontological resources.
- **Split Mountain Formation.** The Split Mountain Formation, deposited during the late Miocene to early Pliocene (3 to 7 million years ago) consists of four members: a lower boulder and cobble fanglomerate (interpreted as a landslide) overlain by the Fish Creek Gypsum, which is in turn overlain by a marine sandstone and shale. The uppermost member consists of a massive gray fanglomerate that is also interpreted to be a deposited as a landslide event. The two fanglomerate units have not yielded fossils; however, the marine sandstone and shale as well as the Fish Creek Gypsum have yielded microfossils. The Split Mountain Formation is determined to have a moderate paleontological resources potential.
- **Alverson Volcanics.** Alverson Volcanics include an upper unit of volcanic flows and a lower unit consisting of a sequence of conglomerates, sandstones, and mudstones interbedded with lava flows. The sedimentary deposits within this geologic unit have yielded fossilized algae, pollen, petrified wood, mollusks, and one occurrence of a vertebrate bone fragment. The Alverson Volcanics are assigned a moderate paleontological resource potential.

Other geologic units may also be present (CPUC 2008).

5.1.7.1Potential Impacts

Impacts to paleontological resources would potentially occur during ground disturbing activities. If there is a strong potential for fossil remains to be present in the project area, a survey would be required (BLM, 2005).

Site Monitoring and Testing. Ground disturbing activities would occur during the site monitoring and testing, including excavation and some road construction. Some clearing and grading may be required for installing monitoring towers and equipment enclosures. Because the monitoring and testing activities would affect small, localized areas the likelihood of an impact is reduced (BLM, 2005). Additional impacts could occur if the access roads were used to reach areas previously inaccessible to the public.

Site Construction. Site construction has the potential to impact paleontological impacts because it would require excavation, grading, and vegetation removal and potential blasting. Grading and blasting would directly impact paleontological resources if they were present. Grading for access roads, lay-down areas, staging areas for cranes, and other infrastructure would also create potential impacts. BLM identifies human removal of fossils rather than reporting them as one of the greatest threats to paleontological resources. Development of a wind project would bring a large number of workers into contact with areas that had been previously undisturbed. With mitigation, the fossils contained in sensitive geologic units, as well as the paleontological data they could provide, could be properly salvaged and documented.

Site Operation and Decommissioning. Few impacts to paleontological resources would be expected during operation and decommissioning of the wind project. Most activities during operation and decommissioning would not result in new ground disturbance, minimizing disturbance to new fossils. The improved access to the site would continue to present possible impacts due to removal of fossils by amateurs.

5.1.8 VISUAL RESOURCE MANAGEMENT DESIGNATIONS

Public lands administered by the BLM have a variety of visual values. These lands are subject to visual resource management objectives as developed using the BLM Visual Resource Management (VRM) System (BLM, 1984, 1986a, 1986b) and presented in the Resource Management Plan for a given unit. The BLM system identifies four VRM Classes (I through IV) with specific management prescriptions for each class. The system is based on an assessment of scenic quality, viewer sensitivity and viewing distance zones.

5.1.8.1Scenic Quality

Scenic Quality is a measure of the overall impression or appeal of an area created by the physical features of the landscape, such as natural features (landforms, vegetation, water, color, adjacent scenery and scarcity), and built features (roads, buildings, railroads, agricultural patterns, and utility lines). These features create the distinguishable form, line, color, and texture of the landscape composition that can be judged for scenic quality using criteria such as distinctiveness, contrast, variety, harmony, and balance. The VRM scenic quality rating components are evaluated to arrive at one of three scenic quality ratings (A, B, or C) for a given landscape. Each landscape component is scored and a score of 19 or more results in a Class A scenic quality rating. A score of 12 to 18 results in a Class B scenic quality rating, while a score of 11 or less results in a Class C scenic quality rating. The three scenic quality classes can be described as follows:

- **Scenic Quality Class A** – Landscapes that combine the most outstanding characteristics of the region.
- **Scenic Quality Class B** – Landscapes that exhibit a combination of outstanding and common features.
- **Scenic Quality Class C** – Landscapes that have features that are common to the region.

5.1.8.2Viewer Sensitivity

Viewer Sensitivity is a factor used to represent the value of the visual landscape to the viewing public, including the extent to which the landscape is viewed. For example, a landscape may have high scenic qualities but be remotely located and, therefore, seldom viewed. Sensitivity considers such factors as visual access (including duration and frequency of view), type and amount of use, public interest, adjacent land uses, and whether the landscape is part of a special area (e.g., California Desert Conservation Area or Area of Critical Environmental Concern). The three levels of viewer sensitivity can generally be defined as follows:

- **High Sensitivity.** Areas that are either designated for scenic resources protection, or receive a high degree of use (includes areas visible from roads and highways receiving more than 45,000 visits [vehicles] per year). Typically within the foreground/middleground viewing distance.
- **Medium Sensitivity.** Areas lacking specific, or designated, scenic resources protection, but are located in sufficiently close proximity to be within the viewshed of the protected area. Includes areas that are visible from roads and highways receiving 5,000 to 45,000 visits (vehicles) per year. Typically within the background viewing distance.
- **Low Sensitivity.** Areas that are remote from populated areas, major roadways, and protected areas or are severely degraded visually. Includes areas that are visible from roads and highways receiving less than 5,000 visits (vehicles) per year.

The project site would be located on BLM-administered lands located within the California Desert Conservation Area (CDCA). Because of the public importance imparted by this designation, all BLM lands within the CDCA that were inventoried for this project have been assigned a High rating for Viewer Sensitivity.

5.1.8.3Viewing Distance Zones

Landscapes are generally subdivided into three distance zones based on relative visibility from travel routes or observation points. The foreground/middleground (f/m) zone includes areas that are less than three to five miles from the viewing location. The foreground/middleground zone defines the area in which landscape details transition from readily perceived, to outlines and patterns. The background (b) zone is generally greater than 5, but less than 15, miles from the viewing location. The background zone includes areas where landforms are the most dominant element in the landscape, and color and texture become subordinate. In order to be included within this distance zone, vegetation should be visible at least as patterns of light and dark. The seldom-seen zone (s/s) includes areas that are usually hidden from view as a result of topographic or vegetative screening or atmospheric conditions. In some cases, atmospheric and lighting conditions can reduce visibility and shorten the distances normally covered by each zone (BLM, 1986b).

5.1.8.4Visual Resource Management Classes

The VRM Class for a given area is typically arrived at through the use of a classification matrix. By comparing the scenic quality, visual sensitivity, and distance zone, the specific VRM class can be determined. The exception to this process is the Class I designation, which is placed on special areas where management activities are restricted (e.g., wilderness areas).

VRM Classes have been established in existing Resource Management Plans for the BLM lands in San Diego County. However, VRM classifications have not been established in Resource Management Plans for BLM lands in the vicinity of the project in Imperial County. For those lands, Interim VRM Classes were developed for the Sunrise Powerlink Project EIR/EIS using the methodology set forth below. These Interim VRM Classes will become final once adopted in an amendment to the Land Management Plan.

The objectives of each VRM classification as stated in the BLM VRM *Visual Resource Inventory Manual* are as follows:

- **VRM Class I.** The objective is to preserve the existing character of the landscape. This class provides for natural ecological changes; however, it does not preclude very limited management activity. The level of change to the characteristic landscape should be very low and must not attract attention.

- **VRM Class II.** The objective is to retain the existing character of the landscape. The level of change to the characteristic landscape should be low. Management activities may be seen, but should not attract the attention of the casual observer. Any changes must repeat the basic elements of form, line, color, and texture found in the predominant natural features of the characteristic landscape.
- **VRM Class III.** The objective is to partially retain the existing character of the landscape. The level of change to the characteristic landscape should be moderate or lower. Management activities may attract attention but should not dominate the view of the casual observer. Changes should repeat the basic elements found in the predominant natural features of the characteristic landscape.
- **VRM Class IV.** The objective is to provide for management activities which require major modification of the existing character of the landscape. The level of change to the characteristic landscape can be high. These management activities may dominate the view and be the major focus of viewer attention. However, every attempt should be made to minimize the impact of these activities through careful location, minimal disturbance, and repeating the basic elements.

As previously stated, all lands within the California Desert Conservation Area are assigned a High Visual Sensitivity Level. All of the lands inventoried for the Sunrise Powerlink Project are also within the foreground/middleground (f/m) viewing distance zone of one or more public viewing points or access roads. As a result, the Interim VRM Classes are tied directly to the Scenic Quality Classes. Areas with Class B Scenic Quality result in an Interim VRM Class II. Areas with Class C Scenic Quality result in an Interim VRM Class III. As can be seen in Figure D.3-1A from Section D. (Visual Resources) for the Sunrise Powerlink Project EIR/EIS, the Ocotillo Wind project would be located on an area with an Interim VRM Class III. Land located south of the project, the Jacumba Wilderness, and land located north of the project, the Coyote Mountain Wilderness, have Interim VRM Class I (CPUC, 2008).

Western Imperial County is predominantly characterized by rough, rocky mountains with jagged ridgelines bordering broad, desert basins and alluvial slopes. Vegetation in this region ranges from sparse, low-growing grasses and shrubs such as creosote in the wide, flat desert basins to completely absent in areas of high four-wheel drive (4WD) recreational use. Project viewing opportunities are numerous and include Interstate 8 (I-8), State Routes (SR) 2 and 98, local roads, the many 4WD access roads on public lands, and recreational and visitor areas, and from the town of Ocotillo and Coyote Wells.

According to the Sunrise Powerlink Project EIR/EIS, this landscape encompasses a portion of the existing SWPL transmission line as it crosses Sugarloaf Mountain and converges on I-8, passing between the separated eastbound and westbound lanes. Vista views from I-8 are panoramic in scope and encompass the western portion of the Yuha Desert with the Coyote Mountains beyond. Adjacent landform colors are predominantly light tan for soils with reddish-brown hues for rocks and lavender and bluish hues for the distant mountains. Landform textures appear smooth to granular while vegetation is patchy with clumps. Vegetation exhibits a matte texture and vegetation colors include tans to pale yellow for grasses with muted to light and dark greens and tans for the shrubs. Although the boulder slopes of In-Ko-Pah Gorge, Sugarloaf Mountain, and the Coyote Mountains beyond create land variation of visual interest, the overall scenic quality of the desert basin landscape is substantially compromised by the prominent presence of the steel-lattice transmission line with its complex structural form and lines and industrial character. The Sunrise Powerlink Project would further increase the industrial nature of this area. The BLM scenic quality classification is Class C while viewer sensitivity is high. The Interim VRM Class Rating is III.

The BLM's Interim VRM Class III objective allows for a moderate or lower degree of visual change that, while it may attract attention, should not dominate the view of the casual observer.

5.1.8.5Potential Impacts

The BLM's VRM system defines visual impact as the contrast perceived by observers between existing landscapes and proposed projects and activities. The degree to which an activity intrudes on, degrades, or reduces the visual quality of a landscape depends on the amount of visual contrast it introduces. Visual changes or modifications that do not harmonize with landscapes often look out of place, and the resulting contrast may be unpleasant and undesirable.

Site Monitoring and Testing. Possible visual impacts could occur during monitoring and testing due to the road traffic, parking, and associated dust, the presence of meteorological towers, and possibility of associated reflections producing sun glint, and any idle or dismantled equipment on site.

Site Construction. Impacts during project construction could include the development of new or expanded roads, which would lead to visible activity and an increase in dust. Temporary parking would also be visible due to suspended dust and loss of vegetation in parking areas. The temporary presence of large cranes or other equipment would be visible in addition to any visible exhaust plumes from these. Ground disturbance would result in contrast in color, from, texture, and line compared with the rest of the project site. Destruction and removal of vegetation due to clearing, compaction, and dust are expected. Soil scars and exposed slope faces would result from excavation, leveling, and equipment movement. Invasive species may colonize disturbed and stockpiled soils and compacted areas. The land area or footprint of installed equipment would be typically small, as little as 5 to 10% of the site, but could be susceptible to broader disturbance and alteration over longer periods of time (BLM, 2005). Site restoration activities would reduce many of these impacts.

Site Operation. Wind energy development projects on BLM-administered lands would be highly visible because of the introduction of turbines into typically rural or natural landscapes, many of which have few other comparable structures. The artificial appearance of wind turbines may have visually incongruous "industrial" associations for some, particularly in a predominantly natural landscape. Visual evidence of wind turbines cannot be avoided, reduced, or concealed, owing to their size and exposed location; therefore, effective mitigation could be limited (BLM, 2005).

The BLM Wind PEIS identifies other additional potential visual impacts including shadow flicker and blade glint. Daily and seasonal low sunlight conditions striking ridgelines and towers would tend to make them more visible and more prominent. Interposition of turbines between observers and the sun, particularly in the early and late hours of the day and during the winter season when sun angles are low, could produce a strobe-like effect from flickering shadows cast by the moving rotors onto the ground and objects. A strobe-like effect can also be caused by the regular reflection of the sun off rotating turbine blades. Unlike shadow flicker, perception of blade glint would depend on the orientation of the nacelle, angle of the rotor, and the location of the observer relative to the position of the sun.

If security and safety lighting are used, even if they are downwardly focused, visibility of the site would increase, particularly in dark nighttime sky conditions typical of rural areas. It would also contribute to sky glow resulting from ambient artificial lighting. Any degree of lighting would

produce off-site "light trespass"; it would be most abbreviated, however, if the lighting was limited to just the substation and controlled by motion sensors (BLM, 2005).

FAA rules would require lights mounted on nacelles that flash white during the day and twilight (20,000 candela) and red at night (2,000 candela). White lights would be less obtrusive in daylight, but red lights would likely be conspicuous at great distances against dark skies. Typically, the FAA requires warning lights on the first and last turbines in a string and every 1,000 to 1,400 ft (305 to 427 m) in between. Although these beacons would concentrate light in the horizontal plane, they would increase visibility of the turbines, particularly in dark nighttime sky conditions typical of rural areas. Beacons would likely not contribute (because of intermittent operation) to sky glow resulting from artificial lighting. The emission of light to off-site areas could be considerable (BLM, 2005).

The applicant will design the facilities to the extent feasible to minimize the impact on the characteristic visual landscape. The POD should contain statements to the effect that "the applicant will design the facilities to minimize the impact on the characteristic visual landscape.

The process is to design the facility to meet or exceed the objectives for the VRM Interim Class III. High level visual simulations and VRM Contrast Ratings will be done from the Key Observation Points (KOPs). These ratings evaluate the existing contrast and proposed mitigating measures to reduce contrast. Applicant will to the extent feasible use proper design fundamentals, including proper siting and location; reduction of visibility; repetition of form, line, color, and texture of the characteristic landscape; and reduction of unnecessary disturbance. Design strategies to use include color selection, earthwork, vegetation manipulation, and structure modification. Development of good design strategies minimizes the need for extensive mitigation measures later on in the environmental documentation process.

5.1.9 AVIATION AND/OR MILITARY CONSIDERATIONS

The project location would be located within the Department of Defense Airspace Consultation Area (BLM, 2009d). In accordance with the *Wind Energy Protocol Between The Department of Defense and the Bureau of Land Management Concerning Consultation of Development of Wind Energy Projects and Turbine Siting on Public Lands Administered by the Bureau of Land Management to Ensure Compatibility with Military Activities*, the BLM provided the preliminary POD to the Department of Defense and initiated a consultation process between OE LLC, the DoD and the BLM. Upon conclusion of the consultation, the DoD provided a letter requesting two mitigation measures be implemented by the Project to address DoD's concerns. The first measure was to limit total turbine height to 400 feet or less in a small area along the northern edge of the project area, due to the existence of a low-level training route with a centerline to the north of the project area. OE LLC will comply with this request. The second request relates to utilization of turbine lighting that is compatible with military night-vision goggles. OE LLC will also comply with this request.

The FAA requires a notice of proposed construction for a project so that it can determine whether it would adversely affect commercial, military, or personal air navigation safety (FAA 2000). One of the triggering criteria is whether the project would be located within 20,000 ft (6,096 m) or less of an existing public or military airport. Another FAA criterion triggering the notice of proposed construction is any construction or alteration of more than 200 ft (61 m) in height above ground level. This criterion applies regardless of the distance from the proposed

project to an airport (FAA 2000). OE LLC applied for FAA Determinations of No Hazard, which were granted in October, 2009. Due to changes in the turbine layout that have occurred since the initial filing, amended applications will be filed with the FAA.

OE LLC also consulted with the owner of the small, private Emery Ranch airstrip located west of Ocotillo. At the owner's request, one proposed turbine location was eliminated in order to provide a buffer for the private airstrip.

Imperial County's Airport Land Use Commission held a public hearing to determine whether the wind energy project is compatible with the Imperial County Airport Land Use Plan. At the conclusion of the hearing, the Commission voted unanimously to find the project compatible with that Plan.

5.1.10 OTHER ENVIRONMENTAL CONSIDERATIONS

5.1.10.1 GEOLOGIC RESOURCES

The wind project would cross the northeastern edge of the Yuha Desert and the southern edge of the Coyote Mountains. The project would be located on geologic units including Alluvium and Granitic rocks (CPUC, 2008). Other geologic units may also be present. Alluvium deposits include unconsolidated stream, river, and alluvial fan deposits consisting of primarily sand, silt, clay, and gravel. The granitic rocks that would underlay part of the project location would be La Posta quartz diorite.

The project would be located on hills, mesas, and valleys of the Jacumba Mountains. The sloping hills and valleys in these areas are underlain primarily by granitic and volcanic units which are not typically prone to landslides. However, excavation and grading for the project would potentially trigger rock-falls or shallow soil slides.

The project would be located on the Rositas-Orita-Carrizo-Aco (s994) soil association; other soil associations may be present as well (CPUC, 2008). This soil association includes very deep soils formed in eolian deposits and mixed alluvium. Soil types include: fine sand, loamy sand, gravelly fine sandy loam, extremely gravelly sand; and sandy loam and may include local areas of desert pavement and desert varnish. The hazard erosion of the soil is slight to moderate, with a low to moderate shrink/swell (expansive) potential, and a high risk of corrosion to uncoated steel and low to moderate risk of corrosion to concrete.

The soils encountered at the Ocotillo project from initial onsite studies consisted primarily of younger Holocene to Pleistocene age alluvium and vegetation consisting of a sparse growth of desert grasses and bushes. The surface soil consisted of medium dense to dense poorly graded sands with little fines at the surface. These sands became somewhat cemented in the subsurface. The non-cemented poorly graded sands also became more dense with depth. The very near surface non-cemented sandy soil in general are not loose, but still appear to be susceptible to some erosion. Within this alluvium basin there are some older granitic outcroppings. The turbines in are enough away that surficial soils shall be at least 30 feet deep before encountering any rock near this area. Sugar Loaf Mountain is near the proposed substation and appears to have both granitic and sedimentary origins but not as competent as the previously described outcrops to the west. Infrastructure is far enough away from this area which should have considerable residual soil above any deeper lying rock. Some windblown/dune sand was

encountered at the project site. This material only appears to be approximately 5 feet in depth. Infrastructure for this project will likely be founded on mat type foundations due to its suitable bearing capacity.

Approximately one to ten active mineral claims have been made at the project site (BLM, 2009d). No oil, gas, or geothermal fields are located in the vicinity of the project (DOGGR, 2009). There is little to no potential for the project to impact petroleum or geothermal resources.

The project would be approximately five miles west of the Yuha Wells Fault and the Laguna Salada Fault (CPUC, 2008). The Yuha Wells fault is a fairly recently mapped northeast-southwest trending fault which offsets the Laguna Salada fault from the main trace of the Elsinore fault. The project site would be less than one mile south of the Elsinore Fault zone. This portion of the Elsinore fault is within an Alquist-Priolo zone. Peak ground acceleration at the project site would be between 0.3g to 0.5g.

5.1.10.1.1 Potential Impacts

Site Monitoring and Testing. Impacts during monitoring and testing tend to be limited and temporary due to the limited development, excavation activities, and road construction activities. Some clearing and grading may be required but it is unlikely that major road construction would be required. As such, it is unlikely that the activities would activate geologic hazards or increased soil erosion (BLM, 2005).

Site Construction. Activities during construction that may impact geologic resources include clearing, excavating, and trenching, grading, and heavy vehicle traffic. Potential mining for sand, gravel, and/or quarry stone would disturb the land surface and potentially lead to soil erosion. Construction and operation of the project could be impacted by landslide, rock falls, and groundshaking due to earthquakes. Active earthquakes could also trigger landslides during heavy precipitation conditions.

Soil erosion would likely occur due to ground surface disturbance which could lead to degradation of water quality in nearby surface water bodies. Activities that would contribute to soil erosion include ground disturbance at wind tower pads, access roads, staging areas, lay-down areas, and at other on-site structures. Use of heavy equipment could disturb or destroy soil conditions, and construction activities could disturb stormwater runoff patterns (BLM, 2005).

Site Operation and Decommissioning. Few impacts to geologic resources and soil erosion would be expected during project operation especially if appropriate mitigation had been implemented during construction. Soil erosion could occur during maintenance of the project due to vehicle traffic.

5.1.10.2 WATER RESOURCES/HYDROLOGY

The Ocotillo Wind Energy Project would be located on the Coyote Wells Valley Groundwater Basin. The Coyote Wells Valley groundwater basin are EPA-designated Sole Source Aquifers. This means the aquifer supplies more than 50% of a community's drinking water. Any project which is financially assisted by federal grants or federal loan guarantees, and which has the potential to contaminate a sole source aquifer, should be modified to reduce or eliminate the risk (USEPA, 2009).

The Coyote Wells Groundwater Basin, located near the international border with Mexico in the western Yuha Desert west of Imperial Valley, is in unconsolidated sediment up to 650 feet thick.

Water bearing zones are mostly 100 to 300 feet below ground surface. Unconfined shallow groundwater exists in parts of the basin, but the quality of the water is poor. Natural fluoride levels in some wells are as high as 3.5 mg/L (CDWR, 2004).

The Palm Canyon Wash and Meyer Creek cross the project site in addition to several unnamed washes.

A desktop hydrologic study was completed for the project. The study utilized published USGS methodology for estimating 100 and 25 year runoff for the Southwest region of the United States. The study includes a map of the watersheds for the project, stream delineation, and stream crossings for the proposed project. The maps also include the FEMA 100 year flood plain and the USGS topographic data which the watersheds are based on. The study analyzed the 100 and 25 year runoff at various road crossings in the project boundaries and calculated the overflow depth and velocity for the 25 year storm events at each crossing.

The hydrologic study maps show the FEMA 100 year floodplain. All turbine sites are located outside of the FEMA boundary. Future hydraulic analysis will included detailed analysis of existing large washes using detailed LIDAR aerial topography and HEC-RAS analysis. The results of the HEC-RAS analysis will be used to fine-tune the 100-year flood boundary and support turbine siting and road design.

In areas that could be inundated during a 100-year event the turbine foundations will be designed based on the assumption that the water-table is at grade, ie the buoyancy effects on the concrete will be taken into account. In those areas where the water will be flowing as opposed to ponding, scour protection in the form of rip-rap or a proven alternative method will be provided to prevent undermining of the foundation.

The project clearly lies within an alluvial fan zone with concentrated run-off flows developing in the mountain ridges west of the project site. Without regard to the nature of the soils in the project, time-lapse aerial photography between 1996 and 2010 shows that the gullies, stream beds, and washes had no noticeable change in alignment. In addition, medium to large shrubs and bushes are well established during this timeframe both in fan areas and adjacent to the large wash channels. This indicates that the channelized drainage patterns throughout the site are well established and not prone to frequent over topping. With these observations, we would describe the alluvial fan as stable channelized flow with channel migration to be a low risk concern. We are seeking earlier dated photographic evidence as well as the opinion of professional geologists in the areas to further support the assertion of having low risk to stream migration.

The hydrology study includes low-water "Arizona" crossings at locations where the proposed site roads cross drainage-features. The typical plan and section views for "Arizona" crossings are shown in the Hydrology Study on Sheet 1 of 2. These crossings will be permanent features of the project. The temporary construction crossing details, such as embankment slope and fill materials may vary slightly from permanent crossing details. The temporary crossing details are considered detailed design and will be submitted in the future as required.

Storm-water diversion or other run-off control channels are not planned for this project due to the low disturbance nature of the wind farm project. The land disturbance planned for the

project will not change the hydrologic patterns of the project area, nor will it increase or decrease the amount of storm-water runoff from the project site.

5.1.10.2.1 Potential Impacts.

A wind energy project can impact surface water and groundwater in several different ways, including the use of water resources, changes in water quality, alteration of the natural flow system, and the alteration of interactions between the groundwater and surface water.

Site Monitoring and Testing. Impacts during site monitoring and testing would be expected to be limited because few new access roads would be needed, and on-site activities would be limited and temporary. Little water would likely be used during this phase of development and would potentially be trucked in from off site. Impacts to water resources, local water quality, water flows, and surface water/groundwater interactions are expected to be negligible to small, unless extensive excavation or road construction occurs.

Site Construction. A number of construction activities would require water use including water used for dust control, water used for making concrete, and water used by the construction crew. Construction activities would also have the potential to impact water quality due to increased soil erosion due to ground disturbing activities, weathering of exposed soil or spoils from foundation excavation which could release chemical through oxidation, discharges of wastewater or sanitary water, and pesticide application (BLM, 2005).

Construction activities could also lead to the disruption of natural surface water and groundwater flow systems should surface water be diverted on site or off site by access road systems or storm water control systems. This could also impact groundwater flow.

Site Operation. Few impacts are expected during operation because minimal ground disturbance would be expected and minimal water use would be required.

5.1.10.3 Air Quality

The Imperial County portion of the Salton Sea Air Basin is administered by the Imperial County Air Pollution Control District (ICAPCD). Ambient air quality is characterized in terms of the "criteria air pollutants," which refer to a group of pollutants for which regulatory agencies have adopted ambient standards and region-wide pollution reduction plans. Criteria air pollutants include ozone, carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), particulate matter, and lead. Volatile organic compounds (VOC) or reactive organic gases (ROG) and nitrogen oxides (NOx) are also regulated as criteria pollutants because they are precursors to ozone formation. Certain VOCs also qualify as toxic air contaminants. Two subsets of particulate matter are inhalable particulate matter less than ten microns in diameter (PM10) and fine particulate matter less than 2.5 microns in diameter (PM2.5). Sulfur oxides (SOx) and NOx are also pre-cursors to particulate matter formation in the atmosphere.

Air quality is determined by measuring ambient concentrations of criteria pollutants, which are air pollutants for which acceptable levels of exposure can be determined and for which standards have been set. The degree of air quality degradation is then compared to the current National and California Ambient Air Quality Standards (NAAQS and CAAQS). Because of unique meteorological

conditions in California, and because of differences of opinion by medical panels established by CARB and the U.S. EPA, there is diversity between State and federal standards currently in effect in California. In general, the CAAQS are more stringent than the corresponding NAAQS. Table 2 shows the standards currently in effect in California.

Air quality standards are designed to protect those people most susceptible to respiratory distress, such as asthmatics, the elderly, very young children, people already weakened by other disease or illness, and people engaged in strenuous work or exercise, including outdoor recreational activity.

Table 2 National and California Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards	National Standards
Ozone	1-hour	0.09 ppm	—
	8-hour	0.07 ppm	0.075 ppm
PM10	24-hour	50 µg/m^3	150 µg/m^3
	Annual	20 µg/m^3	—
PM2.5	24-hour	—	35 µg/m^3
	Annual	12 µg/m^3	15 µg/m^3
CO	1-hour	20 ppm	35 ppm
	8-hour	9.0 ppm	9.0 ppm
NO_2	1-hour	0.18 ppm	—
	Annual	0.030 ppm	0.053 ppm
SO_2	1-hour	0.25 ppm	—
	24-hour	0.04 ppm	0.14 ppm
	1-year	—	0.03 ppm
Visibility-Reducing Particles	8-hour	Extinction coefficient 0.23/km, visibility of 10 miles due to particles when relative humidity < 70%	—

Notes: ppm=parts per million; µg/m^3= micrograms per cubic meter; "—" = no standard
Source: CARB Ambient Air Quality Standards Table, September 2009

Each geographic area is designated by either the U.S. EPA or CARB as a nonattainment area if violations of the ambient air quality standards are persistent. Imperial County is classified as a nonattainment area for the State ozone standard, and like nearly every other area in the State of California, it is a nonattainment area with respect to the PM10 CAAQS. Since 1994, the U.S. EPA has found Imperial Valley to be in serious nonattainment for PM10. Federal PM2.5 standards are relatively recent, and although there is insufficient data to determine attainment status of the air basin as a whole under the federal PM2.5 standards, the City of Calexico is designated nonattainment for State-level CO and PM2.5. A summary of the attainment status within the project area is provided below. The attainment status of San Diego is provided for informational purposes as the project would be adjacent to San Diego County and the San Diego Air Basin, administered by the San Diego Air Pollution Control District.

Table 3. Attainment Status of Project Area Air Basins

	Ozone		PM10		PM2.5		CO		NO_2		SO_2	
Air Basin	**State**	**Federal**	**State**	**Federal**	**State**	**Federal**	**State**	**Federal**	**State**	**Federal**	**State**	**Federal**
Salton Sea, Imperial County	N	N (Marginal)	N	N (Serious)	U/A	U/A	A	A	A	A	A	A
San Diego County	N	N (Subpart 1)	N	U/A	N	U/A	A	A	A	A	A	A

Note: A = Attainment of Ambient Air Quality Standards; U/A = Unclassified/Attainment; N = Nonattainment.
"Subpart1" areas are subject to general, less-prescriptive requirements than "classified" nonattainment areas.
Source: CARB, 2006 (http://www.arb.ca.gov/desig/desig.htm) and U.S. EPA, 2009 (http://www.epa.gov/region09/air/).

5.1.10.4 SALTON SEA AIR BASIN

The Imperial County Air Pollution Control District is the primary agency responsible for planning, implementing, and enforcing federal and State air quality standards in Imperial County. The following rules and regulations apply to all sources in the jurisdiction of ICAPCD:

- **ICAPCD Regulation II – Rule 202, Exemptions.** Portable equipment holding a valid registration under the Statewide Portable Equipment Registration Program is not required to obtain a permit from the ICAPCD.
- **ICAPCD Regulation IV – Rule 401, Opacity of Emissions.** Prohibits any activity causing emissions dark or darker in shade as that designated as Number 1 on the Ringlemann Chart (20 percent opacity) for a period or periods aggregating more than three minutes in any hour.
- **ICAPCD Regulation IV – Rule 407, Nuisances.** Prohibits any activity that emits pollutants which cause injury, detriment, nuisance or annoyance to any considerable number of persons or to the public or which endanger the comfort, repose, health or safety of any such persons or the public or which cause or have a natural tendency to cause injury or damage to business or property.
- **ICAPCD Regulation VIII – Rule 800, General Requirements for Control of Particulate Matter.** Limits emissions from construction and earthmoving activities (Rule 801). Requires dust control along unpaved access roads and unpaved staging areas or yards (Rule 805), for handling of materials (Rule 802), and for any material deposited on a paved surface (Rule 803). Dust control plans must be filed and approved by the ICAPCD.

Air Quality Management Plans. The ICAPCD established an attainment plan for PM10 in 1993 (PM10 SIP) and updated the plan in 2005 with the Regulation VIII rules that include the "best available control measures" for control of windblown particulate matter and particulate matter from travel on unpaved roads across Imperial County. The ICAPCD also oversees a Natural Events Action Plan that allows the ICAPCD to document and take into account high PM10 concentrations caused by qualified natural events, such as windstorms and wildfires. The Regulation VIII Rules and the Natural Events Action Plan are part of the regional plan to comply with PM10 standards. ICAPCD also maintains and implements an ozone attainment plan that depends on the CARB's SIP to achieve reductions of ozone precursors from mobile sources.

5.1.10.4.1 Potential Impacts

Site Monitoring and Testing. Activities that would generate dust and emissions during site monitoring and testing include worker and equipment vehicle travel on access and site roads to

carry towers, worker vehicle travel for routine maintenance, brush clearing at tower sites, and erection of the meteorological towers (BLM, 2005). Such activities would generate fugitive dust from road travel and clearing and tailpipe emissions from vehicular exhaust.

Site Construction. Prior to construction permits from local air quality agencies would potentially be required. Activities that would generate dust and emissions during construction include 1) clearing and grade alterations for site access, 2) foundation excavations and installations, 3) wind turbine erection, and 4) miscellaneous ancillary construction. Emissions from vehicle traffic and delivery traffic are likely to occur during each of these phases. Construction equipment emissions would generate fugitive dust from vehicle travel and movement and transportation of soil. Use of onsite power from diesel generators for the batch plant and other equipment would also result in emissions. Concrete batching would produce fugitive particles associated with mixing of concrete and the storage piles associated with the concrete batching.

Site Operation. Operation of the Ocotillo Wind project would be unlikely to adversely impact air quality. Operation of the wind turbines would not produce direct emissions. Minor VOC emissions would occur during routine changes of lubricants and cooling fluids and grease. Other minor emissions would be generated by road travel, vehicular exhaust, and brush clearing.

5.1.10.5 TRANSPORTATION

The Ocotillo Wind project would be reached via Interstate 8, County Highway S2, and State Route 98. A number of BLM rough bladed or two-tracked surface roads cross the project site. The San Diego and Arizona Eastern Railway (SD&AE), owned by the San Diego Metropolitan Transit System, would cross the project site. This line connects with the Santa Fe Railway.

The SD&AE is an existing active railroad through southeastern portions of the site. The current project layout proposes crossing the railroad with site access roads and underground collector system. The number of crossing locations has been minimized to extent possible taking into account terrain and location of existing roads. All crossings will require encroachment agreements with the railroad owner and will designed to meet the railroad owner's minimum standards where specified. The plan proposes at-grade, rural-type road crossings orientated as nearly perpendicular to the railroad as possible. During construction, the road crossings will be protected from damage by heavy vehicles in a manner approved by the railroad. All collector crossings will be completed by horizontal direction boring underneath the railroad to a depth of approximately 6 feet below the top of the rail. Buried utility markers will be installed at the collector crossing locations at the both sides of the railroad right of way.

Crossing the railroad during construction will be addressed in the site safety plan. In general, all vehicles will be required to stop, look, and listen at all railroad crossings before proceeding. No unapproved work or access with be allowed within the railroad right of way, without the railroads consent and then only at the approved locations. During project operations, the policy of every vehicle stopping at railroad crossings will be strictly enforced. Since site access roads will be open to the public, standard railroad crossing hazard signs may be installed at the road crossing locations if required by the county and according to traffic safety standards adopted by the county.

5.1.10.5.1 Potential Impacts

Site Monitoring and Testing. It is likely that activities would be limited to low volumes of heavy-duty and medium duty trucks and personal vehicles. It is unlikely that existing roads would be impacted although some new access roads may be required depending on the tower locations.

Site Construction. Movement of equipment and materials to the site during construction would cause an increase in the level of service of the roadways. Most equipment would likely remain on site for the duration of the construction activities (BLM, 2005).

Shipments of oversized and overweight loads could cause temporary disruptions to secondary and primary roads used to access the construction site. Because of the anticipated weight of the turbine components and electrical transformers that would be brought to the site, maximum grade becomes a critical road design parameter. Turbine components would likely require permitting of oversized loads.

Site Operation. Limited to low volumes of heavy-duty and medium duty trucks and personal vehicles would likely be used during operation. Some large turbine components would potentially be required for equipment replacement; however, this is expected to be infrequent.

5.1.10.6 TRANSPORTATION

The Ocotillo Wind project would be reached via Interstate 8, County Highway S2, and State Route 98. A number of BLM rough bladed or two-tracked surface roads cross the project site. The San Diego and Arizona Eastern Railway (SD&AE), owned by the San Diego Metropolitan Transit System, would cross the project site. This line connects with the Santa Fe Railway. Access to the project site will be utilized with on main access point off of Hwy 8. See Figure 6.4-2

5.1.10.6.1 Potential Impacts

Site Monitoring and Testing. It is likely that activities would be limited to low volumes of heavy-duty and medium duty trucks and personal vehicles. It is unlikely that existing roads would be impacted although some new access roads may be required depending on the tower locations.

Site Construction. Movement of equipment and materials to the site during construction would cause an increase in the level of service of the roadways. Most equipment would likely remain on site for the duration of the construction activities (BLM, 2005).

Shipments of oversized and overweight loads could cause temporary disruptions to secondary and primary roads used to access the construction site. Because of the anticipated weight of the turbine components and electrical transformers that would be brought to the site, maximum grade becomes a critical road design parameter. Turbine components would likely require permitting of oversized loads.

Site Operation. Limited to low volumes of heavy-duty and medium duty trucks and personal vehicles would likely be used during operation. Some large turbine components would potentially be required for equipment replacement; however, this is expected to be infrequent.

Site Decommissioning. As with site construction, oversized and overweight loads are expected during site decommissioning due to the need for removal of the turbine components. Heavy equipment and cranes would be required.

5.1.10.7 HAZARDOUS MATERIALS AND WASTE MANAGEMENT IMPACTS

A limited amount of hazardous material may be used in the construction and operation of the Ocotillo Wind Energy project. These may include cleaning fluids, fuels, and lubricants. These would require appropriate storage, use, and disposal. In addition, soiled rags and similar applicators and clean up materials would require disposal. Except for the possibility of illegal disposal, the site is not expected to have any existing contamination. This would be confirmed through a Phase 1 Environmental Site Assessment. The nearest sensitive receptors are located south of the northeastern portion of the project site in Ocotillo and east of the southeast portion of the project in Coyote Wells.

Packaging materials are expected to be the major solid waste generated during construction. Except for parts packaging, operational waste would be minor and similar to household waste.

The closest landfills to the project include (CIWMB, 2007):

- Allied Imperial Landfill (104 East Robinson Road) that allows a maximum permitted throughput of 1,135 tons/day and has a remaining capacity of 2,105,500 cubic yards
- Imperial Solid Waste Site (1705 West Worthington Road) that allows a maximum permitted throughput of 207 tons/day and has a remaining capacity of 183,871 cubic yards

5.1.10.7.1 Potential Impacts

The use, storage, and disposal of hazardous materials and waste associated with a typical wind energy project could result in potential adverse health and environmental impacts associated with improper management of these materials. Hazardous materials likely to be used include fuels (gasoline, diesel fuel, etc.), lubricants, cleaning solvents, paints, pesticides, and potentially explosives. In general, most potential impacts are associated with the release of these materials to the environment, which could occur if the materials are improperly used, stored, or disposed of. Direct impacts of such releases could include contamination of vegetation, soil, and water, which could result in indirect impacts to human and wildlife populations.

Compliance with all applicable federal and state regulations regarding notices to federal and local emergency response authorities and development of applicable emergency response plans are required for hazardous materials when quantities on hand exceed amounts specified in regulations.

Solid wastes produced during construction of a wind energy development project would include containers, dunnage and packaging materials for turbine components, and miscellaneous wastes associated with assembly activities (BLM, 2005). Solid wastes resulting from the presence of the construction work crews would include food scraps and other putrescible wastes. Solid wastes produced during the operational phase would be very limited and consist primarily of office-related wastes generated at the control facility and food wastes from the maintenance crews who might be present on the site during business hours. All such wastes are expected to be nonhazardous, and typically they are containerized on site and periodically removed by commercial haulers to existing off-site, appropriately permitted disposal facilities.

During decommissioning, substantial quantities of solid wastes and industrial wastes could result from dismantlement of a wind energy project. Fluids drained from turbine drivetrain components (e.g., lubricating oils, hydraulic fluids, coolants) are likely to be similar in chemical composition to spent fluids removed during routine maintenance and would be managed in the same manner as analogous maintenance-related wastes. Tower segments are expected to be stored on site for a brief period and eventually sold as scrap. Likewise, turbine components (emptied of their fluids) may have some salvage value. Recycling turbine components would diminish any impacts created by solid wastes during decommissioning. Electrical transformers are expected to be removed from the site and available for other applications elsewhere (in most cases, without the need for removing dielectric fields). Substantial amounts of broken concrete from tower and building foundations as well as rock or gravel from on-site roads or electrical substations would also result from decommissioning. All such materials are expected to be salvageable for use in road-building or bank stabilization projects. Miscellaneous materials without salvage value are expected to be nonhazardous and should be removed from the site by a licensed hauler and delivered to appropriately permitted disposal facilities.

5.1.10.8 Health and Safety Impacts

The Ocotillo Wind project would be located in an open space area. The project would be located south of several large quarries in the southern foothills of the Coyote Mountains, and would be located approximately eight miles west of the large gypsum sheetrock manufacturing plant in Plaster City. The project would be located approximately two miles west of the proposed Stirling Engine System Solar Two, LLC solar thermal plant. The nearest sensitive receptors are located immediately south of the northeastern portion of the project site in Ocotillo and east of the southeast portion of the project in Coyote Wells.

Construction using heavy equipment and bulky materials can pose safety risks to workers. Maintenance of these facilities, including elements high off the ground and having moving parts, can also pose risks. Risks to public health and safety generally include risks associated with major construction sites, rare tower failures, human-caused fire, EMF exposure, aviation safety interference, EMI, and shadow flicker.

5.1.10.8.1 Potential Impacts

According to the BLM Wind EIS, one of the primary safety hazards of wind turbines occurs if a rotor blade breaks and parts are thrown off. This could occur as a result of rotor overspeed, although such an occurrence has been extremely rare and happens mostly with older and smaller turbines. The difficulty of predicting the trajectory of a broken rotor blade makes the quantitative determination of safety risk very uncertain. However, it is known that these types of events are very rare and the probability of a fragment hitting a person is even lower. With proper engineering design and quality control, blade throw should rarely occur.

5.2 Design criteria (mitigation measures) proposed by applicant and included in POD

5.2.1 Facility Commitments

- Alternate Turbine Locations - 193 potential turbine locations were reviewed for compatibility with cultural and biological resources , and 35 potential locations have been eliminated for avoidance of environmentally sensitive areas.

- Use of Tubular Conical Steel Turbine Towers - Tubular towers do not provide locations for raptors to perch, decreasing risk of collisions with turbine blades.
- Underground Collection System - Reduces the visual impact of overhead transmission as well as the potential impact to avian and bat species from collisions.
- Setbacks - Turbines will be set back from public roads at least 1.1x total turbine height and will be setback 1.5x total turbine height from any property lines and ROW boundary.
- Water Sources -The project has committed to not using water from the Ocotillo-Coyote Wells sole source aquifer during the lifetime of the project. This effort will help ensure that this critical natural resource is preserved for future generations.
- Sound -The project has been designed to minimize sound at surrounding residences in the Ocotillo area. No residences sound level will be above 40 db(a). This sound level meets the strictest guidelines currently set throughout North America
- Shadow Flicker -The project has been designed to minimize shadow flicker at surrounding residences in the Ocotillo should not pose an issue for the community.

5.2.2 CONSTRUCTION COMMITMENTS

- Best Management Practices (BMPs) - For example, construction vehicle movement within the project boundary would be restricted to pre-designated access, contractor-required access, or public roads. In construction areas where ground disturbance is unavoidable, surface restoration would consist of returning disturbed areas back to their natural contour (if feasible), reseeding with native seed mix. A full list of BMPs will be developed and included in the COM Plan.
- 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. In addition, the process to be used to comply with unique state requirements and to obtain all necessary permits shall be clearly identified.
- A Traffic Management Plan shall be prepared as part of the Transportation Plan for the site access roads to ensure that no hazards would result from the increased truck traffic and 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. Additionally, OEWE will consult with local planning authorities regarding increased traffic during the construction phase, including an assessment of the number of vehicles per day, their size, and type. Specific issues of concern (e.g., location of school bus routes and stops) shall be identified and addressed in the traffic management plan.
- A Storm Water Pollution Prevention Plan (SWPPP) will be developed and implemented during construction to reduce erosion and sediment run-off from construction activities. The SWPPP will strictly monitor all erosion control measures and report the finding online via the state water quality control board website.
-

5.2.3 RESOURCE CONSERVATION MEASURES

- Direct avoidance of any eligible cultural resources. Applicant OE LLC has revised the site plan, including elimination of planned turbine locations and re-routing of planned access road locations, in order to completely avoid direct impacts on cultural resource locations identified during the extensive cultural surveys that have been completed for the project. Applicant intends to develop a cultural resource monitoring and mitigation plan prior to the start of construction that will include a procedure for identifying areas to be monitored during construction and that will ensure qualified archaeological monitors are used to carry out this task. A discovery plan, which may be part of the cultural resource monitoring and mitigation plan, may be part of the proposed mitigation. Construction workers will be educated about the importance of preserving significant cultural properties, and a process will be established for them to report and protect suspected discoveries. Curation will be arranged for any archaeological materials collected.
- Avian and Bat Protection Plan/ Eagle Conservation Plan – An ABPP and ECP will be completed to detail mitigation requirements and adaptive management techniques to mitigate and minimize impacts to birds, bats, and specifically eagles. The plan will detail post construction monitoring requirements and will utilize those finding to implement necessary level of mitigation.
- Radar System - A state of the art radar system will be located onsite that will track large raptor movements in the project area combined with a video camera technology to track raptors in real time. If it is determined, by confirmation from an onsite biologist , that eagles are entering the project site, certain turbines may be curtailed until the eagle has left the area.
- ABOCCC -The project will build an observatory platform known as the Advanced Biological Observation Command and Control Center (ABOCCC) on site to be the control room for the biologists where they can have a commanding view of the entire site with 360 degree vision and be able to monitor the data feeds from the radar, video tracker and radio telemetry feeds in real time. The ABOCC will be manned from sun up to sun down, 7 days a week. See Figure 6.2-3

- No turbines will be located in Big Horn Sheep Critical Habitat. 14 of the turbines that have been eliminated from the layout were eliminated in order to greater reduce the buffer from the project site to sensitive habitat for Big Horn Sheep.

- Survey all proposed ground disturbing activities in sensitive habitat areas utilizing the appropriate protocol.
- Facilities shall be designed to discourage their use as perching or nesting substrates by birds. For example, power lines and poles shall be configured to minimize raptor electrocutions and discourage raptor and raven nesting and perching.
- Migratory Birds - If construction is planned during migratory periods, migratory bird clearance surveys would be conducted. Evidence of active nests or nesting will be reported immediately to the BLM to determine appropriate minimization measures (i.e. avoidance buffer), on a case-by-case basis.
- A spill prevention containment and countermeasure (SPCC) plan will be implemented which will provide secondary containment structures for all stationary oil / hazardous liquid-filled equipment including pad mounted transformers, substation transformers, and

the oil storage shed. These containment devices along with strict monitoring and inspection policies are designed to protect all critical natural resources.

- Restoration Plan – A plan would be prepared as part of the COM plan. The plan would describe restoration methods and requirements for temporary disturbance areas.
- For soil disturbing actions which will require reclamation, salvage and stockpile all available growth medium prior to surface disturbances. Seed stock piles if they are to be left for more than one growing season. Re-contour all disturbance areas to blend as nearly as possible with the natural topography prior to re-vegetation. Rip all compacted portions of the disturbance to an appropriate depth based on site characteristics. Establish an adequate seed bed to provide good seed to soil contact.
- Develop a plan for control of noxious weeds and invasive species, which could occur as a result of new surface disturbance activities at the site. The plan shall address monitoring, education of personnel on weed identification, the manner in which weeds spread, and methods for treating infestations. The use of certified weed-free mulching shall be required. If trucks and construction equipment are arriving from locations with known invasive vegetation problems, a controlled inspection and cleaning area shall be established to visually inspect construction equipment arriving at the project area and to remove and collect seeds that may be adhering to tires and other equipment surfaces.
- If pesticides are used on the site, an integrated pest management plan shall be developed to ensure that applications would be conducted within the framework of BLM and DOI policies and entail only the use of EPA-registered pesticides approved for use in BLM's Record of Decision: Vegetation Treatments Using Herbicides (Sept. 2007), as supported by the FEIS for Vegetation Treatments Using Herbicides (June 2007). Pesticide use shall be limited to non-persistent, immobile pesticides and shall only be applied in accordance with label and application permit directions and stipulations for terrestrial and aquatic applications.
- All straw, hay, straw/hay, or other organic products used for reclamation or stabilization activities must be certified that all materials are free of plant species listed on the California noxious weed list or specifically identified by the El Centro Field Office. Inspections will be conducted by a weed scientist or qualified biologist.
- Where appropriate, vehicles and heavy equipment used for the completion, maintenance, inspection, or monitoring of ground disturbing activities; for emergency fire suppression; or for authorized off-road driving will be free of soil and debris capable of transporting weed propagules. Vehicles and equipment will be cleaned with power or high pressure equipment prior to entering or leaving the work site or project area. Vehicles used for emergency fire suppression will be cleaned as a part of check-in and demobilization procedures. Cleaning efforts will concentrate on tracks, feet or tires, and on the undercarriage. Special emphasis will be applied to axles, frames, cross members, motor mounts, on and underneath steps, running boards, and front bumper/brush guard assemblies. Vehicle cabs will be swept out and refuse will be disposed of in waste receptacles. Cleaning sites will be recorded using global positioning systems or other mutually acceptable equipment and provided to the El Cento District Office Weed Coordinator or designated contact person.
- Prior to the entry of vehicles and equipment to a planned disturbance area, a weed scientist or qualified biologist will identify and flag areas of concern. The flagging will alert personnel or participants to avoid areas of concern.

- To minimize the transport of soil-borne noxious weed seeds, roots, or rhizomes, infested soils or materials will not be moved and redistributed on weed-free or relatively weed-free areas. In areas where infestations are identified or noted and infested soils, rock, or overburden must be moved, these materials will be salvaged and stockpiled adjacent to the area from which they were stripped. Appropriate measures will be taken to minimize wind and water erosion of these stockpiles. During reclamation, the materials will be returned to the area from which they were stripped.

6.0 MAPS AND DRAWINGS

6.1 MAPS WITH FOOTPRINT OF WIND FACILITY (7.5 MIN TOPOGRAPHIC MAPS OR EQUIVALENT TO INCLUDE REFERENCES TO PUBLIC LAND SURVEY SYSTEM)

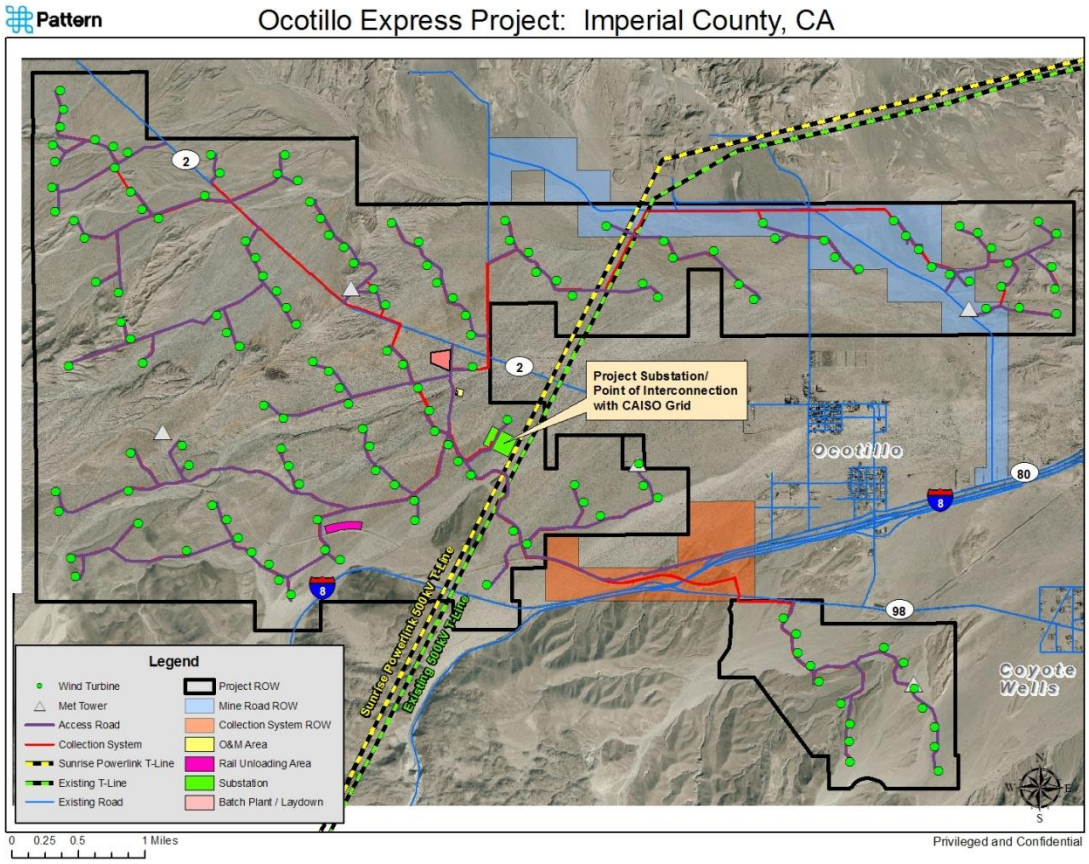
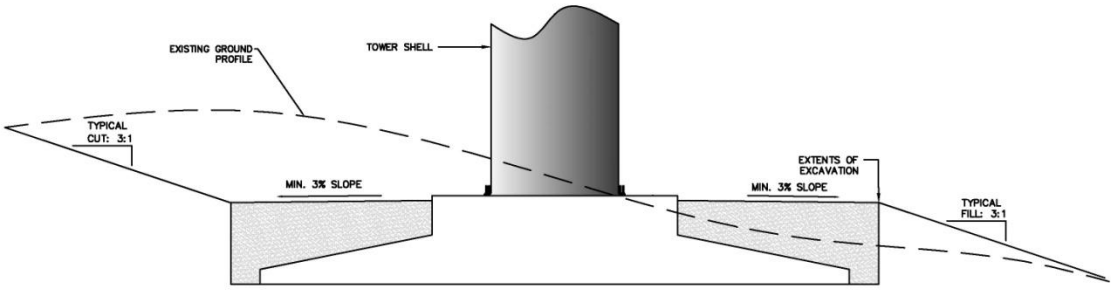


Figure 6.1-1. Project Area Facility Layout

6.2 ANCILLARY FACILITIES

6.2-1. Typical Foundation



TYPICAL FOUNDATION CUT/FILL SECTION

Figure 6.2-2. Operational Diagram

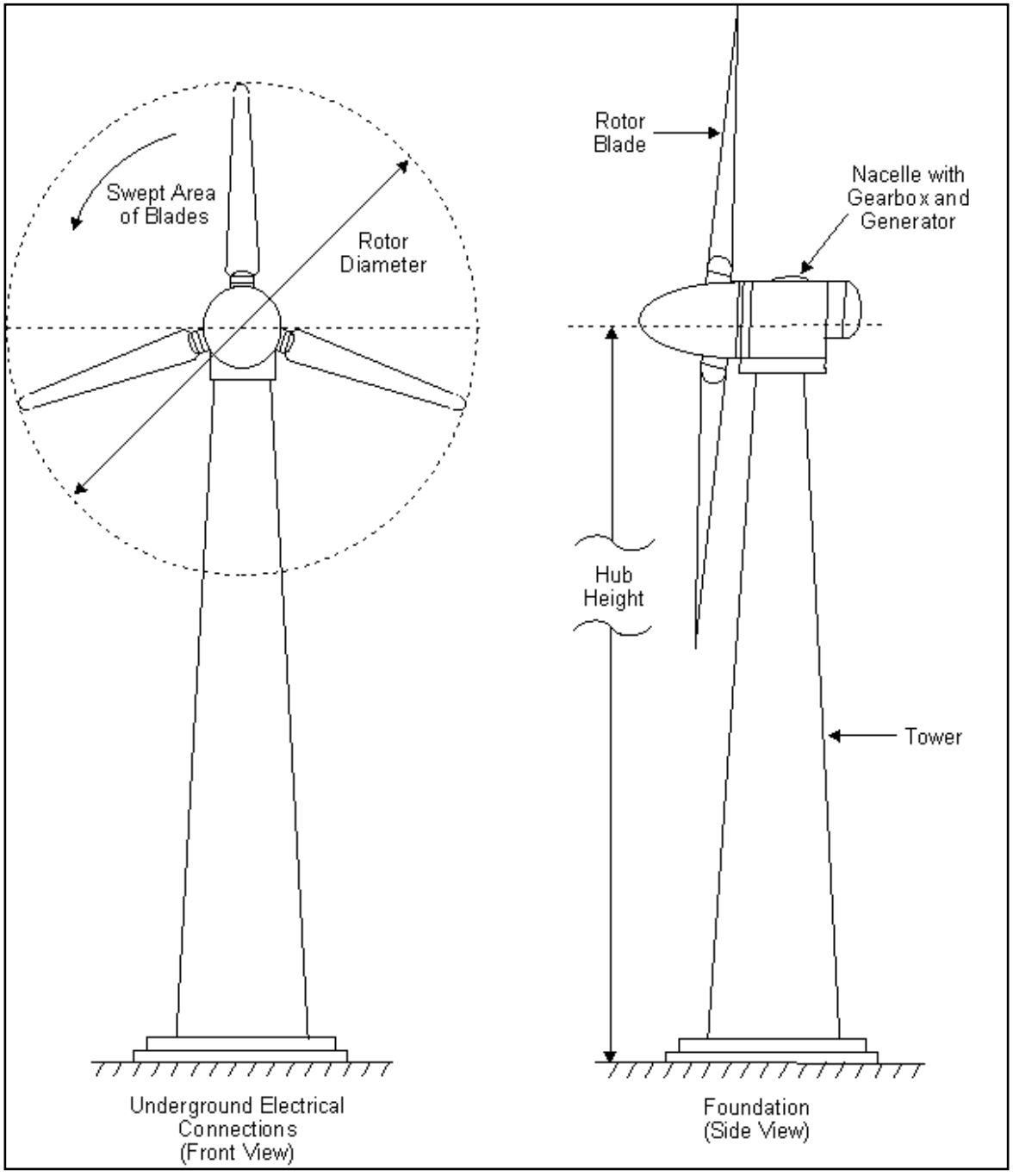


Figure 6.2-3 – Advanced Biological Operations Command and Control Center (ABOCCC)

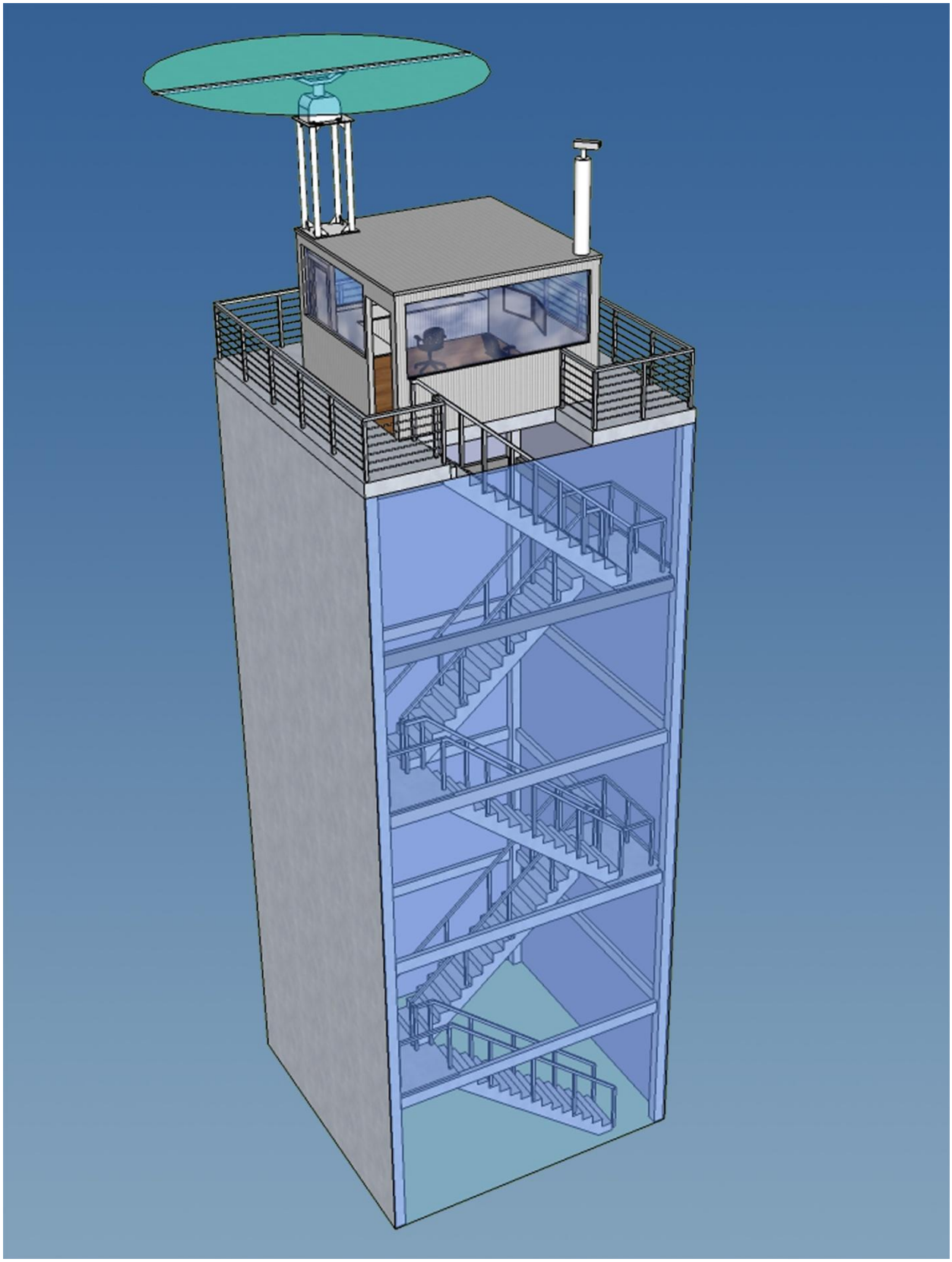
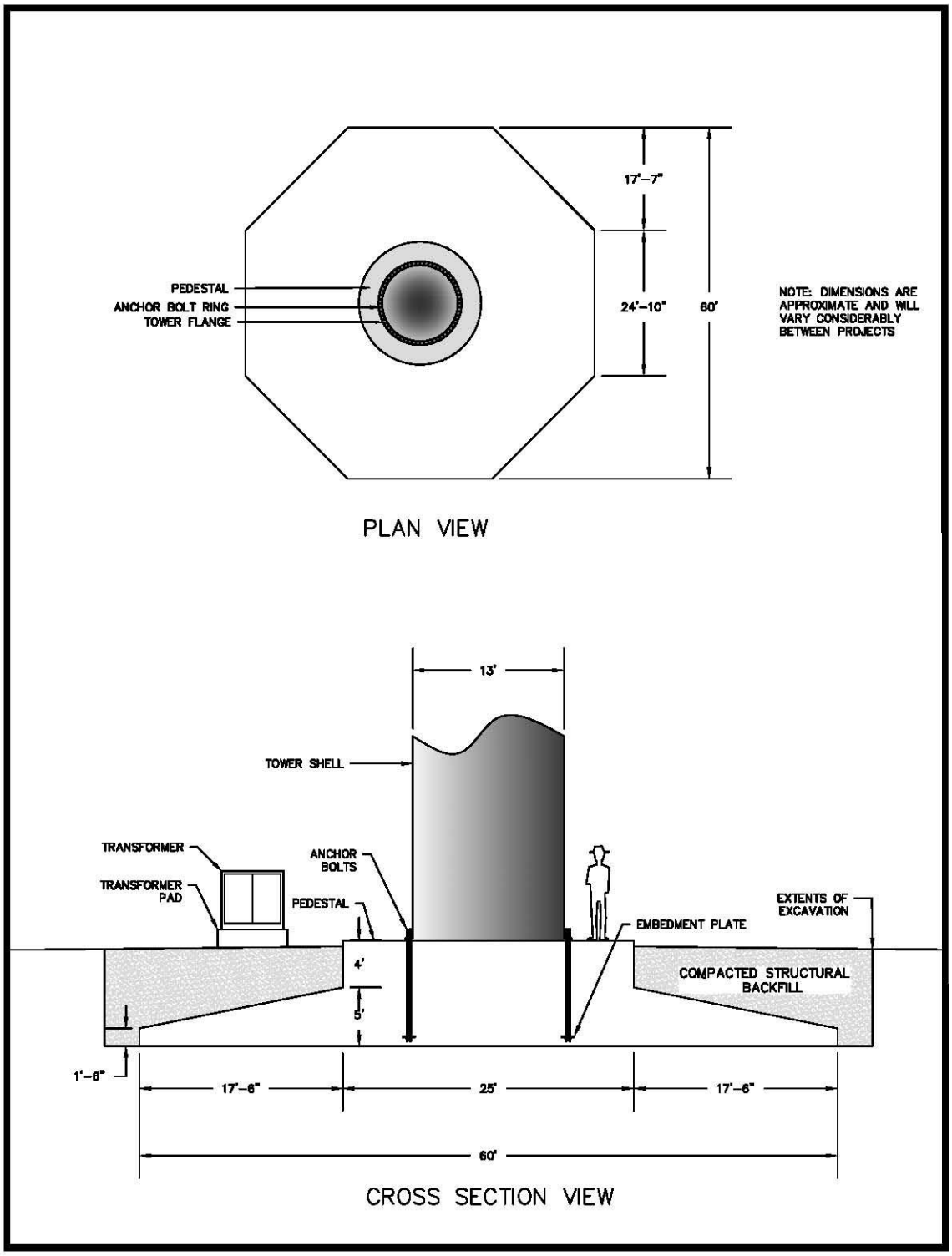
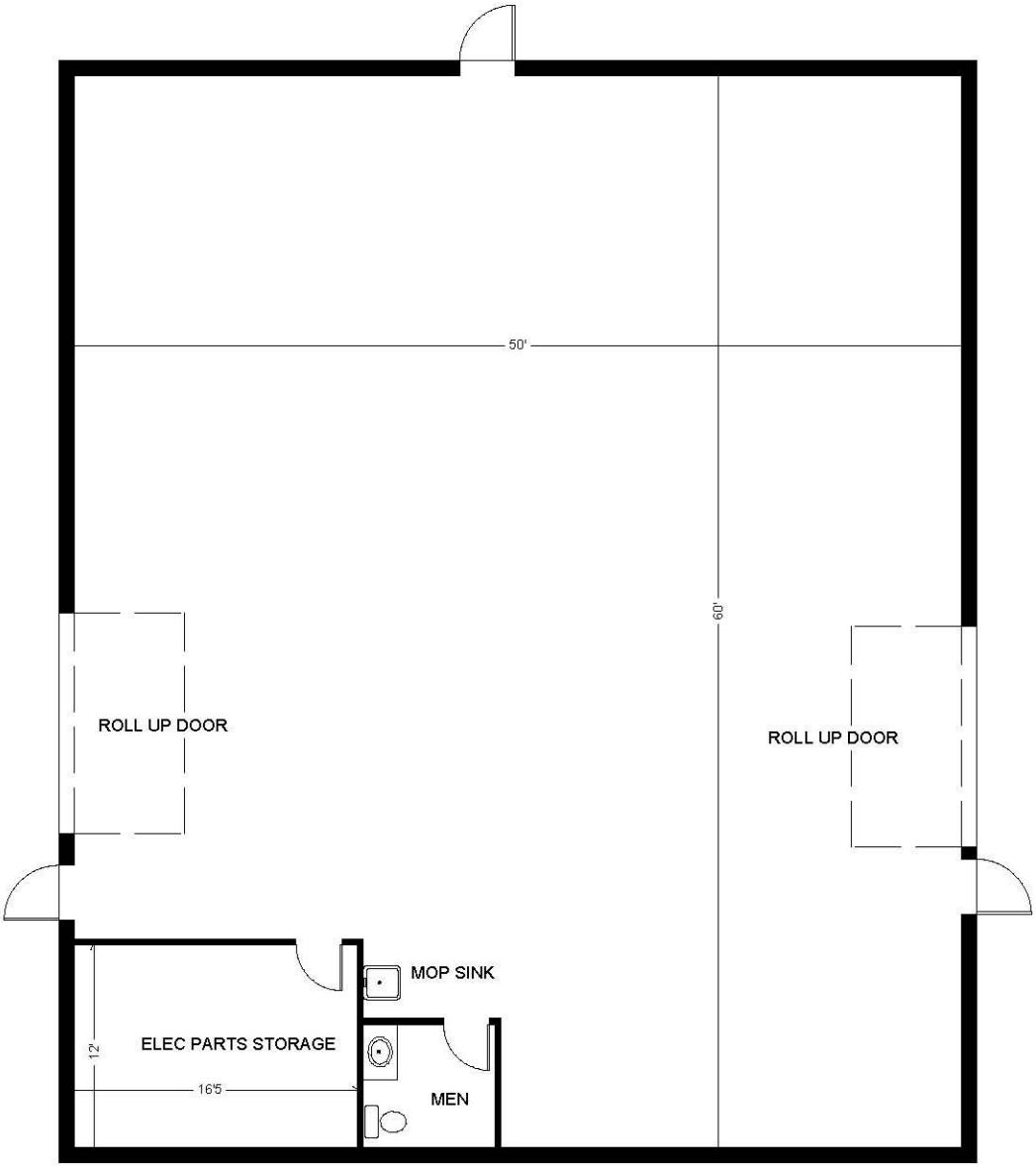


Figure 6.2-4. Plan View



6.2-5 – Typical O&M

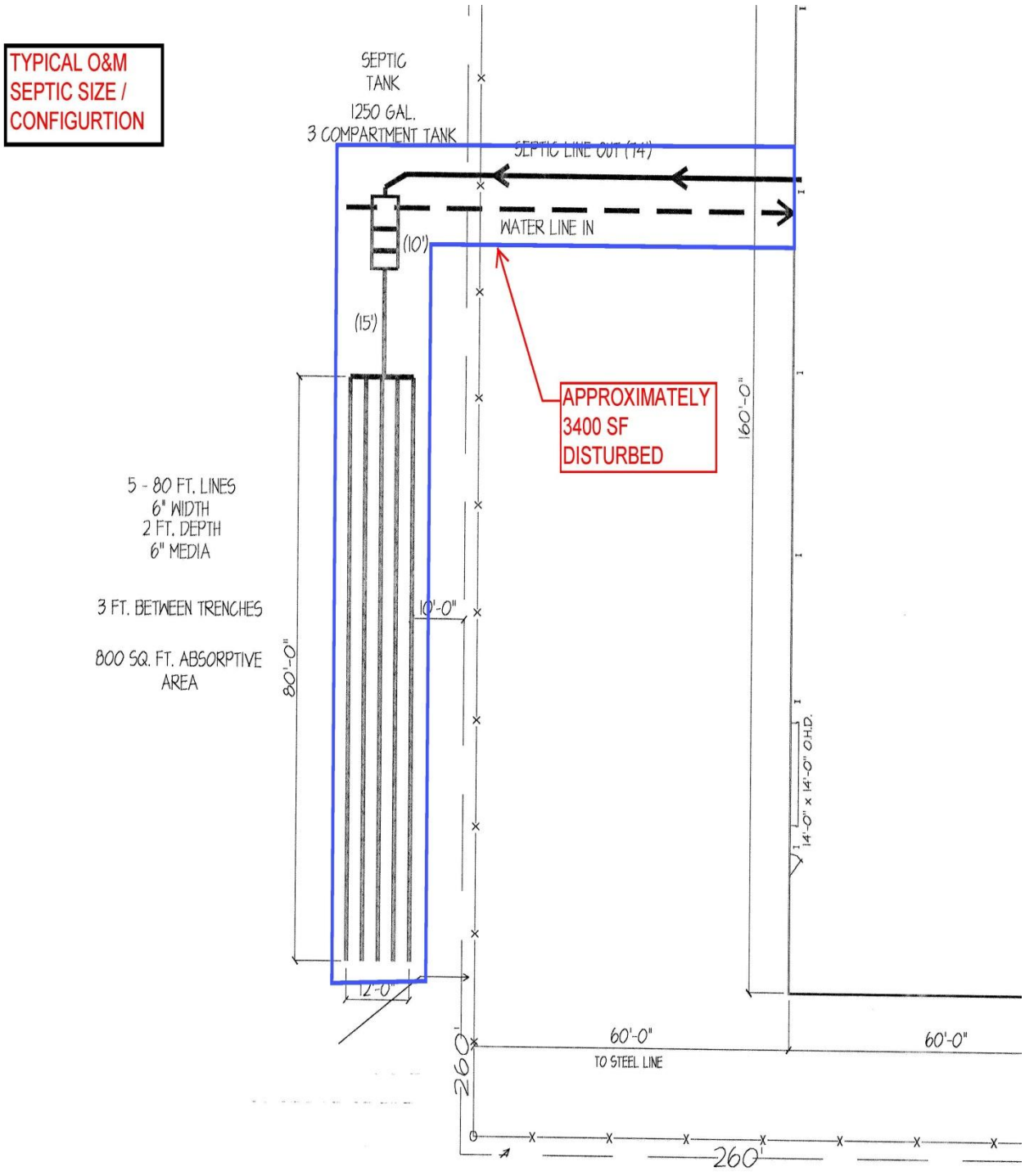
PLAN A
1960 SQ FT



WAREHOUSE

3000 SQ FT

6.2-6 Typical Septic System for O&M



6.3 INITIAL SITE GRADING PLAN

To be completed

6.4 ACCESS, ROADS AND TRANSPORTATION MAPS

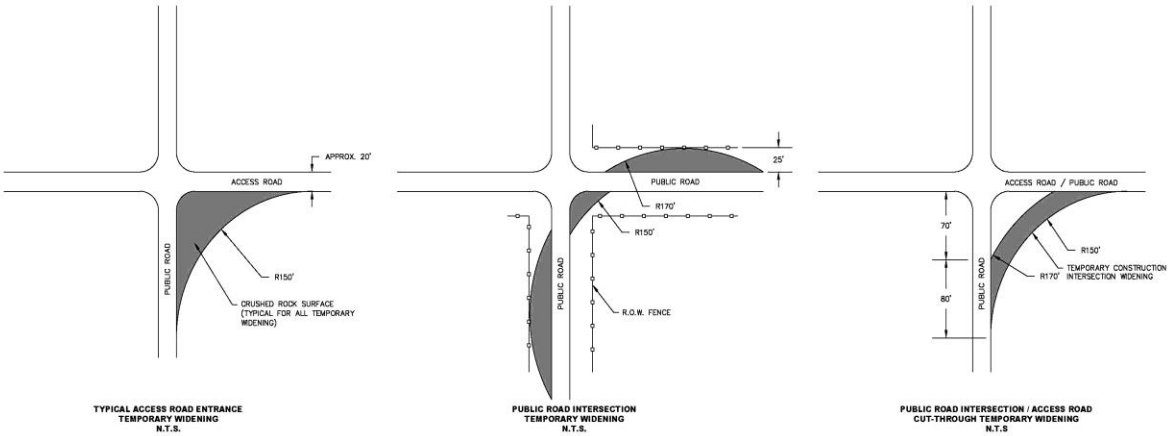


Figure 6.4-1 Typical Road Access Intersection

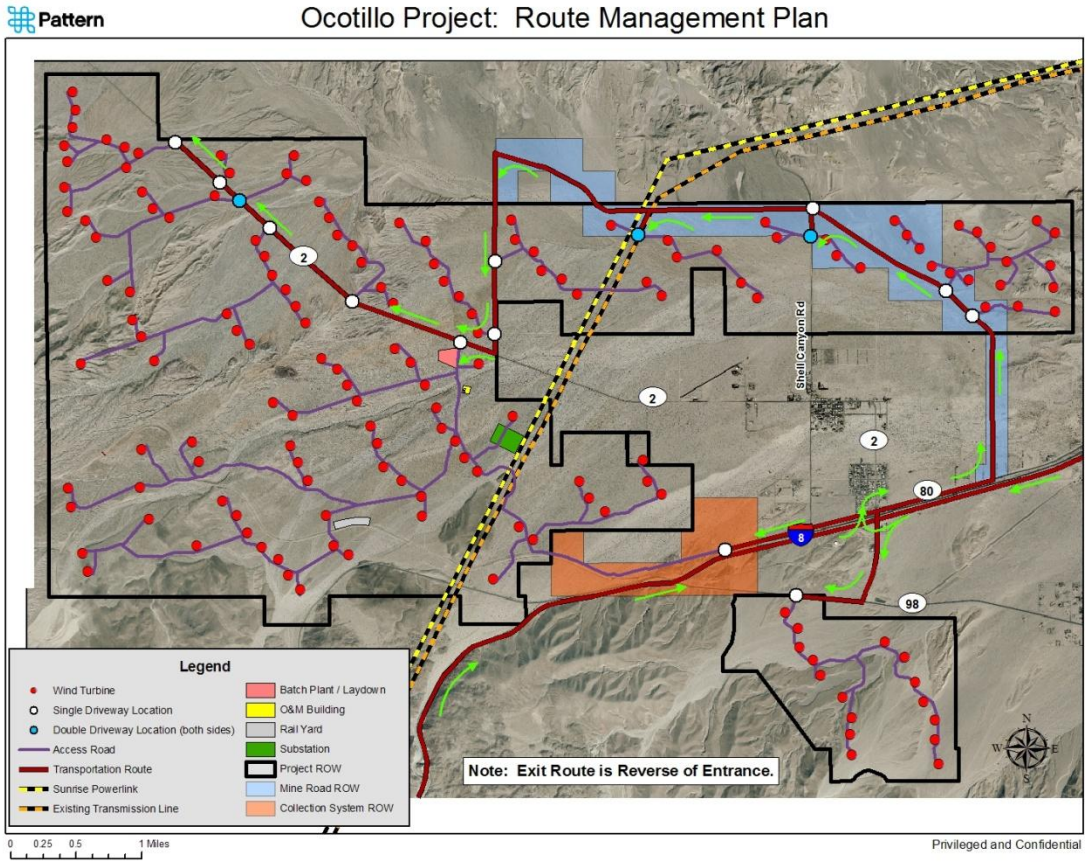


Figure 6.4-2 Transportation Route Map

6.5 PRELIMINARY VISUAL RESOURCE EVALUATION AND VISUAL RESOURCE SIMULATIONS

Photographic visual simulations of the proposed project as it would appear from several KOPs are being prepared to assist with the visual contrast rating analysis.

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APPENDIX A DECOMMISSIONING PROCESS

DECOMMISSIONING PROCESS

- Mobilize cranes to the site for each wind turbine.
- Drain all gearboxes, transformers, and hydraulic systems of fluids and put into appropriate containers before dismantling. Transport and dispose of all such fluids in accordance with all state and federal environmental regulations.
- Dismantle and remove the rotor, nacelle and towers and transport entire WTG off site. Note it is assumed this equipment will be scrapped and not re-used, thus bolts/nuts will be "torched off" as opposed to undone.
- Use an excavator to dig a 10-foot deep hole approximately two-thirds of the way around each foundation. Then with an air hammer or comparable equipment, break up the concrete foundation pedestals (down to 3 feet below grade) and transformer pads (if any) and place into the 10 foot deep hole in compliance with all applicable state and federal environmental regulations.
- Within the foundation excavation limits, the steel and cable shall be removed to the greater of 3 feet below the soil surface or the depth required by agreements with the project landowners. Where possible, the steel and cable items shall be separated and recycled.
- Backfill the holes with the soil that was excavated and regrade the foundation areas to as close as reasonably possible to the original ground contours. These areas shall be returned as close as reasonably possible to pre-construction conditions suitable for current adjacent land.
- Other than those roads that the landowners wish to retain, access roads owned by the wind plant operator that lead to the wind turbines would be removed and restored in a manner consistent with current adjacent land use. Areas will be regraded as close as reasonably possible to the original ground contours. For the purposes of the decommissioning cost estimate, it is assumed that all the site access roads will be removed.
- Remove transformer and all other substation equipment from the site. Remove all concrete foundations, gravel and fencing, and regrade area as close as reasonably possible to the original ground contours and restored in a manner consistent with current adjacent land use.
- Underground cable circuits are anticipated to be buried at a depth of 4 feet below grade. All cable below 3 feet will be cut off and abandoned as is.
- The short transmission line between the project substation and the SDGE Switchyard/Interconnection switchyard will be decommissioned by first removing the electrical conductors, and then mobilizing a crane to each pole location and dismantling the pole, and loading the pole unto a scrap trailer for transportation to a local scrap yard. If concrete foundations are used they will be removed to a depth of 4 feet below grade as described for the decommissioning of each turbine location.

We anticipate the following durations and staff requirements to decommission the main facilities:

- Turbines 5 turbines /week /crew 12 people/crew (with 3 crews would take 13 weeks)
- Substation 8 weeks total 20 people/crew
- Roads, crane pads, laydown areas 12 weeks 12 people/crew

APPENDIX B LEGAL DESCRIPTION

Exhibit A
Right-Of-Way
Legal Land Descriptions of Project Area

	Township 16 South	Range 9 East	
	section 17		
			Project Total-
Tract 40	lot 3	13.86	13,193.42
	lot 4	40	
	lot 5	26.22	
	lot 6	13.78	
	lot 7	13.78	
	lot 8	26.22	
	lot 9	40	
	lot 10	13.81	
		187.67	
	section 18		
	lot 7	40	
	lot 8	40	
	lot 9	40	
	lot 10	17.78	
	lot 11	17.69	
	lot 12	40	
	lot 13	40	
	lot 14	40	
	lot 17	40	
	lot 18	40	
	lot 19	40	
	lot 20	40	
	lot 21	40	
	lot 22	18.06	
	lot 23	18.53	
	lot 24	40	
	lot 25	40	
	lot 26	40	

	lot 27	40
	lot 28	40
	SE1/4	160
		872.06
	section 19	
	lot 7	13.74
	lot 8	40
	lot 9	40
	lot 10	40
	lot 11	40
	lot 12	40
	lot 13	18.28
	lot 14	17.79
	Lot 15	40
	lot 16	40
	lot 17	40
	lot 18	40
	lot 19	40
	lot 20	13.7
	lot 25	13.66
	lot 26	40
	lot 27	40
	lot 28	40
	lot 29	40
	lot 30	40
	lot 31	17.29
	lot 32	16.78
	lot 33	40
	lot 34	40
	lot 35	40
	lot 36	40
	lot 37	40
	lot 38	13.62
Tract 41	lot 5	40
	lot 6	26.26
Tract 42	lot 21	26.3
	lot 22	40
Tract 43	lot 23	40
	lot 24	26.34
	lot 39	26.38
	lot 40	40
		1190.14

	section 20	
Tract 41	lot 7	13.76
Tract 42	lot 8	13.72
Tract 43	lot 19	13.68
	lot 20	13.64
Tract 44	lot 16	13.74
	lot 17	40
	lot 18	26.32
	lot 21	26.36
	lot 22	40
	lot 23	13.7
Tract 45	lot 4	13.82
	lot 5	40
	lot 6	26.24
	lot 9	26.28
	lot 10	40
	lot 11	13.78
Tract 46	lot 2	13.88
	lot 3	26.18
Tract 47	lot 1	26.12
	lot 12	26.22
	lot 13	40
	lot 14	40
	lot 15	26.26
	lot 24	26.3
	lot 25	40
		640
	section 21	
Tract 47	lot 6	13.84
	lot 7	13.8
	lot 18	13.76
	lot 19	13.72
Tract 48	lot 3	13.77
	lot 4	40
	lot 5	26.16
	lot 8	26.2
	lot 9	40
	lot 10	13.75
	lot 15	13.73
	lot 16	40
	lot 17	26.24

	lot 20	26.28
	lot 21	40
	lot 22	13.71
Tract 49	lot 1	40
	lot 2	26.23
	lot 11	26.25
	lot 12	40
	lot 13	40
	lot 14	26.27
		573.71
	Section 22	
Tract 49	lot 6	13.7
	lot 7	13.7
	lot 18	13.7
Tract 50	lot 3	13.78
	lot 4	40
	lot 5	26.3
	lot 8	26.3
	lot 9	40
	lot 10	13.78
	lot 15	13.78
	lot 16	40
	lot 17	26.3
	lot 20	26.3
	lot 21	40
	lot 22	13.78
Tract 51	lot 1	40
	lot 2	26.22
	lot 11	26.22
	lot 12	40
Tract 52	C	40
	D	40
	E	40
	F	40
		653.86
	section 23	
	E1/2E1/2	160
	lot 1	26.6
	lot 8	26.54
	lot 9	26.46
	lot 16	26.4

Tract 51	lot 2	13.4
	lot 3	40
	lot 4	40
	lot 5	40
	lot 6	40
	lot 7	13.46
Tract 52	A	40
	H	40
	C	
	F	
		532.86
	section 24	
	lot 1	23.41
	lot 4	14.12
	lot 5	14
	lot 8	23.39
Tract 53	lot 2	16.59
	lot 3	25.88
	lot 6	26
	lot 7	16.61
	N1/2	320
	SW1/4	160
		640
	section 27	
	lot 20	26.33
	lot 21	40
	lot 22	13.71
		80.04
	section 28	
Tract 58	lot 13	40
	lot 14	26.34
	lot 25	26.35
	lot 26	40
Tract 59	lot 3	13.69
	lot 4	40
	lot 5	26.31
	lot 8	26.32
	lot 9	40
	lot 10	13.68
	lot 15	13.66

	lot 16	26.34
	lot 23	26.35
	lot 24	13.65
Tract 60	lot 17	13.66
	lot 18	26.34
	lot 21	26.35
	lot 22	13.65
Tract 61	lot 6	13.69
	lot 7	13.68
	lot 19	13.66
	lot 20	13.65
		507.37
	section 29	
	lot 3	13.67
	lot 4	13.67
	lot 9	13.65
	lot 10	13.65
	W1/2	**320**
Tract 61	lot 1	40
	lot 2	26.33
	lot 5	26.33
	lot 6	40
	lot 7	40
	lot 8	26.35
	lot 11	26.35
	lot 12	40
		640
	section 30	
	lot 5	40
	lot 6	40
	lot 7	40
	lot 8	40
	lot 9	40
	lot 10	16.32
	lot 11	15.87
	lot 12	40
	lot 13	40
	lot 14	40
	lot 15	40

lot 16	40
lot 17	40
lot 18	40
lot 19	40
lot 20	40
lot 21	40
lot 22	15.43
lot 23	15
lot 24	40
lot 25	40
lot 26	40
lot 27	40
lot 28	40
NE1/4	160
SE1/4	160
	1182.62

section 31	
lot 1	40
lot 2	40
lot 3	40
lot 4	40
lot 5	40
lot 6	14.92
lot 7	14.87
lot 8	40
lot 9	40
lot 10	40
lot 11	40
lot 12	40
lot 13	40
lot 14	40
lot 15	40
lot 16	40
lot 17	40
lot 18	15.03
lot 19	15.08
lot 20	40
lot 21	40
lot 22	40
lot 23	40
lot 24	40
E1/2	320

		1179.9
	section 32	
	lot 3	13.57
	lot 4	13.51
	lot 9	13.28
Tract 62	lot 1	40
	lot 2	26.43
	lot 5	26.49
	lot 6	13.42
Tract 63	lot 7	26.58
	lot 8	26.72
	W1/2	320
	S1/2SE1/4	80
	NW1/4SE1/4	40
		640
	section 33	
Tract 59	lot 3	13.57
	lot 4	26.43
	lot 9	26.58
	lot 10	13.42
Tract 62	lot 5	13.57
	lot 6	40
Tract 63	lot 7	40
	lot 8	13.42
	lot 14	13.28
	lot 15	40
	lot 16	40
	lot 17	40
	lot 19	26.87
	lot 20	40
Tract 64	lot 11	26.58
	lot 12	40
Tract 65	lot 1	40
	lot 2	26.43
Tract 66	lot 13	26.72
	lot 18	13.13
	SW1/4SW1/4	40
		600
	section 34	
Tract 64	lot 6	13.55
Tract 65	lot 3	13.62

	lot 4	40	
	lot 5	40	
Tract 66	lot 7	26.45	
	lot 8	40	
	lot 9	13.46	
Tract 67	lot 1	40	
	lot 2	26.38	
	lot 10	26.54	
	lot 11	40	
		320	
	section 35		
	lot 4	13.62	
	lot 5	13.46	
		27.08	
	Township 16 South	Range 10 East	
	section 19		
Tract 60	lot 8	7.39	
	lot 9	32.3	
	lot 3	40.04	
	lot 4	40.03	
	lot 5	40.03	
	lot 6	40.02	
	lot 7	32.62	
	lot 10	7.7	
	NE1/4	160	
	E1/2NW1/4	80	
	NE1/4SW1/4	40	
	N1/2SE1/4	80	
	SE1/4SE1/4	40	
		640.13	
	Township 17 South	Range 9 East	
	section 1		
	lot 5	23.27	East of the wilderness boundary
	lot 9	30.81	East of the wilderness boundary
	lot 10	18.48	North of the wilderness boundary
		72.56	
	section 2		
	lot 8	34.23	North of I-8 Eastbound
		34.23	

section 3		
lot 5	34.5	
	34.5	
section 4		
lot 6	34.74	
lot 7	34.62	
	69.36	
Township 161/2 South	Range 91/2 East	
section 1		
lot 5	40	
lot 6	40	
lot 7	40	
lot 8	40	
S1/2N1/2	160	
S1/2	320	
	640	
section 2		
lot 1	27.9	
lot 2	27.83	
lot 3	2.77	
lot 4	4	
lot 5	40	
lot 6	40	
lot 7	2.7	North of the Wilderness Boundary
S1/2NE1/4, SE1/4	124.06	East of the Wilderness Boundary
	269.26	
Township 17 South	Range 10 East	
section 5		
lot 4	39.78	
	39.78	
section 6		
lot 1	39.73	
lot 2	31.55	North of the Wilderness Boundary
lot 3	36.56	North of the Wilderness Boundary
	107.84	

Mine Road ROW		
	Jiminez Lane Portion:	
	Township 16 South	Range 9 East
	section 15	
	lot 4	40
	lot 5	40
	lot 6	40
		120
	section 16	
Tract 37	lot 3	40
	lot 4	26.14
	lot 5	26.19
		92.33
	section 22	
Tract 50	lot 2	N/A
	lot 3	N/A
	lot 4	N/A
Tract 51	lot 1	N/A
		N/A
	section 23	
	lot 1	N/A
	lot 2	N/A
	lot 3	N/A
	lot 4	N/A
	NE1/4NE1/4	N/A
		N/A
	Ocotillo Bypass Portion:	
	Township 16 South	Range 9 East
	section 24	
	lot 1	N/A
	lot 2	N/A
	lot 3	N/A
	N1/2	N/A
		N/A
	Township 16 South	Range 10 East
	section 19	
	lot 5	N/A

	lot 6	N/A	
	lot 7	N/A	
	lot 8	N/A	
		N/A	
	section 30		
	lot 8	19.62	
	lot 9	3.72	
	lot 10	3.6	
	lot 11	19.7	
	lot 19	19.78	
	lot 20	3.48	
	lot 21	12.35	
	lot 22	10.87	
		93.12	
Private Land - Project ROW			
	Township 16 South	Range 9 East	
	section 27		
	lot 23	26.29	
		26.29	
Private Land - Mine Road ROW			
	Township 16 South	Range 10 East	
	section 31		
Tract 63	lot 4	20.27	North of Highway 80
		20.27	
Private Land - Collection System ROW			
	Township 16 South	Range 9 East	
	section 34		
	lot 16	40	
	lot 17	40	
	lot 18	40	
	lot 19	13.14	
	lot 20	26.86	
	lot 21	40	
		200	
	section 35		
	lot 12	13.3	
	lot 13	13.14	
Tract 68	C	40	

	D	40
Tract 69	A	40
	B	40
	C	40
	D	40
		266.44

APPENDIX C PLAT MAPS (IMPERIAL COUNTY)