

# ENVIRONMENTAL INITIAL STUDY

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Fountain Wind Project  
Pacific Wind Development, LLC

June 28, 2018

ENVIRONMENTAL INITIAL STUDY  
with  
References and Documentation

Prepared by Stantec and Pacific Wind Development, LLC in co-ordination with and for  
SHASTA COUNTY DEPARTMENT OF RESOURCE MANAGEMENT  
PLANNING DIVISION  
1855 Placer Street, Suite 103  
Redding, California 96001

# SHASTA COUNTY ENVIRONMENTAL CHECKLIST FORM

- 1. Project Title:**  
Fountain Wind Project (UP16-007)
- 2. Lead agency name and address:**  
Shasta County Department of Resource Management, Planning Division  
1855 Placer Street, Suite 103  
Redding, CA 96001-1759
- 3. Contact Person and Phone Number:**  
Lio Salazar, AICP, Senior Planner, (530) 225-5532
- 4. Project Location:**  
The Project would be located west of the existing Hatchet Ridge Wind Farm, approximately 6 miles west of Burney, 5 miles northeast of Redding, and immediately north and south of State Route 299 East.
- 5. Applicant Name and Address:**  
Kristen Goland, Pacific Wind Development, LLC  
1125 NW Couch Street, Suite 700  
Portland, OR 97209
- 6. General Plan Designation:**  
Timber (T)
- 7. Zoning:**  
Timber Production (TP) and Unclassified (U)
- 8. Description of Project:**  
The Fountain Wind Project (Project) will consist of up to 100 wind turbines and associated infrastructure, with a nameplate generating capacity of up to approximately 347 megawatts. The Project will be located on 76 Assessor parcels totaling approximately 30,532 acres. In addition to the wind turbines and associated transformers, the Project includes ancillary facilities such as lay-down areas, access roads, underground and overhead collector lines, an operation and maintenance building, and substation components. See Section 1.0 for a complete description of the proposed Project.
- 9. Surrounding Land Uses and Setting:**  
The Project will be entirely within privately owned lands which are currently and would continue to be operated as managed forest timberlands. An approximately 64,000-acre (100 square miles) burn scar from the Fountain Fire, which impacted the area in 1992, coincides with northern portions of the Project area. The Lassen National Forest is adjacent to the southeast; other surrounding lands are privately owned. Communities in the vicinity of the Project include Burney, Moose Camp, Hillcrest, Wengler, Montgomery Creek, and Round Mountain.
- 10. Other public agencies whose approval is required (e.g., permits, financing approval, or participation agreement):**  
See Section 1.6 for a list of local, state, and federal permits/approvals expected to be required. See Appendices B and C for agencies preliminarily consulted or notified.
- 11. Have California Native American tribes traditionally and culturally affiliated with the project area requested consultation pursuant to Public Resources Code section 21080.3.1? If so, has consultation begun?**  
No formal consultation request was received in response to a letter sent to the Pit River Tribe on December 8, 2017.

**NOTE: Conducting consultation early in the CEQA process allows tribal governments, lead agencies, and project proponents to discuss the level of environmental review, identify and address potential adverse impacts to tribal cultural resources, and reduce the potential for delay and conflict in the environmental review process. (See Public Resources Code section 21083.3.2.) Information may also be available from the California Native American Heritage Commission’s Sacred Lands File per Public Resources Code section 5097.96 and the California Historical Resources Information System administered by the California Office of Historic Preservation. Please also note that Public Resources Code section 21082.3(c) contains provisions specific to confidentiality.**

**ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED:**

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact" as indicated by the checklist on the following pages.

<input checked="" type="checkbox"/>	Aesthetics	<input checked="" type="checkbox"/>	Agricultural & Forestry Resources	<input checked="" type="checkbox"/>	Air Quality
<input checked="" type="checkbox"/>	Biological Resources	<input checked="" type="checkbox"/>	Cultural Resources	<input checked="" type="checkbox"/>	Geology / Soils
<input checked="" type="checkbox"/>	Greenhouse Gas Emissions	<input checked="" type="checkbox"/>	Hazards & Hazardous Materials	<input checked="" type="checkbox"/>	Hydrology / Water Quality
<input checked="" type="checkbox"/>	Land Use / Planning	<input type="checkbox"/>	Mineral Resources	<input checked="" type="checkbox"/>	Noise
<input type="checkbox"/>	Population / Housing	<input checked="" type="checkbox"/>	Public Services	<input type="checkbox"/>	Recreation
<input checked="" type="checkbox"/>	Transportation / Traffic	<input checked="" type="checkbox"/>	Tribal Cultural Resources	<input checked="" type="checkbox"/>	Utilities / Service Systems
<input checked="" type="checkbox"/>	Mandatory Findings of Significance				

**DETERMINATION: (To be completed by the Lead Agency)**

On the basis of the initial evaluation:

- I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.
- I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.
- I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.
- I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.
- I find that although the proposed project could have a significant effect on the environment because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Copies of the Initial Study and related materials and documentation may be obtained at the Planning Division of the Department of Resource Management, 1855 Placer Street, Suite 103, Redding, CA 96001. Contact Lio Salazar, AICP, Senior Planner at (530) 225-5532.

  
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 Lio Salazar, AICP  
 Senior Planner

June 28 2018  
 \_\_\_\_\_  
 Date

  
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 Richard W. Simon, AICP  
 Director of Resource Management

June 28, 2018  
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 Date

## **1.0 PROJECT DESCRIPTION**

The Fountain Wind Project (Project) is a renewable wind energy generation development to be constructed and operated in eastern Shasta County, California, by Pacific Wind Development, LLC (PWD or Applicant), a subsidiary of Avangrid Renewables, LLC. The Project would consist of wind turbines and associated infrastructure, with a nameplate generating capacity of up to approximately 347 megawatts (MW).<sup>1</sup> The Project would be located west of the existing Hatchet Ridge Wind Farm, approximately 6 miles west of Burney, 35 miles northeast of Redding, and immediately north and south of California State Route 299 (SR 299; see Figure 1). It would be constructed within an area of approximately 30,532 acres of private land, distributed over 76 tax assessor parcels, owned by Shasta Cascades Timberlands, LLC.

The lands underlying the Project are zoned as Timber Production (TP) and Unclassified (U) under the Shasta County Zoning Plan. Shasta County Code (SCC) Section 17.08.030(D) pertains to the TP district and allows, with approval of a use permit, the construction of “gas, electrical, water, or communication transmission facility, or other public improvements, in accordance with Government Code Section 51152.” Per SCC Section 17.64.040, a wind energy system is allowed with approval of a use permit in the U district as long as it is not otherwise prohibited by law and not inconsistent with any portion of the General Plan<sup>2</sup>. Per SCC Section 17.88.035, a Use Permit is required in all districts for wind energy systems which do not meet the definition of “small wind energy system,” defined as being greater than 50 kilowatts in size. Consistency with the General Plan is further discussed in Section 2.10.

The Project would consist of up to 100 turbines, each having a generating capacity of 2 to 4 MW. The Project would also include ancillary facilities such as construction laydown areas, temporary batch plant(s) - if needed, access roads, underground and overhead collector lines, an operations and maintenance (O&M) facility, storage sheds, and substation components. The Project layout presented in Figure 2 represents proposed locations of Project infrastructure. PWD is currently conducting a number of environmental studies to collect additional site condition information (ongoing and anticipated studies are described in Section 3.0). Information gained from these studies will be used to further refine the Project layout, as appropriate, to avoid and minimize environmental impacts and meet project objectives.

### **1.1 Project Location and Existing Site Conditions**

PWD has a long-term lease of approximately 30,532 acres with Shasta Cascade Timberlands, LLC for construction and operation of the Project. This leased area is hereafter referred to as the Project area. However, all proposed Project activities would occur within the Project site, a smaller area which is currently being studied. The Project site constitutes survey corridors for the Project within which all ground-disturbing activities, both permanent and temporary, would occur and which would be occupied by permanent Project facilities.

The Project area is located in the southern end of the Cascade Range and is within the Cascades Ecological Region (USEPA 2013), which is a Level III ecoregion primarily covering parts of Oregon and Washington but also including a discontinuous land area near Mt. Shasta in California. This ecoregion is characterized by underlying volcanic rock strata and a physiography defined by recurring periods of glaciation. With high plateaus and valleys that trend east-west, this ecoregion includes steep ridges as well as both active and dormant volcanoes, and is marked by a generally mesic, temperate climate which supports productive coniferous forests. At higher elevations, subalpine meadows may occur that support unique flora and fauna. The Project area is characterized by a number of buttes and peaks separated by small valleys formed by a number of tributaries in the Pit River and Cow Creek Watersheds. Significant waterways within the Project area include the north and south forks of Montgomery Creek and Little Cow Creek. Elevations within the Project area range from approximately 3,000 to 6,600 feet.

Land ownership within the Project area is exclusively private, consisting of managed forest timberlands. An approximately 64,000-acre (100 square miles) burn scar from the 1992 Fountain Fire, which impacted the northern portions of the Project area. The Lassen National Forest lies adjacent to the southeast; other surrounding lands are privately owned. Communities in the vicinity of the Project include Burney, Moose Camp, Hillcrest, Wengler, Montgomery Creek, and Round Mountain. State Route 299 East bisects the Project area with the majority of the Project area (23,791 acres) located south of the highway. The Project area is accessible via several existing named and unnamed private roads extending from SR 299 East (Figure 2).

## 1.2 Project Overview

This section provides an overview of each of the Project facilities. These include:

- Up to 100 turbines erected on tubular steel towers set on concrete foundations, with associated turbine pads, laydown areas, and potentially (based on turbine model) pad mounted transformers;
- A 34.5-kilovolt (kV) overhead and underground electrical collector system linking each turbine to the next and to the onsite collector substation;
- An overhead and underground communication system (fiber optic cabling) adjacent to the electrical collector system;
- An onsite collector substation and switching station for connecting the Project to the existing Pacific Gas and Electric Company (PG&E) transmission line;
- Access roads, consisting of existing and new roads;
- A temporary, 10-acre construction and equipment laydown area, construction trailer area, and associated parking area;
- Seventeen temporary, 2-acre laydown areas distributed throughout the Project site;
- An O&M facility including an operations building and outdoor storage area;
- Permanent meteorological (MET) towers and one Sonic Detection and Ranging unit or one Light Detection and Ranging unit;
- Storage sheds; and
- Temporary batch plant(s) - if needed.

Typical dimensions and disturbance areas for each Project component are provided in Table 1-1. The proposed Project layout is shown in Figure 2.

**Table 1-1. Project Facilities and Disturbance Areas**

<b>Project Component</b>	<b>Quantity</b>	<b>Typical Area of Construction Soil Disturbance (Total)</b>	<b>Typical Area of Permanent Disturbance (Fill/Structures/Grading)<sup>1</sup></b>
Turbines and pads (incl. construction laydown areas)	Up to 100	5 acres per turbine	2.5 acres per turbine <sup>2</sup>
Underground electrical collector system <sup>3</sup>	Up to 56 miles	50-foot-wide per linear foot	30-foot-wide corridor maintained clear of large vegetation where it deviates from paralleling access roads
Overhead electrical collector line (including roads for construction, pull points, and pole construction) and 2-track road to access during operations <sup>4</sup>	Up to 16 miles	100-foot-wide per linear foot	50-foot-wide right-of-way per linear foot cleared of large vegetation
Onsite collector substation and switching station	1	25 acres	collector substation – 5 acres switching substation – 15 acres
Access roads (includes crane roads) <sup>5</sup>	Up to 21 miles of new roads Current layout shows 87 miles of existing roads that may potentially be used	40.0-foot-wide per linear foot drivable surface and nominally 80.0-foot-wide for construction clear area	20-foot-wide per linear foot with a 1-foot shoulder on both sides and nominally up to an additional 6-feet on either side where required for storm water drainage design
O&M facility	1	5 acres	5 acres, with 5,460-square foot O&M Building
Operations storage sheds	2	NA (located in temporary laydown areas)	0.5 acres

**Table 1-1. Project Facilities and Disturbance Areas**

<b>Project Component</b>	<b>Quantity</b>	<b>Typical Area of Construction Soil Disturbance (Total)</b>	<b>Typical Area of Permanent Disturbance (Fill/Structures/Grading)<sup>1</sup></b>
Temporary construction and equipment area, construction trailer area, and associated parking area	1	10 acres	0.0 acres
Temporary laydown areas	17	2 acres per laydown area	0.0 acres
Temporary batch plant, if necessary	2	3 to 5 acres	0.0 acres
MET towers	2	1 acre per structure	0.1 acres
<b>Anticipated Total Construction Disturbance 2,167 acres</b>			
<b>Anticipated Total Permanent Disturbance 972 acres</b>			
<sup>1</sup> Permanent impact acreages are a subset of total impacts. <sup>2</sup> Includes defensible fire space around each turbine. <sup>3</sup> Portions of the electrical collector system would be within the access road construction buffer; no additional permanent impacts would occur in these areas. Note that acreage includes co-located underground communications system (cabling) <sup>4</sup> For impact calculations assumed a 7-foot-wide corridor centered on the transmission line; actual impacts would be less and limited to pole and pull site locations. Note that acreage includes co-located overhead communications system (cabling) <sup>5</sup> Acreage includes both existing and new road segments.			

### 1.2.1 Wind Turbines

PWD is currently considering a range of turbine models from leading manufacturers, varying in generating capacity and dimensions. Models selected for the project would in combination meet the desired approximately 347 MW nameplate generating capacity of the Project. The final turbine model and specific number of turbines will be selected based on availability at time of construction, conformance with PG&E grid requirements, onsite wind resources, and other Project-specific factors.

The turbines would be three-bladed, horizontal-axis models, meaning that the rotor shaft and nacelle, which houses the electrical generator, are mounted at the top of a tubular tower, and must be pointed into the wind. Turbine towers would be mounted on a concrete pedestal supported by a permanent concrete foundation. Turbine models being considered range in height; however, none will exceed a maximum height at the top of the blade of 591 feet above ground level. Turbine dimensions representative of models under consideration are shown in Figure 3. Each turbine will require a step-up transformer which would either be housed within the turbine nacelle or approximately 5 feet from the tower foundation on a reinforced concrete box pad, approximately 9 by 9 feet.

A Federal Aviation Administration (FAA) approved lighting plan would be developed for the Project. This plan would specify the installation of flashing red lights on designated turbines and met towers to improve nighttime visibility for aviation.

A temporary construction work area, or turbine pad, would be cleared and graded for each turbine. Work areas vary in size, and would be constructed differently in keeping with each turbine site’s topography. A typical turbine pad is shown in Figure 4. Although turbine pad size and configuration would vary depending on terrain, each turbine pad would require an approximately 200-foot by 250-foot area that is cleared and leveled to approximately 2 percent slope or less. The cleared area is necessary for foundation excavation and construction, assembling the turbine, and also to stage the construction crane which would hoist turbine sections into place. Additional area would be needed for rotor assembly depended upon site conditions and installation. The turbine construction area would not be paved. A compacted-soil crane pad would be located within the 200-foot by 250-foot turbine pad area; however, the actual crane pad size and location would be determined by the contractor in the field. The crane pad would provide a soil bearing capacity designed to provide a stable foundation for the crane and would be left in place post construction.

Turbine foundations will likely be spread footing and specifically designed as determined by geotechnical investigations. Spread footings, would be primarily buried underground to a depth of approximately 10 to 15 feet with a pedestal extending approximately 1 foot above ground. The base would be approximately 50 to 80 feet in diameter, depending on the turbine

model selected. Prior to finalizing the location of each turbine, soil borings would be collected to verify soil and rock characteristics to an approximately 50-foot depth to ensure sufficient soil strength and bearing capacity to provide a stable foundation for the turbine.

Once construction is completed, a permanent 15-foot gravel ring would be placed around the base of the foundation. The gravel would provide a stable surface area for maintenance vehicles, and would minimize surface erosion and runoff. All temporarily impacted areas would be replanted with non-aggressive resident species that are compatible with wind farm operations, replacing timber stock for future production where appropriate and with native, slow-growing shrubs and hardwoods elsewhere. This would be conducted in accordance with the Shasta County Fire Department, per a project-specific Fire Management Plan developed in concert with the Shasta County Fire Department.

### **1.2.2 Electrical Collector System and Communications System**

Power generated by the turbines would be collected by an electrical collector system which would consist of both aboveground and underground 34.5-kV power lines. This system would feed into an onsite collector substation, which would step up the voltage and transmit the power to the point of interconnect with the PG&E transmission system. The majority of the collector system would be located underground and installed adjacent to the onsite access road bed where possible. Where necessary, portions of the collector system would be above ground to transmit power that would otherwise require multiple underground cables, respond to construction challenges or to avoid environmental impacts. These include:

- Corridors where it is necessary to transmit more than 20 to 25 MW, which exceeds the capability of an underground cable.
- Steep terrain, where the use of backhoes and trenching machines is infeasible or unsafe;
- Stream and wetland crossings, where an aboveground line can avoid or minimize environmental impacts;
- The presence of cultural resources, where an aboveground line can avoid or minimize impacts; and
- The presence of soils with low thermal conductivity (preventing adequate heat dissipation from the conductor) or rocky conditions that significantly increase trenching costs.

For the underground portions of the electrical collector system, cables would be directly buried in trenches and would terminate at individual turbines, at locations where they connect to junction boxes, overhead power lines, or at the onsite substation. Depending on the subsurface conditions, the need for blasting is not expected but may be required to install the trenches. Each trench would contain power cables, a ground wire, a fiber optic communication cable for the Supervisory Control and Data Acquisition (SCADA) system (to transmit data from the turbine controllers to the onsite substation and O&M facility) and a marker tape above the cables to alert anyone digging in the area. Although designs have not been finalized, PWD anticipates that the underground collector cable system would be placed within a 46-inch-deep and at least 12-inch-wide cable trench generally located along the length of the proposed turbine access roads. Typical cable trench details used for construction of the underground electrical system are shown in Figure 5.

Where the underground collector system would be co-located with access roads no additional ground disturbance would occur in association with construction of the underground electrical collection system (i.e., disturbance is accounted for in association with the access roads). In areas where the underground collector system trenches are not able to be co-located with access roads, up to a 50-foot-wide temporary disturbance area would be required. Underground portions of the collector system would have no permanent impacts; however, a 30-foot-wide corridor would be maintained clear of large vegetation where underground collector lines deviate from paralleling access roads.

Above ground portions of the electrical collector system would have a maximum pole height of 90 feet and wire heights ranging from 20 to 30 feet above the ground unless special circumstances warrant different clearances. This will not be known until final construction drawings are completed. Clearing for installation of the overhead collector line would require a temporary workspace consisting of an approximately 100-foot-wide corridor centered on the overhead line, within which a 50-foot-wide corridor would remain permanently disturbed with low vegetation and two track access for maintenance. However, actual permanent impacts would be considerably less, limited to individual pole locations. PWD would design all



aboveground collector lines in accordance with the Avian Protection Plan Guidelines prepared by the U.S. Fish and Wildlife Service (USFWS; USFWS 2005) and the Edison Electric Institute's Avian Power Line Interaction Committee (APLIC 2012). All temporarily impacted areas would be replanted with non-aggressive resident species that are compatible with wind farm operations, such as short, native, slow-growing shrubs. A Habitat Restoration Plan and Vegetation Management Plan will be developed prior to construction. Typical overhead electrical collector pole design is shown in Figure 6.

### **1.2.3 Onsite Collector Substation and Switching Station**

The onsite collector substation and switching station would increase the voltage of the electricity from the 34.5 kV collection system voltage to 230 kV, the same voltage as the existing PG&E 230-kV line. The switching station would be co-located with the substation and would facilitate the interconnection of the Project's electricity to the PG&E transmission line. Approximately 25 acres would be needed for construction of the substation and switching station. The final permanent footprint of the substation and switching station site would be approximately 5 acres for the collector station and 15 acres for the switching station and consist of a graveled area, fence, and parking area for maintenance vehicles.

### **1.2.4 Access Roads**

Access to the Project site would be provided from SR 299 onto existing logging roads. Internal Project access would be facilitated by the addition of new roads and the use of existing, privately owned logging roads, which would be improved as needed and widened to meet construction and maintenance activity requirements. Existing roads will be used to the extent possible. For the purpose of estimating maximum potential impacts, this discussion assumes the same level of disturbance for all Project access roads.

During construction, select portions of existing roads within the Project site would be widened to, and new access roads would be constructed to, approximately 40-foot drivable surface with 20 feet on each side for cut, fill, and construction, for a nominal 80-foot-wide total disturbance area. The road surface would be a graded and graveled all-weather surface. Based on the preliminary layout shown in Figure 2, PWD anticipates road modifications would be needed for portions of private logging roads off of SR 299, to accommodate turbine component delivery and other large delivery trucks, potentially including cranes and other heavy construction equipment. However, the road layout may be modified as the Project design is refined to maximize use of existing roads.

As required, existing culverts would be replaced with wider or stronger culverts. For both new and existing roads, drainage improvements would be made in accordance with the Project's erosion control plan pursuant to the Project's National Pollution Discharge Elimination System (NPDES) permit. Figures 7a and 7b show typical road designs. For more information on cut and fill, grading, blasting and culvert locations see Section 1.3.

During operation, service vehicles and equipment would continue to use Project access roads for routine maintenance activities. Permanent access road widths would be reduced to 20-foot-wide drivable surface with a 1-foot shoulder on both sides and nominally up to an additional 6-feet on either side where required for stormwater drainage design. However, in areas where significant cuts and fills were required to construct the road, permanent disturbance may be as wide as 60 feet to accommodate stormwater controls and road design. Permanent access roads would be maintained through periodic grading and compacting to minimize naturally occurring erosion. Catch basins, roadway ditches, and culverts would be cleaned and maintained regularly.

### **1.2.5 Temporary Construction and Equipment Area, Construction Trailer Area, Associated Parking Area, and O&M Facility**

The temporary construction and equipment area, construction trailer area, and associated parking area would consist of an approximately 10-acre compacted gravel pad on a cleared and graded footprint (Figure 2). During construction, this area would be used to store large equipment and materials, to refuel equipment, and to collect and temporarily store construction waste. It would also serve to provide temporary parking, construction office space, and temporary (portable) sanitary facilities. Refueling of construction vehicles would be accomplished by a vendor supplied fuel truck making daily or weekly deliveries to approved storage tanks. It would not be practical to remove construction equipment from the wind farm site for refueling and general maintenance such as changing fluids and lubricating parts; therefore, these activities would take

place onsite and some fuel will be stored onsite. Following construction, portions of the construction staging and equipment laydown area not used for permanent O&M facilities would be restored to pre-construction conditions through the removal of gravel and replanted with non-aggressive resident plant species that are compatible with Project operation, replacing timber stock for future production where appropriate and with native, slow-growing shrubs and hardwoods elsewhere.

The O&M facility and its associated storage yard and parking area would consist of a permanent 5-acre area which may be located near the SR 299 (Figure 2). Figure 8a, 8b, and 8c include a typical plan and profile of the O&M building. During Project operation, large equipment required for maintenance could be staged in the O&M storage yard.

Water for the O&M facility may be supplied by the installation of a domestic well, or by a water storage tank installed at the building with water periodically transported to the tank. Any efforts to install a domestic well would be conducted in accordance with the rules and regulations of the Shasta County Department of Resource Management's Environmental Health Division. Wastewater from the O&M facility would be processed using an on-site septic system. This system would conform to all County design standards and specifications to avoid impacts on ground- or surface waters.

### **1.2.6 Temporary Laydown Areas**

Construction activities would require 17 two-acre laydown (staging) areas, located throughout the Project site to store and stage building materials and equipment. The laydown areas may be graveled depending upon site soil conditions. The temporary laydown areas would be removed upon completion of construction and replanted with non-aggressive resident species that are compatible with wind farm operations, replacing timber stock for future production where appropriate and with native, slow-growing shrubs and hardwoods elsewhere. Location of the staging areas will be based on further refinement of the site layout.

### **1.2.7 Temporary Wind Resource Remote Sensing Devices**

Doppler effect instruments would be temporarily placed within the Project site to supplement wind resource data gathered by permanent meteorological towers (see following section). These ground-based instruments record ranges of wind resources using laser-based light detection and ranging (LiDAR) and sound detection and ranging (SODAR). Instruments, which are mounted to trailers and which would be transported to the Project site by pick-up truck, would be removed prior to construction.

### **1.2.8 Permanent Meteorological Towers**

Two permanent MET towers would be constructed in the Project site, and existing temporary MET towers would be removed. These towers support instruments that measure and record weather data to assess performance of turbines and guide Project operation. The MET towers would be up to 316 feet tall (Figure 9). Permanent MET towers are typically at the hub height of the turbine selected. Permanent MET towers 200 feet or taller would comply with FAA lighting regulations. All new permanent meteorological towers would be freestanding structures without guy wires to minimize impacts on avian species.

In addition, trailer-mounted SODAR and LiDAR units may be deployed on the Project site to further study wind speed, direction, and turbidity. Both SODAR and LiDAR units are typically mounted on a small utility trailer and can easily be moved using a standard pickup truck. No ground disturbing activity would occur during SODAR and/or LiDAR deployment or use.

## **1.3 Construction Activities**

### **1.3.1 Grading**

Ground-disturbing activities including clearing and grubbing, topsoil stripping, grading, compaction, utility trenching, and placement of aggregate surfacing would occur during the construction of the Project. Grading activities would consist of the removal, storage, and/or disposal of earth, gravel, vegetation, organic matter, loose rock, and debris. The cut and fill required for the Project would be balanced to the extent possible, to minimize the amount of materials that would need to

be brought onto or removed from the site. Estimates of cut and fill cannot be determined until engineering for construction has been undertaken.

A site-specific Storm Water Pollution Prevention Plan (SWPPP) would be prepared for the Project. The SWPPP would identify best management practices (BMPs) that would be used to minimize or eliminate the potential for sediments and pollutants to reach surface waters through storm water runoff. To minimize impacts associated with soil erosion, PWD would prepare a Temporary Erosion and Sediment Control (TESC) Plan that would be implemented by the construction contractor. The TESC Plan would include standard storm water BMPs to reduce the risk of erosion.

To the extent practicable, the Project would maintain the local surface drainage patterns. New Project access roads would be designed to follow natural contours and minimize side hill cuts to the extent possible and would include other BMP such as ditches and culverts to capture and convey storm water runoff. Additionally, with the exception of areas where permanent surface recontouring is required, disturbed areas would be restored to pre-existing grades and all disturbed areas where permanent gravel or aggregate is not required would be revegetated. These measures would reduce the potential for erosion and adverse effects on drainage patterns.

In rocky areas, blasting may be necessary to loosen rock before excavation. If blasting is necessary, a Blasting Plan would be prepared to identify the locations that are anticipated to require blasting. All applicable federal, state, and local regulations for blasting procedures would be identified in the Blasting Plan and would be followed. Explosives would only be used within specified times and at specified distances when the work is located within or nearby sensitive habitat areas.

### **1.3.2 Transportation of Turbine Components**

Turbine components may be transported to the Project area by highway transportation and assembled on site. Each turbine would require multiple deliveries. The specifics of these deliveries would depend upon the final turbine model selected; however, PWD anticipates that each turbine would require up to 15 separate loads, of equipment and materials to its pad, of which eight or nine would be oversized or superloads transporting turbine components. Towers are generally delivered in three, four, or five sections (depending on turbine selected). Each turbine blade, nacelle, rotor, and down-tower components (e.g., controllers, ladders and platforms, pad-mount transformers, pad-mounted transformer vaults, and turbine switchgear) would be delivered separately. Deliveries would be made using transport vehicles that conform to road weight limits; any variances would be incorporated into permits submitted to the California Department of Transportation (Caltrans). A Traffic Assessment Report would be prepared prior to finalization of the Draft Environmental Impact Report.

### **1.3.3 Construction Schedule and Workforce**

The Project construction period is expected to last 18 to 24 months. Construction would be completed during daylight hours, typically from 7am to 5pm but may be earlier or later during the summer months. There may be other circumstances where these hours need to be extended earlier or later, such as during the delivery of superloads, and nighttime construction may occur to avoid traffic, adjust for high winds during daylight hours, and to facilitate schedule. The construction workforce is estimated to include up to 400 construction workers at any given time.

### **1.3.4 Construction Sequence**

During the initial phase of Project construction, access roads would be established. This includes the widening of existing access roads where necessary and construction of new access roads. Temporary staging and laydown areas would also be established to serve as temporary storage for the tower sections, nacelles, blades, and other Project components.

Turbine laydown areas would be cleared including an area of approximately 5 acres (depending on the terrain) at each turbine for the crane pad, construction laydown area, and rotor assembly area. Within the graded turbine laydown area, a gravel pad would be established for supporting a crane to be used to erect the towers and turbines. Prior to construction of the turbine foundations, soil samples would be collected during the pre-construction and construction geotechnical investigation to assist in determine site-specific turbine foundations to be utilized during final engineering.

Once the foundations are constructed, the turbines would be assembled and erected using a combination of forklifts and construction cranes, located on the compacted earthen or gravel crane pad. Construction equipment requiring access to these areas would include both wheeled and tracked vehicles. Cranes used to assemble the turbine components would be delivered to the wind farm site in multiple loads and assembled on site.

While turbines are being installed, construction of the substation, underground and overhead collection system, and O&M building would occur. Once all facilities are constructed, final testing would occur to ensure all systems are working properly and according to design. Also, as construction is completed, the temporarily used portions of the construction staging and equipment laydown areas, turbine pad laydown areas, and access roads would be restored to pre-construction conditions through the removal of gravel and replanted with non-aggressive resident plant species that are compatible with Project operation, replacing timber stock for future production where appropriate and with native, slow-growing shrubs and hardwoods elsewhere.

Throughout construction, erosion control procedures would be implemented in accordance with the NPDES permit and the associated SWPPP and TESC. A final site cleanup, including removal of all waste materials, would also be conducted.

### 1.3.5 Use of Hazardous Materials

Hazardous materials are required during construction and operation of wind energy generation projects. Table 1-2 summarizes materials typically used for such projects, with details about their use and typical quantities.

**Table 1-2. Hazardous Materials Associated with Typical Wind Energy Generation Projects**

Hazardous Material	Uses	Typical Quantities Present
Fuel: diesel fuel <sup>(a)</sup>	Powers most construction and transportation equipment during construction and decommissioning phases. Powers emergency generator during operational phase.	The Project estimate is over 5,000 gallons to be stored in aboveground tanks during construction. An unknown amount would be used during decommissioning. <sup>(b)</sup>
Fuel: gasoline <sup>(c)</sup>	Used for some construction equipment and transportation vehicles	Because of the limited number of construction and transportation vehicles utilizing gasoline, no onsite storage is likely to occur throughout any phase of the Project.
Fuel: propane <sup>(d)</sup>	Most probable fuel for ambient heating of the control building	Typically, 500 to 1,000 gallons stored in an aboveground propane storage vessel.
Lubricating oils/grease/hydraulic fluids/gear oils	Lubricating oil is present in some wind turbine components and in the diesel engine of the emergency power generator.	Limited quantities stored in portable containers (capacity of 55 gallons or less); maintained onsite during construction and decommissioning.
	Maintenance of fluid levels in construction and transportation equipment.	
	Hydraulic fluid is used in the rotor driveshaft braking system and other controls.	
	Gear oils and/or grease are used in the drivetrain transmission and yaw motor gears.	
Glycol-based antifreeze	Present in some wind turbine components for cooling (e.g., 5 to 10 gallons present in recirculating cooling system for the transmission).	Limited quantities (10 to 20 gallons of concentrate) stored onsite during construction and decommissioning.
	Present in the cooling system of the diesel engine for the emergency power generator.	Limited quantities (1 to 10 gallons of concentrate) stored onsite during operational phase.
Lead-acid storage batteries and electrolyte solution	Present in construction and transportation equipment.	Limited quantities of electrolyte solution (<20 gallons) for maintenance of construction and transportation equipment during construction and decommissioning.
	Backup power source for control equipment, tower lighting, and signal transmitters.	
Other batteries (e.g., nickel-cadmium batteries)	Present in some control equipment and signal-transmitting equipment.	No maintenance of such batteries is expected to take place onsite.

**Table 1-2. Hazardous Materials Associated with Typical Wind Energy Generation Projects**

Hazardous Material	Uses	Typical Quantities Present
Cleaning solvents	Organic solvents (most likely petroleum-based but not listed under the Resource Conservation and Recovery Act) used for equipment cleaning and maintenance.	Limited quantities (<55 gallons) onsite during construction and decommissioning to maintain construction and transportation equipment.
	Where feasible, water-based cleaning and degreasing solvents may be used.	Limited quantities (<10 gallons) onsite during operations.
Paints and coatings <sup>(e)</sup>	Used for corrosion control on all exterior surfaces of turbine towers.	Limited quantities for touch-up painting during construction (<50 gallons) and for maintenance during operations (<20 gallons).
Dielectric fluids <sup>(f)</sup>	Present in electrical transformers, bushings, and other electric power management devices as an electrical insulator.	Some transformers may contain more than 500 gallons of dielectric fluid. Onsite transformers each contain approximately 10,000 gallons of mineral oil.
Explosives	May be necessary for excavation of tower foundations in bedrock.	Limited quantities equal to only the amount necessary to complete the task.
	May be necessary for construction of access and/or onsite roads or for grade alterations.	Onsite storage expected to occur only for limited periods of time as needed by specific excavation and construction activities.
Herbicides	May be used to control vegetation around facilities for fire safety.	If deemed necessary, herbicides would likely be brought to the site and applied by a licensed applicator.
<p>Adapted from “Typical” windfarm equipment lists</p> <p>Notes:</p> <p><sup>a</sup> It is assumed that commercial vendors would replenish diesel fuel stored onsite as necessary.</p> <p><sup>b</sup> This value represents the total onsite storage capacity, not the total amount of fuel consumed (see footnote a, above). Onsite fuel storage during construction and decommissioning phases would likely be in aboveground storage tanks with a capacity of 500 to 1,500 gallons. Tanks may be of double-wall construction or may be placed within temporary, lined earthen berms for spill containment and control. At the end of construction and decommissioning phases, any excess fuel, as well as the storage tanks, would be removed from the site, and any surface contamination resulting from fuel handling operations would be remediated.</p> <p><sup>c</sup> Gasoline fuel is expected to be used exclusively by on-road vehicles (primarily automobiles and pickup trucks). These vehicles are expected to be refueled at existing offsite refueling facilities.</p> <p><sup>d</sup> Delivered and replenished as necessary by a commercial vendor.</p> <p><sup>e</sup> It is presumed that all wind turbine components, nacelles, and support towers would be painted at their respective points of manufacture. Consequently, no wholesale painting would occur onsite; only limited amounts would be used for touch-up purposes during construction and maintenance phases. It is further assumed that servicing of electrical devices that involves wholesale removal and replacement of dielectric fluids would not likely occur onsite and that equipment requiring such servicing would be removed from the site and replaced. New transformers, bushings, or electrical devices are expected to contain mineral oil-based, or synthetic dielectric fluids that are free of polychlorinated biphenyls. Some equipment may instead contain gaseous dielectric agents (e.g., sulfur hexafluoride) rather than liquid dielectric fluids.</p> <p><sup>f</sup> It is assumed that transformers, bushings, and other electrical devices that rely on dielectric fluids would have those fluids added during fabrication. However, very large transformers may be shipped empty and have their dielectric fluids added (by the manufacturer’s representative) after installation. It is further assumed that servicing of electrical devices that involves wholesale removal and replacement of dielectric fluids would not likely occur onsite and that equipment requiring such servicing would be removed from the site and replaced. New transformers, bushings, or electrical devices are expected to contain mineral oil-based, or synthetic dielectric fluids that are free of polychlorinated biphenyls. Some equipment may instead contain gaseous dielectric agents (e.g., sulfur hexafluoride) rather than liquid dielectric fluids.</p>		

## 1.4 Operations and Maintenance Activities

PWD anticipates employing up to 12 full-time employees upon commencing commercial operation of the Project. Technician staffing is commensurate with site needs which are primarily driven by turbine type. Operation and maintenance activities would generally occur during normal work day hours from Monday to Friday with call outs 7 days a week after normal business hours. Avangrid Renewables National Control Center located in Portland, Oregon would monitor and control the turbines through the SCADA monitoring system 24 hours a day, seven days a week. The system would perform self-diagnostic tests and allow a remote operator to set new operating parameters, perform system checks, and ensure turbines are operating at peak performance. Turbines would automatically shut down if sustained winds or gusts exceed predetermined maximum operating parameters.

On-site equipment during Project operation would include utility vehicles and other equipment that are necessary for operation and maintenance activities. Each turbine would be serviced periodically (e.g., twice a year), or as needed. Typical turbine servicing activities may include temporarily deploying a crane within the construction easement of each turbine, removing the turbine rotor, replacing generators, bearings, and deploying personnel to climb the towers to service parts within the turbine.

The Project would develop and implement a Fire Protection Plan (FPP) prior to construction and operation. The FPP will include emergency response and evacuation procedures that would include immediate reporting notification of local fire agencies. Staff would be equipped with fire suppression equipment, radio and cellular access, and pertinent telephone numbers for reporting a fire.

Environmental monitoring would be conducted in accordance with the approved mitigation and monitoring plan. This may include avian monitoring surveys and monitoring to ensure maintenance of erosion control measures.

The anticipated operational life of the Project is 40 years. After that time, PWD would evaluate whether to continue operation of the Project or to decommission it in accordance with the Decommissioning Plan.

## 1.5 Project Decommissioning

If, at the end of its anticipated life, the Project is decommissioned, the goal of decommissioning would be to remove the power generation equipment and return the site to a condition as close to its pre-construction state as possible. A Draft Decommissioning Plan would be prepared prior to operations. It is anticipated that requirements in effect at the time of decommissioning would require that all turbines and ancillary structures be removed from the site. The plan would be revised prior to the termination of the Shasta Cascades Timberlands, LLC land lease and implemented once the Project has ceased operation. The Final Decommissioning Plan would be developed in compliance with the standards and requirements for closing a site at the time decommissioning occurs.

When the facility is decommissioned, the turbine components would be removed from the site and the materials would be reused, recycled, or sold for scrap. Decommissioning activities are anticipated to have similar types of construction-related activities. Therefore, all management plans, BMPs, and stipulations developed for the construction phase of the Project would be applied to the decommissioning phase of the Project. Topsoil from all decommissioning activities would be salvaged and reapplied during final reclamation to the extent possible. Working with the land owner, all disturbed soil will be replanted with trees. The vegetation cover, composition, and diversity would be restored to values commensurate with the area’s ecological setting. A Decommissioning Plan will address the following procedures: facility dismantling and removal, site restoration, habitat restoration, monitoring and estimated costs.

## 1.6 Required Approvals and Permits

The county, state, and federal permits that may be required for the Project are listed in Table 1-3 below.

**Table 1-3. Approval and Permits Potentially Required for the Proposed Project**

Jurisdiction	Permit or Approval
County	Shasta County Use Permit
	Shasta County Building Division – building and grading permits
	Department of Resource Management Environmental Health Division – Hazardous Materials Business Plan
	Department of Resource Management Environmental Health Division—septic system permit
	Department of Resource Management Environmental Health Division—well permit
State	California Department of Forestry & Fire Protection—timberland conversion permit
	California Department of Transportation Division of Aeronautics—permit required per PUC Section 21656
	California Department of Fish and Wildlife (CDFW) Incidental Take Permit under California Environmental Species Act (CESA) Section 2081
	CDFW Notification of Lake or Streambed Alteration under Fish and Game Code Section 1602
	CDFW Lake or Streambed Alteration Agreement under Fish and Game Code Section 1603
	Shasta County Air Quality Management District Authority to Construct and Permit to Operate for proposed concrete batch plants
	California Regional Water Quality Control Board—NPDES General Construction Permit, CWA Section 401 Water Quality Certification

**Table 1-3. Approval and Permits Potentially Required for the Proposed Project**

<b>Jurisdiction</b>	<b>Permit or Approval</b>
Federal	Federal Energy Regulatory Commission—approval to be an Electric Wholesale Generator and to sell electricity at market-based rates
	Federal Aviation Administration—notice of proposed construction, includes Department of Defense screening for military flight path conflict
	USFWS Incidental Take Permit under Section 10 of the Federal Endangered Species Act
	Consultation under Section 106 of the National Historic Preservation Act of 1966 (NHPA) including the preparation of a Cultural Resources Report consistent with Section 106 of the NHPA and Section 15064.5 of California Code of Regulations related to CEQA and Historic Resources.
	US Army Corps of Engineers Nationwide or Individual permit under CWA Section 404

## 2.0 EVALUATION OF ENVIRONMENTAL IMPACTS

1. A brief explanation is required for all answers except “No Impact” answers that are adequately supported by the information sources a lead agency cites in the parenthesis following each question. A “No Impact” answer is adequately supported if all the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g., the project falls outside a fault rupture zone). A “No Impact” answer should be explained where it is based on project-specific factors as well as general standards (e.g., the project will not expose sensitive receptors to pollutants, based on a project-specific screening analysis).
2. All answers must take account of the whole action involved, including off-site as well as on-site, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.
3. Once the lead agency has determined that a particular physical impact may occur, then the checklist answers must indicate whether the impact is potentially significant, less-than-significant with mitigation, or less-than-significant. “Potentially Significant Impact” is appropriate if there is substantial evidence that an effect may be significant. If there are one or more, “Potentially Significant Impact” entries when the determination is made, an EIR is required.
4. Negative Declaration: “Less-than-significant With Mitigation Incorporated” applies where the incorporation of mitigation measures has reduced an effect from “Potentially Significant Impact” to a “Less-than-significant Impact.” The lead agency must describe the mitigation measures, and briefly explain how they reduce the effect to a less-than-significant level (mitigation measures from Section XVIII, “Earlier Analyses,” may be cross-referenced).
5. Earlier analyses may be used where, pursuant to the tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or Negative Declaration. Section 15063(c)(3)(D). In this case, a brief discussion should identify the following:
  - a) Earlier Analysis Used. Identify and state where they are available for review.
  - b) Impacts Adequately Addressed. Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.
  - c) Mitigation Measures: For effects that are “Less-than-significant with Mitigation Measures Incorporated,” describe the mitigation measures which were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project.
- 6) Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g. General Plans, zoning ordinances). Reference to a previously prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated.
- 7) Supporting Information Sources: A source list should be attached, and other sources used or individuals contacted should be cited in the discussion.
- 8) This is only a suggested form, and lead agencies are free to use different formats; however, lead agencies should normally address the questions from this checklist that are relevant to a project’s environmental effects in whatever format is selected.
- 9) The explanation of each issue should identify the following:
  - a) The significance criteria or threshold, if any, used to evaluate each question; and
  - b) The mitigation measure identified, if any, to reduce the impact to less-than-significant



<b>I. AESTHETICS:</b> Would the project:	Potentially Significant Impact	Less-Than-Significant With Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a) Have a substantial adverse effect on a scenic vista?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a State scenic highway?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

a) *Have a substantial adverse effect on a scenic vista?*

**Finding: Potentially Significant Impact**

The turbines, with heights of up to 591 feet, would be the primary source of long-term visual impact from the proposed Project. The turbines would be taller than the surrounding vegetation. Given the height of the turbines, their placement on ridgelines, and the rural nature of the Project area, the turbines would be visible from certain viewpoints. Views of the turbines from some viewpoints are expected to not be avoidable because of their size and exposed location. Visibility of the turbines would be blocked or partially obscured by topography in some locations, however, and could be diminished in other locations because of factors such as distance from viewers, the angle of observation, atmospheric conditions, and the presence of vegetation and/or structures. A viewshed analysis will be conducted to identify the areas from which at least a portion of one or more turbines would potentially be visible, based on line-of-sight conditions determined by topography.

In addition to the size, form, and color of the turbines, another source of visual contrast from the operation of the Project would be the introduction of motion into a static landscape. The oscillating motion of turbine blades often draws the eye of potential viewers and creates more contrast than does a static structure of similar size and form. Other Project facilities that would have relatively limited visual impact would be access roads, electrical collection and communication networks, substation and two permanent meteorological towers. These features would be much smaller and would generally create much less visual contrast than the turbines.

At nighttime, the substation and the turbines would be minimally lit in accordance with the FAA. This would create a new light source in the wind farm site. Much like the motion of the blades during daytime operations, the blinking safety lights can draw the attention of a casual observer.

Although the change in visual character is not anticipated to be significant, preliminary review merits further evaluation. Therefore, this potential impact will be fully analyzed and evaluated in the EIR. A Visual Resources Technical Report, to be incorporated into the EIR, will be prepared in Spring 2018.

b) *Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?*

**Finding: Potentially Significant Impact**

There are no roadways in or near the Project area that are designated in federal or state plans as a scenic highway or route worthy of protection for maintaining and enhancing scenic viewsheds. However, SR 89, located approximately 11 miles east of the Project area, and SR 44, located approximately 18 miles south of the Project area, are designated as Eligible State Scenic Highways. Also, Section 6.8, Figure SH-1 of Shasta County’s General Plan designates the Hatchet

Ridge Summit on SR 299 as a “Gateway or location that marks the entrance to a community of geographic area” (Shasta County 2004). Additionally, SR 299 from Bella Vista east to the Hatchet Ridge Summit gateway and SR 44 from Old Station to Millville is considered a “corridor in which the natural environment is dominant” and SR 299 from the Hatchet Ridge Summit gateway to Burney is a “corridor in which natural and manmade environment contrast” (Shasta County 2004).

The proposed Project would likely not be visible from the majority of the Hatchet Ridge Summit due to existing coniferous vegetation limiting views from SR 299; however, the proposed Project may be visible from viewpoints further away along SR 299 to both the east and west. The proposed Project may also be visible from certain viewpoints along SR 89. Further investigation and analysis will need to be conducted to assess the visibility of the proposed Project and to assess the potential impacts to the viewshed. Therefore, this potential impact will be fully analyzed and evaluated in the EIR. A Visual Resources Technical Report, to be incorporated into the EIR, will be prepared in Spring 2018.

- c) *Substantially degrade the existing visual character or quality of the site and its surroundings?*

**Finding: Potentially Significant Impact**

Given the height of the turbines, their placement on ridgelines, and the rural nature of the Project area, the turbines would be highly visible from certain viewpoints. Views of the turbines could not be avoided because of their size and exposed location. Visibility of the turbines would be blocked or partially obscured by topography in some locations, however, and could be diminished in other locations because of factors such as distance from viewers, the angle of observation, atmospheric conditions, and the presence of vegetation and/or structures. A viewshed analysis will need to be conducted to identify the areas from which at least a portion of one or more turbines would potentially be visible, based on line-of-sight conditions determined by topography. Therefore, this potential impact will be fully analyzed in the EIR. A Visual Resources Technical Report, to be incorporated into the EIR, will be prepared in Spring 2018.

- d) *Create a new source of substantial light or glare that would adversely affect day or nighttime views in the area?*

**Finding: Potentially Significant Impact**

Pursuant to 14 CFR 77, temporary or permanent structures higher than 200 feet above mean sea level or exceeding any obstruction standards should generally be marked or lighted. In compliance with FAA regulations, the turbines would be equipped with synchronized red flashing lights to satisfy FAA marking and lighting requirements.

Due to the nature of the proposed Project, views of the turbines and the resulting visual impacts are difficult to mitigate, though a few specific design standards will be implemented to reduce visual impacts to the extent practicable. Turbines and towers will be painted a uniform matte white or off-white as recommended by the FAA; the use of a matte finish would inhibit reflections or glare. No signs, writing, or advertising will be permitted on the turbines. The turbines will not be lighted with the exception of the synchronized red flashing lights to satisfy FAA marking and lighting requirements. Where lighting may be necessary elsewhere on the proposed Project, such as at the substation or O&M facility, lights will be shielded and directed downward and inward toward the facilities to prevent offsite glare.

A viewshed analysis will be conducted to identify whether nighttime views would potentially be affected from the turbines equipped with red flashing aviation lights. Therefore, this potential impact will be fully analyzed in the EIR. A Visual Resources Technical Report, to be incorporated into the EIR, will be prepared in Spring 2018.

<b>II. AGRICULTURE AND FORESTRY RESOURCES:</b> In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project:	Potentially Significant Impact	Less-Than-Significant With Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a) Convert Prime Farmland, Unique Farmland, or Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with existing zoning for agricultural use, or a Williamson Act Contract?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Result in the loss of forest land or conversion of forest land to non-forest use?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

a) *Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?*

**Finding: No Impact**

The majority of the Project area is considered Other Land by the Farmland Mapping and Monitoring Program (FMMP). A portion of the Project area near SR 299 East is designated by the FMMP as Grazing Land. The Project site does not contain land currently designated as prime, unique, or important farmland by the FMMP. Therefore, the proposed Project would not convert prime farmland, unique farmland, or farmland of statewide importance to nonagricultural use and there would be no impact which means that this impact will not be evaluated in the EIR.

b) *Conflict with existing zoning for agricultural use, or a Williamson Act contract?*

**Finding: No Impact**

Construction of an electric generating facility is allowed in the TP district with the issuance of a Use Permit. Based on the review of a 2006/2007 Shasta County Williamson Act map (California Department of Conservation 2017), the Project area is not currently under a Williamson Act Contract nor is it zoned for agricultural use by Shasta County. Consequently, the Project would not conflict with existing zoning for agricultural use or a Williamson Act Contract. Therefore, there would be no impact from the proposed Project and the impact will not be evaluated in the EIR.

- c) *Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?*

**Finding: Less Than Significant Impact**

Portions of the Project area are zoned for timberland production (TP). According to the Shasta County Zoning Ordinance, permitted uses for the TP zoning district generally consist of forest management practices including uses compatible with the growing and harvesting of timber. Construction of an electric generating facility is a conditionally-permitted use. The proposed Project would result in the permanent conversion of 972 acres of timberland to non-timberland use, if approved through the use permit process. Therefore, the proposed Project would not conflict with existing zoning or cause rezoning and would have a less than significant impact on timberlands zoned as Timber Production. As such, this impact will not be analyzed further in the EIR.

- d) *Result in the loss of forest land or conversion of forest land to non-forest use?*

**Finding: Potentially Significant Impact**

The proposed Project would result in permanent conversion of 972 acres of timberland to non-timberland use in the area where there is a permanent Project disturbance (i.e. the turbine pads, new access roads, O&M facility, and substation). The total leased area for the proposed Project is approximately 30,532 acres. All areas within the Project area boundary beyond the proposed Project's permanent disturbance or maintained vegetation would remain in timber production, and the proposed Project would coordinate with the landowner, Shasta Cascades Timberlands, LLC, to restore temporarily disturbed areas (approximately 2,167 acres) to timber harvesting use after proposed Project construction is complete. The precise location of turbines is not presently known. Upon determination of turbine sites, any trees requiring removal, or any tree(s) scheduled to be harvested during the construction period, would be harvested prior to initiation of construction activities in that location. Construction or operation of the proposed Project is not anticipated to affect timber harvesting activities outside of the temporary or permanent disturbance areas.

Due to the permanent loss of timberland to non-timberland use, this potential impact warrants further evaluation and will be analyzed in the EIR.

- e) *Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?*

**Finding: Potentially Significant Impact**

The proposed Project would result in permanent conversion of 972 acres of timberland to non-timberland use in the area where there is a permanent Project disturbance (i.e. the turbine pads, new access roads, O&M facility, and substation). The total leased area for the proposed Project is approximately 30,532 acres. All areas within the Project area boundary beyond the proposed Project's permanent disturbance or maintained vegetation would remain in timber production, and the Project would coordinate with the landowner, Shasta Cascades Timberlands, LLC, to restore temporarily disturbed areas (approximately 2,167 acres) to timber harvesting use after proposed Project construction is complete. The precise location of turbines is not presently known. Upon determination of turbine sites, any trees requiring removal, or any tree(s) scheduled to be harvested during the construction period, would be harvested prior to initiation of construction activities in that location. Construction or operation of the proposed Project is not anticipated to affect timber harvesting activities outside of the temporary or permanent disturbance areas.

The proposed Project area is partially zoned as a TP district in Chapter 17.08 of the Shasta County Zoning Ordinance. Uses permitted within the TP zoning district generally consist of forest management including the growing and harvesting of timber and uses compatible with the growing and harvesting of timber. Construction of an electric generating facility is allowed in the TP district with the issuance of a Use Permit. However, because this impact involves changes in the existing environment which could result in conversion of forest land to non-forest use, further evaluation will be required. Therefore, this impact will be analyzed in the EIR.

<b>III. AIR QUALITY:</b> Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:	Potentially Significant Impact	Less-Than-Significant With Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a) Conflict with or obstruct implementation of the applicable air quality plan?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable Federal or State ambient air quality standard (including releasing emission which exceed quantitative thresholds for ozone precursors)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Expose sensitive receptors to substantial pollutant concentrations?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) Create objectionable odors affecting a substantial number of people?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

a) *Conflict with or obstruct implementation of the applicable air quality plan?*

**Finding: Potentially Significant Impact**

The proposed Project would not be anticipated to conflict with or obstruct implementation of the Northern Sacramento Valley Planning Area 2015 Triennial Air Quality Attainment Plan as adopted by Shasta County, or any other applicable air quality plan. However, proposed Project emissions will need to be modeled to determine if the proposed Project would conflict with an existing air quality plan. Although there is the potential to conflict with the existing plan, previous preliminary evaluation for the Project indicates that any conflict is likely insignificant, however, the need for emissions modeling warrants further evaluation. Therefore, discussion of potential impacts the proposed Project would have on air quality plans will be evaluated in the EIR.

b,c,d,e) *b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation? c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors)? d) Expose sensitive receptors to substantial pollutant concentrations? e) Create objectionable odors affecting a substantial number of people?*

**Finding: Potentially Significant Impacts**

Construction of the proposed Project would result in the emission of some pollutants as well as the generation of fugitive dust. Heavy equipment (such as trucks, cranes, and earthmovers) would be required in order to construct the proposed Project. The internal combustion of fuels to power this equipment would generate green-house gases and air pollutants. In addition, soil disrupting activities associated with construction of the proposed Project may result in the generation of fugitive dust. Air pollutant emissions and fugitive dust levels would be highest near the proposed Project’s construction sites (where the majority of activities would occur); however, lower levels of emissions and fugitive dust would also occur along travel routes to and from the Project area. Operation of the proposed Project has the potential to impact air quality as some emissions would be produced via the internal combustion of fuels for vehicles used by the Project’s employees as well as some heavy equipment, such as cranes that may be required periodically for maintenance or repair of the proposed Project.

Construction and operation of the proposed Project would have a minor effect to air quality because proposed Project related emissions and increased fugitive dust levels would be temporary in nature, would occur at relatively low levels

compared to the State and Federal ambient air quality standards, and BMPs would be implemented to minimize the effects of these emissions. The Applicant would implement standard BMPs in order to avoid or minimize impacts to air quality. These include measures to limit fugitive dust generation, limit the risk of wildfires, and requirements to keep all equipment in proper working order.

Preliminary review merits further evaluation and possible mitigation. Therefore, these potential impacts will be fully analyzed and evaluated in the EIR.

<b>IV. BIOLOGICAL RESOURCES:</b> Would the project:	Potentially Significant Impact	Less-Than-Significant With Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a) Have a substantial effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local of regional plans, policies, and regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Have a substantial adverse effect on Federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community, Conservation Plan, or other approved local, regional, or State habitat conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

a,b) *a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service? b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?*

**Finding: Potentially Significant Impacts**

Construction of the proposed Project would result in temporary and permanent ground clearing and vegetation removal for installation of proposed Project facilities. Temporary disturbances would occur during construction of the underground and overhead electrical collection system, as well as in temporarily cleared areas around turbine pads, and construction staging and equipment laydown areas. Permanent ground disturbance includes a subset of the construction related disturbance where permanent facilities will be located including the O&M facility and associated parking and storage area, the substation and switching station, the permanently cleared areas around each turbine pad, met towers, and the permanent access roads.

Due to these temporary and permanent disturbances, the proposed Project may have direct or indirect (through habitat modifications) effects on candidate, sensitive, or special status species or on riparian habitat or other sensitive natural community identified in local of regional plans, policies, and regulations or by the California Department of Fish and Wildlife or USFWS. Wind energy projects pose particular potential risk to birds and bats and guidelines for reducing such impacts have been developed (California Energy Commission and California Department of Fish and Game, October 2007). A Site Characterization Study (SCS) will be conducted to assess the presence of habitat for species of concern at the landscape level, assess the potential for presence of plant and wildlife species of concern on the proposed

Project, assess the potential occurrence of areas that may be precluded from development, assess the potential presence of plant communities on the proposed Project that may provide habitat for wildlife species of concern, and assess the potential areas of wildlife concentrations within the proposed Project.

Based on information gathered during the SCS, and through consultation with the landowner biologist and agency representatives, sensitive species surveys for both wildlife and plants may be conducted if sensitive species (or their habitat) is identified within the proposed Project area. A Habitat Restoration Plan and a Vegetation Management Plan will be developed for the Project. Additionally, an Invasive Species Management Plan, as warranted, will be developed for implementation during construction of the proposed Project.

Preliminary review merits further evaluation. Therefore, these potential impacts will be fully analyzed and evaluated in the EIR. Additional studies related to biological resources that are either underway or which are anticipated to be available in time for incorporation into the EIR are: Biological Survey Report, Eagle Use Survey Report, Nest Survey Memo, and Bat Desktop Assessment Report. See Section 3.0 for anticipated timing of these studies.

On March 2, 2018, CDFW provided a response to Shasta County's Informal Consultation Request for the Use Permit for the proposed Project. Comments and recommendations in the letter refer to the forthcoming Project EIR and the studies and data that will inform analysis of baseline conditions and potential impacts. Specific reference was made to the Biological Resources Work Plan, which was developed to identify baseline biological studies to be conducted for the development of the Project, as well as additional special-status species and habitat surveys. Additional comments and recommendations, in general, referred to: additional special-status species and habitat surveys; evaluation of potential impacts to CESA-listed species (or plants or animals listed as endangered or threatened under CESA); avian surveys; rare plant and sensitive natural communities; and additional monitoring and studies related to wildlife and aquatic resources, among other issues. CDFW also requested review of biological studies conducted prior to release of the draft EIR for the Project. The letter is included among those received and attached in Appendix C. A formal response regarding the implications of CDFW's comments and recommendations for the Biological Resources Work Plan and the Project EIR will be prepared and provided to Shasta County.

- c) *Have a substantial adverse effect on federally protected wetlands, as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal wetlands, etc.), through direct removal, filling, hydrological interruption or other means?*

#### **Finding: Potentially Significant Impact**

The Federal Water Pollution and Control Act was initially established by the U.S. Congress in 1948 and revised significantly in 1972 when it became known commonly as the Clean Water Act (CWA). This act is intended to protect the quality of waters in the U.S., including the physical, chemical, and biological properties of these waters (CWA 1972). Waters protected under the CWA are not limited simply by navigability, as upstream waters, headwaters, and connected wetlands are known to impact the integrity of downstream navigable waters. The CWA thus plays an important role in controlling pollutants or sediments that may enter watersheds through varying means. The CWA is administered by the Environmental Protection Agency and the United States Army Corps of Engineers (USACE).

Due to the temporary and permanent disturbances described above, the proposed Project may have adverse effect on federally protected wetlands as defined by Section 404 of the CWA through direct removal, filling, hydrological interruption, or other means. The Applicant will conduct a desktop assessment of the waters, including wetlands, at the proposed Project, in order to inform preliminary design of the Project as well as a future field delineation of jurisdictional waters. The Applicant will communicate with the USACE, if necessary, in an effort to determine the potential occurrence of jurisdictional waters at the proposed Project and will also consult available public information sources such as the National Wetlands Inventory (NWI), which is operated by the USFWS. Additional resources may include examination of aerial imagery or U.S. Geological Survey (USGS) topographic maps. Therefore, discussion of potential impacts the proposed Project would have on federally protected wetlands will be evaluated in the EIR. A Wetlands and Waters Memorandum is anticipated to be completed in the second quarter of 2018.



- d,e) *d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites? e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?*

**Finding: Potentially Significant Impacts**

The project would not interfere with any native resident or migratory fish or wildlife species, nor impede the use of native wildlife nursery sites. Due to the temporary and permanent disturbances described above, the proposed Project may have adverse effect on wildlife species, migratory wildlife corridors, and other biological resources. The SCS will assess the presence of habitat for species of concern at the landscape level, assess the potential for presence of plant and wildlife species of concern on the proposed Project, assess the potential occurrence of areas that may be precluded from development, assess the potential presence of plant communities on the proposed Project that may provide habitat for wildlife species of concern, and assess the potential areas of wildlife concentrations within the Project.

In addition to the SCS, a number of baseline wildlife studies are planned in accordance with the USFWS Land-Based Wind Energy Guidelines (WEG; USFWS 2012) Tier 3 – Field Studies, to document wildlife and habitat in the Project area and to predict Project impacts. Therefore, a discussion of these potential impacts will be evaluated further in the EIR.

- f) *Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional or state habitat conservation plan?*

**Finding: No Impact**

There are no currently adopted Habitat Conservation Plans, Natural Community Conservation Plans, or other approved local, regional, or state habitat conservation plans for the Project area or its vicinity. The proposed Project would not conflict with any habitat conservation plan. Therefore, no impact would occur, and this impact will not be analyzed further in the EIR.

<b>V. CULTURAL RESOURCES:</b> Would the project:	Potentially Significant Impact	Less-Than-Significant With Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a) Cause a substantial adverse change in the significance of a historical resource pursuant to CEQA Guidelines §15064.5?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines §15064.5?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Disturb any human remains, including those interred outside of formal cemeteries?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

- a,b) *a) Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5?*  
*b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?*

**Finding: Potentially Significant Impacts**

A Cultural Resources Report will be prepared by Stantec Environmental, LLC, consistent with Section 106 of the 1966 National Historic Preservation Act and Section 15064.5 of California Code of Regulations related to the California Environmental Quality Act (CEQA) and Historic Resources, regarding the identification and protection of historic resources and unique archaeological resources (per CEQA’s definition). This report is anticipated to be completed during the spring of 2018. The Applicant’s cultural resource consultant will conduct a review of existing information, will coordinate with Native Americans (see Section 2.17), and will conduct field surveys of the Project site in accordance with state and county regulations. If any cultural resources are found, they will be evaluated for significance (per CEQA definition) and any effects on these resources by Project facilities or activities will also be evaluated. If historic resources or unique archaeological resources are identified in the Project site and evaluated as potentially being impacted by the Project, the Applicant will develop and implement measures to mitigate the effects of the Project on these resources. Therefore, these potential impacts will be further analyzed in the EIR.

- c) *Directly or indirectly destroy a unique paleontological resource or site or unique geological feature?*

**Finding: Potentially Significant Impact**

Records searches and map research will be conducted by the Applicant’s cultural resources consultant to determine the likelihood of the Project site containing paleontological resources, in accordance with the 2010 Paleontological Resources Preservation Act. Results of these investigations, including an evaluation of effect on any identified paleontological resources, shall be included in the Cultural Resources Report. Therefore, this potential impact will be further analyzed in the EIR.

- d) *Disturb any human remains, including those interred outside of formal cemeteries?*

**Finding: Potentially Significant Impact**

The Applicant’s cultural resource consultant will confirm the presence or lack of presence of known human remains within the Project site. As part of the preparation of the Cultural Resource Report, coordination with Native Americans will be conducted. If human remains are discovered during the review of existing information, coordination with Native Americans, or through field surveys of the Project site, the proposed Project design will avoid these remains to the extent practicable. If human remains are discovered during ground-disturbing activities, the Applicant’s construction contractors will be required to stop work until the Shasta County coroner has been informed and determines that no

investigation of the cause of death is required; and if the remains are of Native American origin, protocols under California Public Resource Code Section 5097.98 are followed. By following this “stop-work” protocol, impacts to human remains would be minimized. Potential impacts that could occur as a result of the proposed Project will therefore be further analyzed in the EIR.

<b>VI. GEOLOGY AND SOILS:</b> Would the project:	Potentially Significant Impact	Less-Than-Significant With Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving: <ul style="list-style-type: none"> <li>i) Rupture of a known earthquake, fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publications 42.</li> <li>ii) Strong seismic ground shaking?</li> <li>iii) Seismic-related ground failure, including liquefaction?</li> <li>iv) Landslides?</li> </ul>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Result in substantial soil erosion or the loss of topsoil?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of waste water?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

- a) *Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:*
- i. *Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42?*
  - ii. *Strong seismic ground shaking?*
  - iii. *Seismic-related ground failure, including liquefaction?*
  - iv. *Landslides?*

**Finding: Potentially Significant Impact**

As discussed in the attached geotechnical report (Appendix A) the proposed Project area does not have any active faults (See Figure 10 of the geotechnical report) and the overall hazard potential related to earthquake seismicity would be considered relatively low. However, the potential for seismic related ground failure, including liquefaction, to occur will need to be further evaluated due to the slight-to-high or slight-to-moderate erosion potential of the surrounding soils in the Project area. The steep slopes in the Project area combined with the characteristics of the underlying soils could result in unstable foundations for the turbines and thus, result in a hazard. Additionally, landslides are apparent in this area, which can be seen in Figure 12 of the geotechnical report. The steep slopes in the Project area will require further evaluation and a final geotechnical investigation to determine the best sites for optimum turbine stability. Therefore, this would be considered a potential impact and will be further analyzed in the EIR.

- b) *Result in substantial soil erosion or the loss of topsoil?*

**Finding: Potentially Significant Impact**

Soil types are mapped in Figure 6 of the desktop geotechnical report (Appendix A). Soils identified within the proposed Project area have slight to high or slight to moderate erosion hazard. A grading permit will be required prior to any grading activities. The grading permit includes requirements for erosion and sediment control, including retention of topsoil. However, given the amount of grading typically required for wind energy projects, there would still be potential for significant impacts related to erosion and sediment control. Therefore, this impact would be considered a potential impact and will be further analyzed in the EIR.

- c) *Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?*

**Finding: Potentially Significant Impact**

The proposed Project is located within a seismically active region, although the area of the site is relatively low hazard (Shasta County and City of Anderson 2017). As noted in the attached desktop geotechnical report (Appendix A), seismicity in the Project area is relatively low intensity and is not a controlling factor for turbine foundation design and therefore should not expose the proposed Project's structures to risk of loss due to seismic ground shaking or liquefaction.

The Project area does have some steep slopes exceeding 25% and the likelihood of slope failure/landslides is high in specific portions of the Project area. Further evaluation of slope stability will need to be conducted and each turbine site will need to be evaluated for stability before finalizing the location of turbines. Therefore, this potential impact will be further analyzed in the EIR.

- d) *Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?*

**Finding: Potentially Significant Impact**

A desktop geotechnical analysis was completed in January 2017 indicating that a preliminary field investigation may not be warranted (Appendix A). A final geotechnical investigation will need to be performed prior to final design and construction. Therefore, this potential impact warrants further evaluation and will be analyzed in the EIR.

- e) *Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?*

**Finding: Potentially Significant Impact**

Prior to obtaining a Shasta County septic permit, further geotechnical investigations will need to be conducted to identify whether the soils are suitable for adequately supporting a septic system. Therefore, this potential impact will be analyzed further in the EIR.

<b>VII. GREENHOUSE GAS EMISSIONS:</b> Would the project:	Potentially Significant Impact	Less-Than-Significant With Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

a) *Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?*

**Finding: Potentially Significant Impact**

Impacts associated with greenhouse gas emissions are more appropriately evaluated on a regional level than at a project scale as greenhouse gas impacts on the atmosphere are generally independent of the point of emission. The internal combustion of fuels to power heavy equipment for construction as well as vehicles trips associated with the proposed Project construction and operation will generate greenhouse gases. However, construction and operation-related emissions would occur at a low enough level that they are expected to have a negligible effect to climate change.

Proposed Project emissions will need to be modeled to determine if the proposed project would generate greenhouse gas emissions, either directly or indirectly that might have a significant impact on the environment. Although there is the potential for greenhouse gas emissions, preliminary evaluation for the project indicates that any conflict is likely insignificant. However, the need for emissions modeling warrants further evaluation. Therefore, the impact potential will be analyzed further in the EIR.

b) *Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?*

**Finding: Potentially Significant Impact**

Proposed Project emissions will need to be modeled to determine if the proposed Project would conflict with an existing plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases. Although there is the potential to conflict with the existing plan, preliminary evaluation for the project indicates that any conflict is likely insignificant, however, the need for emissions modeling warrants further evaluation. Therefore, this potential impact will be analyzed further in the EIR.

<b>VIII. HAZARDS AND HAZARDOUS MATERIALS:</b> Would the project:	Potentially Significant Impact	Less-Than-Significant With Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
h) Expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas, or where residences are intermixed with wildlands?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

a,b) *a) Create a significant hazard to the public or the environment through the routine transport, use or disposal of hazardous materials? b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?*

**Finding: Potentially Significant Impacts**

Construction of the proposed Project involves the routine transport, use, storage, and disposal of hazardous materials. Construction requires the operation of heavy equipment and construction vehicles. Hazardous materials required for construction equipment include antifreeze, diesel fuel, gasoline, hydraulic oil, lube oil, and grease. It would not be practical to remove construction equipment from the wind farm site for refueling and general maintenance such as changing fluids and lubricating parts; therefore, these activities will take place onsite. Other hazardous or regulated materials that will be used during construction include paints, adhesives, curing compounds, concrete, bentonite, and fertilizer. Construction equipment used to mix and pour concrete will be washed onsite because it would not be practical to remove this equipment from the site for washing. There will be waste disposal and collection receptacles and sanitary facilities on site during construction.

In accordance with the California Health and Safety Code and California Code of Regulations the Applicant will prepare a Hazardous Materials Business Plan/Spill Prevention Control and Countermeasures Plan (HMBP) that details

proper procedures for storing and using hazardous materials and storing and disposing of hazardous waste. The plan will contain sufficient detail to address the purpose of the plan and to readily translate into the actions necessary to comply with relevant regulations. The plan will include information about site activities, site contacts, worker training procedures, and a hazardous materials inventory in accordance with Article 80 of the Uniform Fire Code. Regulatory requirements and standard industry BMPs for managing the routine transport, use, storage, and disposal of hazardous materials, petroleum products, and solid waste will be implemented, and implementation of these measures would ensure impacts are minor.

The amounts of hazardous materials required during O&M will be less than the amounts needed for construction and storage will be limited to designated areas on the wind farm site. The HMBP will be updated with information about hazardous materials pertaining to the O&M phase, BMPs for managing hazardous materials will be implemented, and appropriate control measures such as secondary containment to contain leaks and spills will be provided.

Hazardous materials will be stored in the O&M facility and storage sheds and used at each turbine. Specific hazardous materials inventories, including quantities, will be documented in the HMBP and updated annually or as required by regulation. Nonhazardous batteries will be stored at the substation. Inspections of each of these facilities for leaks and spills will be done at least monthly. Implementing these measures would ensure that impacts would be minor.

All fuels, waste oils, and solvents will be collected and stored in tanks or drums within a secondary containment area consisting of an impervious floor and bermed sidewalls capable of holding the volume of the largest container stored within. The Applicant will ensure that all equipment operating in or near a drainage, or in a basin, is in good working condition, and free of leaks. All vehicles will have drip pans during storage to contain minor spills and drips. No refueling or storage will take place within 100 feet of a drainage channel or structure. Spill containment materials will be on site or readily available for any equipment maintenance or refueling that occurs adjacent to a drainage. In addition, all maintenance crews working with heavy equipment will be trained in spill containment and response. Additionally, although not a hazardous material, towers will be set back 100 feet from non-participating properties.

Therefore, due to the use of hazardous materials during construction and operations, these potential impacts warrant further evaluation and will be analyzed in the EIR.

- c) *Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances or waste within one-quarter mile of an existing or proposed school?*

**Finding: No Impact**

The Project area is not within 0.25 miles of an existing or proposed school. The closest school, Montgomery Creek Elementary School, is 1.5 miles away from the Project boundary. Therefore, no impact would occur, and this impact will not be analyzed further in the EIR.

- d) *Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code § 65962.5 and, as a result, would it create a significant hazard to the public or the environment?*

**Finding: Potentially Significant Impact**

Construction of the proposed Project on sites listed as hazardous by government agencies could expose employees and the public to hazardous materials. The Applicant will prepare a Phase I Environmental Site Assessment of the Project site (Phase I ESA) in accordance with either ASTM E1527-13 or E2247-08. The Phase I ESA will identify if the Project site includes any hazardous materials sites as identified by California Department of Toxic Substances Control.

The Project site is undeveloped and much of it is located at higher elevation than surrounding land. This decreases the possibility of migration of toxic substances from surrounding land onto the Project site. However, naturally occurring hazardous materials such as asbestos could be encountered during construction. If hazardous materials are present onsite, the development and implementation of a HMBP would mitigate any impacts. Therefore, this potential impact will be further analyzed in the EIR.



- e,f) *e) For a project located within an airport land use plan area or, where such a plan has not been adopted, within two miles of a public airport or a public use airport, would the project result in a safety hazard for people residing or working in the project area? f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?*

**Finding: No Impacts**

There are three publicly operated airports in Shasta County: Fall River Mills Airport, Redding Municipal Airport, and Benton Field. The Project area is more than approximately 20 miles from the closest airport (Fall River Mills Airport). The Project area is not within an airport protection area which includes the lands laying within the approach zones, transitional zones, and conical zones as they apply to a particular airport. Therefore, no impact would occur, and this issue will not be considered in the EIR.

- g) *Impair implementation of, or physically interfere with, an adopted emergency response plan or emergency evacuation plan?*

**Finding: Less than Significant Impact**

There is no currently adopted emergency response plan for the Project area, and the proposed Project would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan for a neighboring populated area (e.g., Burney, Moose Camp, and Montgomery Creek). Further, construction and operation of the Project would not be in conflict with the goals, objectives, or action items listed in the Shasta County and City of Anderson Multi-Jurisdictional Hazard Mitigation Plan (Shasta County and City of Anderson 2017), specifically those related to reducing the possibility of damage and losses to existing assets, particularly people, critical facilities/infrastructure, and County-owned facilities (Goal 5) from flood, wildfire, earthquake, hazardous materials, or volcano.

Therefore, this would be considered a less than significant impact and will not be analyzed further in the EIR.

- h) *Would the Project expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?*

**Finding: Potentially Significant Impact**

The Project area is located in a “Very High Fire Hazard Severity Zone” according to Figure FS-1 in the Shasta County General Plan (Shasta County 2004). In August 1992, the Fountain Fire burned 64,000 acres, including portions of the Project area. Much of the Project area has been replanted; however, vegetation is still recovering.

The proposed Project could increase the potential for wildfires associated with the use of vehicles and electrical equipment and increased human presence during construction of the Project. Sparks from vehicles and construction equipment, heated mufflers, spark producing construction activities such as welding, and improper disposal of matches or cigarettes, for example, could start a fire. There will also be increased presence and use of petroleum products, including oils and lubricants onsite, thereby increasing the potential for fires.

The proposed Project will develop and implement a Fire Prevention Plan (FPP) prior to construction and operation. With implementation of the FPP, the impacts to the proposed Project related to wildfires during the O&M phase are anticipated to be very low. The risk of fire will be further minimized by the design features of the turbines. Fire prevention features will be incorporated within the turbines.

The FPP will include emergency response and evacuation procedures that will include immediate notification of local fire agencies. Staff will be equipped with fire suppression equipment, radio and cellular access, and pertinent telephone numbers for reporting a fire. These measures may include, but are not limited to equipping earthmoving and portable equipment with internal combustion engines with spark arrestors, requiring vehicles to carry fire suppression equipment when onsite such as fire extinguishers, flappers, and shovels, and storing fire suppression tools at designated locations

within the wind farm. Fuel breaks will also be maintained around the proposed Project facilities including the turbines, substation, and O&M facility in accordance with the Fire Plan (per Public Resource Code 4290).

Due to the high fire severity rating and the potential for the proposed Project to increase the fire risk, this potential impact will be further analyzed in the EIR.

<b>IX. HYDROLOGY AND WATER QUALITY:</b> Would the project:	Potentially Significant Impact	Less-Than-Significant With Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a) Violate any water quality standards or waste discharge requirements?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a new deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) Create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f) Otherwise substantially degrade water quality?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g) Place housing within 100-year flood hazard area as mapped on a Federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
i) Expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
j) Inundation by seiche, tsunami, or mudflow?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

a,f) *a) Violate any water quality standards or waste discharge requirements? f) Otherwise substantially degrade water quality?*

**Finding: Potentially Significant Impacts**

Due to the temporary and permanent disturbances, the proposed Project may have potential for increased erosion and sedimentation from ground disturbing activities primarily associated with construction. Prior to construction, a NPDES General Permit for Discharges of Storm Water Runoff Associated with Construction Activity (General Construction Permit), will be obtained from the Central Valley Water Board. Coverage under a General Construction Permit requires the preparation of a SWPPP and Notice of Intent (NOI). The SWPPP will include pollution prevention measures (erosion and sediment control measures and measures to control non-storm water discharges and hazardous spills), demonstration of compliance with all applicable local and regional erosion and sediment control standards, identification of responsible parties, a detailed construction timeline, and a BMP monitoring and maintenance schedule.

The NOI will include site-specific information and the certification of compliance with the terms of the General Construction Permit. Potential impacts will be analyzed further in the EIR.

- b) *Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?*

**Finding: Less Than Significant Impact**

Impermeable surfaces created by the proposed Project will be limited to the concrete tower foundations, substation, and O&M facilities. Access roads, laydown areas, and staging areas will be gravel and therefore permeable. The introduction of a limited extent of impermeable surface associated with the proposed Project would not significantly alter the groundwater recharge or available groundwater supplies.

Water for the operations and maintenance facility may be supplied by the installation of a domestic well, or by a water storage tank installed at the building with water periodically transported to the tank. Any efforts to install a domestic well will be conducted in accordance with the rules and regulations of the Shasta County Department of Resource Management's Environmental Health Division. The Applicant anticipates that less than 5,000 gallons of water will be used per day for operations and maintenance. Construction of a domestic well and groundwater use for operation will only occur if the Applicant determines groundwater is available in the Project area and sufficient to support the proposed Project's uses. It is unlikely the proposed Project will substantially deplete groundwater supplies or interfere substantially with groundwater recharge. Therefore, this would be considered a less than significant impact and will not be analyzed further in the EIR.

- c,d,e) *c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site? d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site? e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?*

**Finding: Potentially Significant Impacts**

To the extent practicable, the proposed Project will maintain the local surface drainage patterns. New access roads will be located to follow natural contours and minimize side hill cuts to the extent possible and will include other BMPs such as ditches and culverts to capture and convey storm water runoff. Prior to obtaining a grading permit for the Project, the construction contractor will confirm storm water runoff requirements and, if necessary, incorporate storm water control measures such as seepage pits, drywells, and/or detention basins.

Impermeable surfaces created by the proposed Project will be limited to the concrete tower foundations, the substation, and O&M facilities. Access roads, laydown areas, and staging areas will be gravel and therefore permeable. Permanent storm water control structures will be installed to prevent erosion where access roads, buildings, storage areas, and parking areas are constructed. Upon completion of construction, all disturbed areas where permanent gravel or aggregate is not required will be revegetated. Erosion control measures included in the Temporary Erosion and Sediment Control (TESC) Plan will also prevent water quality degradation from storm water runoff during the operational phase of the proposed Project.

Due to the potential impacts from the proposed Project related to erosion, drainage, and runoff, as well as possible mitigation needed, impacts will be analyzed further in the EIR.

- g,h) **g)** *Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?* **h)** *Place within a 100-year flood hazard area structures which would impede or redirect flood flows?*

**Finding: No Impacts**

The proposed Project does not include placing housing within 100-year flood hazard area. The Project area is in an area of minimal flood hazards (Zone X). However, the Project area is generally located along mountain ridges and above the floodplain. Therefore, no impact would occur and this impact will not be analyzed further in the EIR.

- i) *Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?*

**Finding: No Impact**

The proposed Project will not be located within an area susceptible to flooding as a result of the failure of a levee or dam. Therefore, no impact would occur, and this impact will not be analyzed further in the EIR.

- j) *Inundation by seiche, tsunami, or mudflow*

**Finding: Less Than Significant Impact**

Lakes near the Project area are lower in elevation than the Project area and therefore do not pose a significant threat of a seiche. The proposed Project will be inland and not at risk of a tsunami. A large portion of the Project area experienced a forest fire in 1992 and may consequently be at greater risk of significant erosion and mudflows than the area was before the fire. Because the proposed Project would not significantly increase runoff from the Project site or significantly alter existing drainage patterns, operation of the Project would not contribute to the risk of mudflows in the Project area. Although construction activities for the proposed Project would involve grading activities that could potentially increase erosion in the area and the potential for mudflows, compliance with CWA requirements and provisions of the County Grading Ordinance will ensure that this impact is less than significant. Therefore, this would be considered a less than significant impact and will not be analyzed further in the EIR.

<b>X. LAND USE AND PLANNING:</b> Would the project:	Potentially Significant Impact	Less-Than-Significant With Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a) Physically divide an established community?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

a) *Would the Project physically divide an established community?*

**Finding: No Impact**

Burney is the largest established community near the Project area, located approximately 6 miles east of the Project area. The community of Moose Camp is located closer to the Project area (within 1/5 mile of the closest turbine); however, the proposed Project facilities would not create any access issues to or from this community and would not physically divide it. Therefore, no impact would occur, and this impact will not be further analyzed in the EIR.

b) *Would the Project conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the Project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?*

**Finding: Less Than Significant Impact**

The lands underlying the Project are within the TP and U zoning districts. SCC Section 17.08.030(D) pertains to the TP district and conditionally allows the construction of “gas, electrical, water, or communication transmission facility, or other public improvements, in accordance with Government Code Section 51152.” Per SCC Section 17.64.040, wind energy systems are conditionally permitted in the U district as long as it is not otherwise prohibited by law and not inconsistent with any portion of the General Plan. The Project, which will convert 972 acres of an approximately 37,436-acre project area from timberland to non-timberland use (see Section 2.2), is consistent with General Plan as the U district lands underlying the proposed Project are timberlands outside of the Timber Protection Zone and as such, power generation facilities are an allowed use per General Plan Policy 6.2.4, T-d.

Also, per SCC Section 17.88.035, a Use Permit is required in all districts for wind energy systems which do not meet the definition of “small wind energy system” (e.g. wind energy systems greater than 50 kilowatts in size). A Use Permit application has been prepared pursuant to SCC Section 17.92.020m, which are the rules governing Use Permits.

Because the General Plan designation and zoning district underlying the proposed Project conditionally allow electrical power facilities, the proposed Project would be considered consistent with the General Plan designation and zoning. Therefore, this would be considered a less than significant impact and will not be analyzed further in the EIR.

c) *Would the Project conflict with any applicable habitat conservation plan or natural communities’ conservation plan?*

**Finding: No Impact**

There are no currently adopted Habitat Conservation Plans, Natural Community Conservation Plans, or other approved local, regional, or state habitat conservation plans for the proposed Project area or its vicinity. Therefore, the proposed Project would not conflict with any such plan and there would be no impact and no further analysis is warranted in the EIR.

<b>XI. MINERAL RESOURCES:</b> Would the project:	Potentially Significant Impact	Less-Than-Significant With Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the State?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local General Plan, specific plan or other land use plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

a) *Would the Project result in the loss of availability of a known mineral resource classified MRZ-2 by the State Geologist that would be of value to the region and the residents of the state?*

**Finding: No Impact**

The proposed Project would not result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the State. There are no known mineral resources of regional value located on or near the Project area. Therefore, no impacts would occur, and no further analysis is warranted in the EIR.

b) *Would the Project result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?*

**Finding: No Impact**

The proposed Project would not result in the loss of availability of a locally-important mineral resource recovery site delineated on a local General Plan, specific plan, or other land use plan. The Project area is not identified in the General Plan Minerals Element as containing a locally-important mineral resource. In addition, the Project area is not designated as a mineral resource zone by the Shasta County Zoning ordinance. Therefore, no impacts would occur, and no further analysis is warranted in the EIR.

<b>XII. NOISE:</b> Would the project result in:	Potentially Significant Impact	Less-Than-Significant With Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

a,b,c,d) *a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance or of applicable standards of other agencies? b) Exposure of persons to or generation of excessive ground borne vibration or ground borne noise levels? c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project? d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?*

**Finding: Potentially Significant Impacts**

The noise level performance standards for new projects, per the Shasta County General Plan (Shasta County 2004) includes the following limits.

- 50 A-weighted decibels (dBA) at the property line of noise-sensitive uses between the nighttime hours of 10:00 p.m. and 7:00 a.m.
- 55 dBA at the property line of noise-sensitive uses between the evening hours of 7:00 p.m. and 10:00 p.m.

The construction of the proposed Project may cause short-term but unavoidable noise impacts depending on the construction activity being performed and the distance to receiver. Noise will also be emitted by turbines during operation. Noise-sensitive land uses in the vicinity of the Project area comprise residences on Haines Road west of Burney and residences and campsites in the Moose Camp area.

The Applicant will prepare a Noise Technical Report to evaluate construction and operational noise associated with the proposed Project and consistent with Shasta County standards. This report will need to establish a baseline noise level for the Project site, predict Project-based noise levels at adjacent property lines, assess potential impacts, and outline mitigation scenarios that could be implemented to reduce potential impacts. To characterize the existing noise environment, long-term, 24-hour, unattended noise level measurements will be made at up to 5 locations continuously over a 5-day period. Monitoring equipment will be located at sensitive receptors – which could include occupied buildings, parks, and adjacent property lines – in order to accurately assess the site’s existing short-term and long-term noise levels.



Sound levels from the operation of the turbines will be predicted for the nearest property boundary for daytime and nighttime conditions using the “Cadna/A” software program developed by DataKustik, GmbH (Munich). This modeling tool allows the site terrain to be accurately recreated in three dimensions and wind/atmospheric effects on sound propagation to be evaluated as needed. Results will be shown in detailed sound level contour maps and tables will be developed that include the noise level predicted at the property line of the nearby noise receptor locations.

The collected baseline ambient sound level data and the turbine sound level contribution predicted by modeling will need to be used to determine whether there is potential for exposure of persons to noise level in excess of Shasta County noise standards as well as exposure of persons to excessive ground borne vibration or noise levels. The technical report is anticipated to be completed in the spring of 2018.

Therefore, because further analysis will be required, these would be considered potential impacts and will be evaluated in the EIR.

- e,f) *e) For a project located within an airport land use plan area or, where such a plan has not been adopted, within two miles of a public airport or a public use airport, would the project expose people residing or working in the project area to excessive noise levels? f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?*

**Finding: No Impacts**

The proposed Project is not located within an airport land use plan, within two miles of a public airport, or in the vicinity of a private airstrip. Therefore, there would be no impact and no further analysis is warranted in the EIR.

<b>XIII. POPULATION AND HOUSING:</b> Would the project:	Potentially Significant Impact	Less-Than-Significant With Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

- a) *Induce substantial population growth in an area, either directly (e.g., by proposing new homes and businesses) or indirectly (e.g., through extension of roads or other infrastructure)?*

**Finding: No Impact**

The proposed Project does not propose any new homes or new public roads and population growth will not occur as a result of the Project. The temporary workforce required for construction is anticipated to consist partially of local labor, with temporary arrangements (hotels within 1 hour of the Project, RV parks, shared rentals, etc.) accommodating workers from outside of the region. As such, no impact would occur, and no further analysis is warranted in the EIR.

- b) *Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?*

**Finding: No Impact**

The proposed Project will not displace existing housing because the proposed Project will be constructed on private timber lands used for timber production. No impact would result from Project development and no further analysis is warranted in the EIR.

- c) *Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?*

**Finding: No Impact**

The proposed Project will not displace people because the proposed Project will be constructed on private timber lands used for timber production. No impact would result from Project development and no further analysis warranted in the EIR.

<b>XIV. PUBLIC SERVICES:</b> Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:	Potentially Significant Impact	Less-Than-Significant With Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a) Fire Protection?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Police Protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Other public facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

a) *Fire protection?*

**Finding: Potentially Significant Impact**

The proposed Project area is located in a “Very High Fire Hazard Severity Zone” according to Figure FS-1 in the Shasta County General Plan (Shasta County 2004). The Project could increase the potential for wildfires associated with the use of vehicles and electrical equipment and increased human presence during construction of the proposed Project. Sparks from vehicles and construction equipment, heated mufflers, spark producing construction activities such as welding, and improper disposal of matches or cigarettes, for example, could start a fire. There will also be increased presence and use of petroleum products, including oils and lubricants onsite, thereby increasing the potential for fires.

The proposed Project will develop and implement an FPP prior to construction and operation. The FPP will include emergency response and evacuation procedures that will include immediate notification of local fire agencies. Staff will be equipped with fire suppression equipment, radio and cellular access, and pertinent telephone numbers for reporting a fire. These measures may include, but are not limited to equipping earthmoving and portable equipment with internal combustion engines with spark arrestors, requiring vehicles to carry fire suppression equipment when onsite such as fire extinguishers, flappers, and shovels, and storing fire suppression tools at designated locations within the wind farm. Fire breaks will also be maintained around the proposed Project facilities including the turbines, substation, and O&M facility (per Public Resource Code 4290). With implementation of the FPP, the impacts to the proposed Project related to wildfires during the O&M phase are anticipated to be very low. The risk of fire is further minimized by the design features of the turbines as fire prevention features will be incorporated within the turbines. Additionally, access roads will serve as fire breaks and will provide access for fire suppression activities.

However, due to the high fire risk and the potential for the proposed Project to impact fire risk in the Project area, this potential impact warrants further evaluation and will be discussed further in the EIR.

b) *Police protection?*

**Finding: Less Than Significant Impact**

The proposed Project will be located on private timber lands owned by Shasta Cascades Timberlands, LLC and the turbine sites will be accessed existing via private logging roads and proposed access roads accessed via the private logging roads. Public access to the turbine sites will be restricted to avoid potential safety hazards per the proposed Project’s approved Access Control Plan. All turbine towers will be locked as well as the O&M facility. The substation will be fenced and locked to prevent unauthorized entry. These precautionary measures will minimize the need for police surveillance and response. During construction, when opportunity for theft is high, security will be on site at all times when active construction is not occurring. Therefore, a less-than-significant impact would occur, and while no

further analysis is warranted in the EIR, it will document communication with the Shasta County Sherriff's Office confirming its ability to provide service to the Project.

c,d,e) *c) Schools? d) Parks? e) Other public facilities?*

**Finding: No Impacts**

Population growth will not occur as a result of the proposed Project and demands on local parks districts and school districts are therefore not expected to change in direct correlation to the proposed Project. As such, there would be no impacts related to schools, parks, or other public facilities resulting from implementation of the proposed Project and no further analysis is warranted in the EIR.

XV. <b>RECREATION:</b> Would the project:	Potentially Significant Impact	Less-Than-Significant With Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

a) *Would the Project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?*

**Finding: No Impact**

Population growth will not occur as a result of the proposed Project therefore use of existing local or regional parks or other recreational facilities are not expected to change or increase. No further analysis is warranted in the EIR.

b) *Does the Project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?*

**Finding: No Impact**

The proposed Project does not propose any new or expanded recreational facilities. In addition, the Project area is not located on public land or otherwise designated as open space or recreational land, nor does it have formal public access for recreation. Therefore, no impacts would occur, and no further analysis is warranted in the EIR.

<b>XVI. TRANSPORTATION/TRAFFIC:</b> Would the project:	Potentially Significant Impact	Less-Than-Significant With Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) Result in inadequate emergency access?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f) Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

a,b) **a)** *Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?* **b)** *Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?*

**Finding: Potentially Significant Impacts**

Temporary increases in traffic due to proposed Project construction have the potential to degrade the level of service (LOS) on public roadways in the proposed Project’s transportation and traffic study area. A Traffic Assessment Report is anticipated to be completed in Spring 2018. The traffic impact analysis will examine existing traffic volumes and LOS on roadways and increases in congestion at intersections within the proposed Project study area. Therefore, these potential impacts will be analyzed further in the EIR.

c) *Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?*

**Finding: Less Than Significant Impact**

There are three publicly operated airports in Shasta County: Fall River Mills Airport, Redding Municipal Airport, and Benton Field. The Project area is more than 20 miles from the closest airport. The Project area will not be located an airport protection area. The proposed Project will not result in changes to air traffic patterns. An FAA determination of no hazard will be requested, and the notice of proposed construction submitted to the FAA will trigger a Department

of Defense screening for military flight path conflict, including training routes. Therefore, a less-than-significant impact would occur. While no further analysis is warranted, the EIR will summarize the FAA determination.

- d) *Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?*

**Finding: Potentially Significant Impact**

Safety hazards may increase due to construction-generated traffic such as trucks entering and existing SR 299. Potential for increases in safety hazards from construction traffic will need to be examined in the Traffic Assessment Report. In addition, any safety hazards that result from construction related traffic can be mitigated through the development and implementation of a Traffic Control Plan in accordance with County and Caltrans policies. Therefore, this potential impact warrants further analysis and will be evaluated in the EIR.

- e) *Result in inadequate emergency access?*

**Finding: Potentially Significant Impact**

Emergency access to the Project area could be affected by proposed Project construction—specifically, road closures, detours, and construction-related traffic could delay or obstruct the movement of emergency vehicles. This impact is considered potentially significant, but implementation of a Traffic Control Plan will reduce this impact. The construction of new access roads will also provide more access for emergency vehicles to access the Project site. Therefore, this potential impact warrants further evaluation and will be discussed further in the EIR.

- f) *Conflict with adopted policies, plans or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?*

**Finding: No Impact**

The proposed Project will not result in any conflicts with adopted policies, plans, or programs supporting alternative transportation. Therefore, no impact would occur, and no further analysis is warranted in the EIR.

<b>XVII. TRIBAL CULTURAL RESOURCES:</b> Would the project:	Potentially Significant Impact	Less-Than-Significant With Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a) Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size, or object with cultural value to the California Native American tribe and that is listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k).	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size, or object with cultural value to the California Native American tribe and that is a resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

a,b) **a)** *Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size, or object with cultural value to the California Native American tribe and that is listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k).* **(b)** *Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size, or object with cultural value to the California Native American tribe and that is a resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.*

**Finding: Potentially Significant Impacts**

The identification of tribal cultural resources is a continuing process between the appropriate tribes or tribal representatives and CEQA lead agency. The appropriate tribes or tribal representative are the authority on identifying tribal cultural resources. The archival records search performed as part of the cultural resources analysis resulted in the identification of known tribal cultural resources within or near the study area. Furthermore, initial field review of the Project area did not identify any signs of previously unidentified subsurface tribal cultural resources within or adjacent to the Project area. However, further coordination with Tribes during the CEQA process will be needed to identify highly sensitive areas and resources.

Pursuant to Assembly Bill 52, Shasta County is required to contact the Native American tribes that are culturally or traditionally affiliated with the geographic area in which a proposed project is located within 14 days of a public agency’s decision to undertake a project (or a determination that the project application is complete). Notified tribes have 30 days to request consultation with the lead agency to discuss potential impacts on tribal cultural resources and measures for addressing those impacts. Shasta County sent a letter to the Pit River Tribe regarding the project on



December 8, 2017. No formal consultation was requested; however, the Pit River Tribe has responded to Shasta County and requested additional environmental information related to the Project (see Appendix C).

The Applicant's cultural resource consultant will conduct a review of existing information, will coordinate with Native Americans, and will conduct field surveys of the Project site in accordance with state and county regulations. If any cultural resources are found, they would be evaluated for significance (per CEQA definition) and any effects on these resources by Project facilities or activities would also be evaluated. If historic resources or unique archaeological resources are identified in the Project site and evaluated as potentially being impacted by the Project, the Applicant will develop and implement measures to mitigate the effects of the Project on these resources. Therefore, these potential impacts will be further analyzed in the EIR.

<b>XVIII. UTILITIES AND SERVICE SYSTEMS:</b> Would the project:	Potentially Significant Impact	Less-Than-Significant With Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Have sufficient water supplies available to serve the project which serves or may serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
g) Comply with Federal, State, and local statutes and regulations related to solid waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

a) *Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?*

**Finding: No Impact**

Construction of the proposed Project will generate a minor amount of wastewater from portable toilets, which will be provided and serviced on a contracted basis. The construction contractor will dispose of sanitary wastewater pursuant to applicable regulations. Wastewater from the O&M building during operation of the proposed Project will be processed using an on-site septic system. This system will conform to all County design standards and specifications to avoid impacts on ground- or surface waters. Therefore, no impact would result from Project implementation and no further analysis is warranted in the EIR.

b) *Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?*

**Finding: No Impact**

Construction of the proposed Project will require water for dust control, equipment wash down, wetting of concrete, emergency fire suppression, and other activities. During construction, the contractor will arrange for delivery of water to the site by water trucks from a source with an existing water right. Water for the operations and maintenance facility may be supplied by the installation of a domestic well, or by a water storage tank installed at the building with water periodically transported to the tank. Wastewater from the O&M facility will be processed using an on-site septic system. Because the proposed Project will not connect to any water or wastewater treatment facilities, there would be no impact on the capacity of an existing water or wastewater treatment facilities and therefore, this impact will not be analyzed further in the EIR.

- c) *Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?*

**Finding: Less Than Significant Impact**

Prior to obtaining a grading permit for the proposed Project, the construction contractor will confirm storm water runoff requirements and, if necessary, incorporate storm water control measures such as seepage pits, drywells, and/or detention basins. Permanent storm water control structures will be installed to prevent erosion where access roads, buildings, storage areas, and parking areas are constructed.

Impermeable surfaces created by the proposed Project will be limited to the concrete tower foundations, substation, and O&M facilities. Access roads, laydown areas, and staging areas will be gravel and therefore permeable. The proposed Project would not be anticipated to significantly increase the amount of storm water runoff and would not alter existing drainage patterns. Therefore, environmental impacts from construction of new storm water drainage facilities would be less than significant and will not be analyzed further in the EIR.

- d) *Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?*

**Finding: Less Than Significant Impact**

Construction of the entire Project will require water for dust control, equipment wash down, batching concrete, emergency fire suppression, and other activities. During construction, water will either be provided from an onsite water well or the contractor will arrange for delivery of water to the site by water trucks from a source with an existing water right.

Water for the operations and maintenance facility may be supplied by the installation of a domestic well, or by a water storage tank installed at the building with water periodically transported to the tank. Any efforts to install a domestic well will be conducted in accordance with the rules and regulations of the Shasta County Department of Resource Management's Environmental Health Division. The Applicant anticipates that less than 5,000 gallons of water will be used per day for operations and maintenance. Construction of a domestic well and groundwater use for operation will only occur if the Applicant determines groundwater is available in the Project area and sufficient to support the proposed Project's uses. It is unlikely the proposed Project will substantially deplete groundwater supplies or interfere substantially with groundwater recharge.

The proposed Project will not require the acquisition or expansion of entitlements and there will be no need to develop infrastructure to connect to an existing water supply distribution facility.

Therefore, the proposed Project would have a less than significant impact and will not be analyzed further in the EIR.

- e) *Result in a determination by the wastewater treatment provider that serves or may serve the project that it has adequate capacity to serve the project's projected demand, in addition to the provider's existing commitments?*

**Finding: No Impact**

Wastewater from the O&M facility will be processed using an on-site septic system. Because the proposed Project will not connect to any wastewater treatment facilities, there will be no impact on the capacity of an existing wastewater treatment facility and therefore, this impact will not be analyzed further in the EIR.

- f) *Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?*

**Finding: Less Than Significant Impact**

Construction debris (e.g. scrap lumber and metal) and operational debris (e.g. office waste and some paper waste) will be collected by either the construction contractor or Burney Disposal Inc. and disposed of at the Burney Transfer Station

and ultimately the Anderson Landfill or recycled with applicable and feasible. A low volume of waste associated with the proposed Project will be anticipated and there will be no need to increase the Anderson Landfill capacity. Therefore, there would be a less than significant impact to landfills and no further analysis is warranted in the EIR.

g) *Comply with federal, state and local statutes and regulations related to solid waste?*

**Finding: No Impact**

The proposed Project will comply with Federal, State, and local statutes and regulations related to solid waste. Construction debris (e.g. scrap lumber and metal) and operational debris (e.g. office waste and some paper waste) will be collected by either the construction contractor or Burney Disposal Inc. and disposed of at the Burney Transfer Station and ultimately the Anderson Landfill or recycled with applicable and feasible. A low volume of waste associated with the proposed Project will be anticipated and there will be no need to increase the Anderson Landfill capacity. Therefore, there would be no impact and no further analysis is warranted in the EIR.

<b><u>XIX. MANDATORY FINDINGS OF SIGNIFICANCE:</u></b>	Potentially Significant Impact	Less-Than-Significant With Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below the self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Does the project have impacts that are individually limited, but cumulatively considerable? (“Cumulatively considerable” means that the incremental effects of a project are considerable when viewed in connection the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

a) *Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?*

**Finding: Potentially Significant Impact**

The proposed Project will consist of up to 100 wind turbines and associated infrastructure, located on 76 assessor parcels. In addition to the wind turbines and associated transformers, the Project includes ancillary facilities such as lay-down areas, access roads, underground and overhead collector lines, an operation and maintenance building, and substation components. These activities will require temporary and permanent clearing of ground cover and vegetation, including grading, and therefore have potential to degrade the quality of the environment and affect habitat. Such effects will be evaluated in the EIR.

b) *Does the project have impacts that are individually limited but cumulatively considerable? (“Cumulatively considerable” means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?*

**Finding: Potentially Significant Impact**

The proposed Project will be located in the immediate vicinity of the Hatchet Ridge Wind Project. Cumulative effects related to the existing wind project, as well as to other currently proposed actions in the Project vicinity, will be fully evaluated in the EIR.

c) *Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?*

**Finding: No Impact**

The proposed Project will be constructed on private timber lands used for timber production. No displacement of residents will result from development of the Project. As such, no direct or indirect substantial adverse effects on human beings would result from Project development and no further analysis is warranted in the EIR.

## **3.0 DESCRIPTION OF TECHNICAL STUDIES/ SURVEYS TO BE CONDUCTED**

PWD, with support from its environmental consultants, will develop the following to support the Project's environmental review.

### **3.1 Traffic Assessment Report**

A Traffic Assessment Report will be prepared using traffic and transportation evaluation methodology consistent with the Shasta County Circulation Element of the General Plan, as well as Caltrans guidelines. Existing traffic and transportation conditions of the Project area, including the traffic volumes along SR 299 East will be examined. This includes a review of current daily, peak hour and truck traffic volumes to the east and west of the access roads along SR 299. PWD will assess the operation and performance of the existing roadways using the procedures from the Highway Capacity Manual (HCM2010 or HCM 6, as required). This analysis will provide LOS based on vehicular delay and calculate percent time-spent-following slower vehicles. Other existing conditions that will be analyzed include roadway hazards, non-motorized transportation, transit service, rail service and air traffic operations.

Construction trip generation and distribution will be based on the workforce projected for the site and their respective locations of residence or lodging. Construction delivery routes will also be assessed. Likewise, trip generation and distribution will be evaluated during normal operation once the construction phase is complete and the wind project is placed online.

For construction and operations-related traffic, PWD will detail impacts and propose mitigation measures, including:

- Increases in traffic volumes and degradation in levels of service;
- Increases in safety hazards;
- Interference with emergency access and circulation; and,
- Inadequate parking supply to meet the parking demand.

A construction traffic control plan will be developed and implemented to deal with these issues.

### **3.2 Viewshed Analysis, Visual Simulations, and Assessment of Potential Effects to Visual Resources**

A viewshed analysis will be completed to identify locations within the analysis area from which the Project would potentially be visible. The viewshed analysis for the Project will use the preliminary Project layout and a U.S. Geological Survey digital elevation model dataset. The analysis results will identify all points on the terrain surface with a direct line of sight to the tip elevation of one or more Project turbines. Because the turbines are the tallest structures of the proposed Project and are typically sited along ridges to maximize the wind resource, the turbines are generally the most prominent Project facilities and the most likely to be visible. However, it should be noted that the viewshed analysis results will be a conservative representation of potential Project visibility. The analysis represents line-of-sight conditions based only on topography; it does not account for factors that might obscure or block visibility from a specific location or at certain times, such as weather conditions, existing structures, or vegetation.

The viewshed analysis will, along with desktop review of aerial photographs, land use and resource plans, land use data, and the public scoping comments for the Project, serve as a basis for identification of preliminary viewpoints for eventual use in the production of visual simulations. Preliminary viewpoints will be field verified to ensure site visibility and representation with regard to sensitive viewers in the project vicinity, which include residents, recreationists using trails and other facilities within the project viewshed, and roadway travelers. Analysis of simulated views from up to seven viewpoints in the evaluation of potential effects to visual resources is anticipated. Such viewpoints typically afford direct line-of-site to proposed project facilities and as such are often in locations where views are no more than partially obstructed by topography or intervening vegetation.

### **3.3 Biological Surveys**

The principal objectives of biological resource studies are to: 1) conduct a review of existing data on biological resources present or that may occur at the Project in order to provide a preliminary evaluation of the site; 2) evaluate avian use of the Project area including small birds, large birds, and eagles specifically; 3) locate and describe raptor nests in the Project and surrounding area that may be subject to disturbance and/or displacement effects from facility construction and/or operation; 4) estimate seasonal bat use of the Project area; 5) examine potential occurrence of California sensitive species within the Project area; and 6) produce a desktop assessment of wetlands and waters within the Project area. Additional information regarding species that are present or may occur in the vicinity of the Project will be gathered through appropriate agency correspondence and from reports developed for other local or regional projects. This information will be used in final impact analyses where applicable. An initial meeting to discuss biological resource studies with the USFWS, CA Department of Fish and Wildlife, Shasta County, and the Applicant occurred in June 2017.

#### **3.3.1 Site Characterization Study**

Recommendations in the WEG (USFWS 2012) call for tiered wind energy project development that includes: Tier 1 – Preliminary Site Evaluation, Tier 2 – Site Characterization, and Tier 3 – Field Studies to Document Site Wildlife and Habitat and Predict Project Impacts. Part of addressing Tiers 1 and 2 includes analysis of existing data sources to determine potential species occurrence at a project. These species may include both wildlife and plants. Special focus is given to species which are state or federally listed as threatened or endangered, or to species that are otherwise considered sensitive by regulatory agencies or non-governmental organizations. Additional site characterization work under the WEG includes identifying and evaluating habitat within project boundaries such as land cover types. The SCS will include a preliminary evaluation of the Project site area that addresses the following key objectives:

- Presence of habitat for species of concern at the landscape level;
- Potential for presence of plant and wildlife species of concern on the Project;
- Potential occurrence of areas that may be precluded from development;
- Potential presence of plant communities on the Project that may provide habitat for wildlife species of concern; and
- Potential areas of wildlife concentration within the Project.

The SCS report will be based primarily on a desktop evaluation of the Project area using accessible resources including both publicly available data (e.g., California Native Plant Society data, California Natural Diversity Database [CNDDDB] data), as well as privately held data that may be available from past surveys conducted by the landowner and/or lessee. The Applicant's survey contractor will conduct a reconnaissance-level site visit to evaluate current site conditions at the Project relative to that derived from desktop review. Any state or federally listed, or sensitive plants or wildlife observed during the site visit will be documented and locations will be recorded for later inclusion in the SCS report.

#### **3.3.2 Baseline Wildlife Studies**

Baseline wildlife studies at the Project will address use by eagles (bald eagles [*Haliaeetus leucocephalus*] and golden eagles [*Aquila chrysaetos*]), non-eagle raptors (e.g., Buteo hawks) and other large birds (e.g., waterfowl), small birds (e.g., passerines) and bats. This work will rely on data gathered during surveys at the Project. However, an initial desktop assessment of bat species that have the potential to occur at the Project area will also be conducted and will help inform follow-up field studies. Following this initial assessment, bat use of the Project will be evaluated through acoustic surveys in 2017. Finally, should the need arise based on information gathered during the initial site visit, and through consultation with the landowner biologist and agency representatives, sensitive species surveys for both wildlife and plants may be conducted.

A draft Biological Survey Report will be completed within two months of survey effort completion. However, a preliminary results memo can be provided to Shasta County by the end of 2017. The draft Biological Survey Report will include a discussion of the methods, results, and potential Project impacts based on the results of avian point-count surveys, raptor nest surveys, and bat acoustic surveys.

### **3.3.2.1 Sensitive Species Surveys**

Sensitive Species Surveys may be conducted to examine occurrence of California sensitive plant and animal species within the Project area, pending consultation with agency representatives and landowner biologists. Should sensitive species surveys be deemed necessary, data collected from these efforts will be included in the Biological Survey Report. In addition, if sensitive species surveys are conducted, a Sensitive Species Memo will be prepared after completion of surveys and will be provided to Shasta County within one month.

### **3.3.2.2 Eagle Use Surveys**

Eagle use (including Bald eagles [*Haliaeetus leucocephalus*] and golden eagles [*Aquila chrysaetos*]) in the study area will be determined through direct observation. Following guidelines in the USFWS Eagle Conservation Plan Guidance (ECPG; USFWS 2013, USFWS 2016), as well as recommendations in the WEG, the Applicant's biological survey contractor will initiate a two-year study of eagle use in the Project beginning in April 2017. Surveys will be conducted weekly at half the survey stations, such that each station is surveyed twice per month.

### **3.3.2.3 Baseline Avian Point-Count Surveys**

In addition to the eagle use surveys described above, surveys aimed at evaluating small bird use of the Project area will also be conducted. The ECPG recommends conducting studies of this sort separately from eagle or large bird use surveys to increase detection probability. Assessment of small bird use of the Project area is important as it may allow identification of any previously unknown occurrence of sensitive species, identification of high use periods (e.g., migration windows, breeding seasons), or areas within the larger Project area that may be particularly important to small birds (e.g., reproductive habitats, stopover sites).

Avian point-count surveys will occur from approximately mid-April through June during the spring, and from September through November during the fall. Two years of surveys, conducted during vernal and autumnal migration windows, will begin in April 2017. Completion of this effort will result in data for inclusion in a draft Biological Survey Report.

### **3.3.2.4 Raptor Nest Surveys**

The tiered development approach defined in the WEG includes numerous recommendations for Tier 3 studies, as mentioned previously. The WEG and ECPG not only recommend utilizing surveys for eagles and raptors, as outlined in the previous section, but also suggests that project developers engage in raptor nest surveys if there is potential for the Project to impact breeding raptors, which is the case throughout western North America (USFWS 2012, 2013). The Applicant's survey contractor will conduct aerial raptor nest surveys within and in areas surrounding the Project for two breeding seasons (2017 and 2018). Breeding season varies by species and geographic location, but generally includes February through July in northern California. In addition to the Project area, a 2-mile buffer surrounding the Project will be surveyed for raptor nests, and a 10-mile buffer will be surveyed for eagle nests.

A draft Nest Survey Memo will be provided to Shasta County after completion of the final nest survey each year. Data from the raptor nest surveys will also be included in the aforementioned Biological Survey Report.

### **3.3.2.5 Bat Desktop Assessment**

An assessment of bat use, or potential use, of the Project area will be conducted through a desktop analysis of existing resources to determine the possible species of bat which may occur within the Project area. This desktop assessment will draw upon publicly available resources such as the CNDDDB, and Bat Conservation International Species Profiles, which are sortable by state and include known range information. Additional consultation with the landowner biologist or agency representatives may be used to inform this assessment, where applicable. This effort will include a description of habitats for particular bat species at the Project and will result in the production of a list of species that may occur at the Project and the possible timing of occurrence for these species. Because many bat species are migratory, it is possible that some species may only be present during brief migratory windows, or may use habitat within the Project area as maternity sites or



hibernacula. Particular focus will be given to the potential for occurrence of state or federally listed, candidate, or sensitive species.

The result of this desktop assessment will be a draft Bat Desktop Assessment Report.

### **3.3.2.6 Bat Acoustic Surveys**

As part of Tier 3 baseline biological studies, passive bat acoustic monitoring will be conducted. The WEG suggest utilizing passive acoustic monitoring to assess bat use as it is a practical method of determining whether or not threatened, endangered or otherwise sensitive species are utilizing a Project area (USFWS 2012). Bat acoustic monitoring devices will be deployed at the Project area. Data from these surveys will be included in the Biological Survey Report. This report will include a description of the methods, results, and a discussion of potential Project impacts on bats determined to be using the Project area. In addition, data on detector locations will included in the Biological Survey Report.

### **3.3.2.6 Nocturnal Bird Migration Surveys**

A review was conducted of local, regional, and nation-wide radar studies at sites proposed for wind energy development, including the adjacent Hatchet Ridge wind energy facility (Tetra Tech 2013). Results indicated that the majority of spring and fall nocturnal migrants fly at heights well above the rotor swept zone of commercial wind turbines. Additionally, radar has not been demonstrated to be a reliable predictor of collision risk at proposed wind energy sites. Based on an analysis of 15 seasonal nocturnal migration studies conducted at wind energy sites between 1999 and 2009, no correlation was found between pre-construction passage rates and flight heights, and post-construction fatality estimates (Tidhar et al. 2010a). Because radar has been demonstrated to provide limited data relating to risk assessments and operational results from the adjacent operating wind project indicating limited impacts to nocturnal migrants, a nocturnal avian migration survey will not be conducted at the Project.

### **3.3.3 Project Area Desktop Assessment of Wetlands and Waters**

Waters protected under the CWA are considered jurisdictional, and must be defined through a formal delineation process. The Applicant's survey contractor will conduct a desktop assessment of the waters, including wetlands, at the Project, in order to inform a future field delineation of jurisdictional waters. The Applicant's survey contractor will communicate with the USACE, if necessary, in an effort to determine the potential occurrence of jurisdictional waters at the Project and will also consult available public information sources such as the NWI, which is operated by the USFWS. Additional resources may include examination of aerial imagery or USGS topographic maps.

The desktop assessment will result in a Wetlands and Waters Memo. GIS files developed for the Wetlands and Waters memo will also be provided.

### **3.3.4 Additional Studies**

The following studies are also being considered and will be prepared by the Applicant as warranted by environmental review and/or agency coordination:

- Noise Technical Report. Evaluation of potential construction noise associated with the Project consistent with Shasta County standards, if warranted by environmental review. No noise monitoring during construction is anticipated. If blasting is required during construction, noise monitoring protocols will be established and implemented.
- Phase 1 Cultural Resources Report. Will be prepared in a manner consistent with Section 106 of the 1966 National Historic Preservation Act regarding the identification and protection of significant cultural resources, as well as state and county guidelines, and will include relevant information from consultation with Native American tribes.
- Economic Impact Analysis. Conducted in accordance with Shasta County standards.

### 3.3.5 Anticipated Timing of Studies

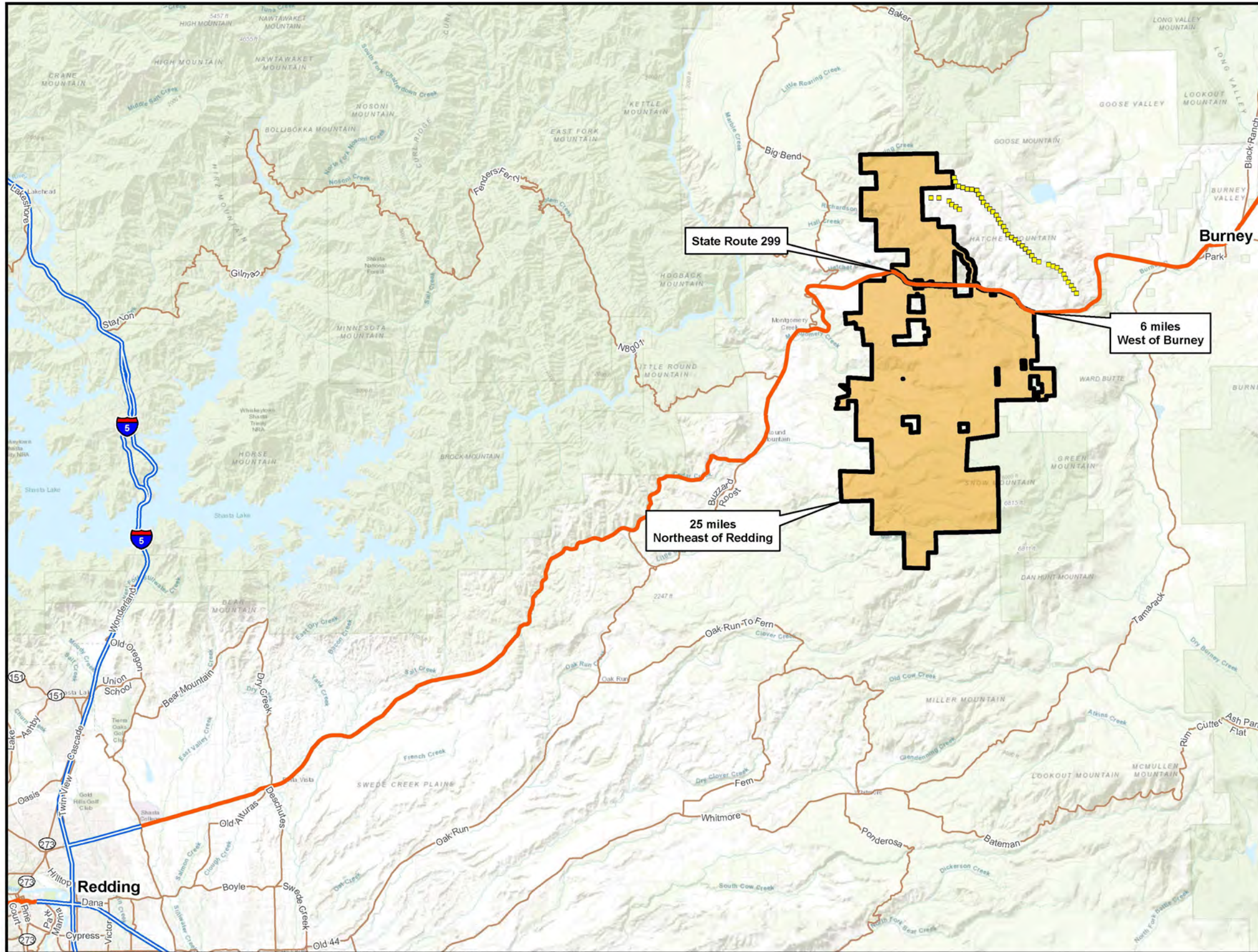
Table 3-1 lists the studies described above and provides estimated timing for the completion of each.

**Table 3-1. Summary of Studies and Estimated Timing**

Study	Prepared by (if known)	Estimated Timing
Traffic Assessment Report	Stantec	Spring 2018
Visual Resources Technical Report	Stantec	Spring 2018
Biological Surveys and Related Studies		
	Site Characterization Study	West Fall 2017 (Draft)
	Biological Survey Report	West Preliminary Results – 1Q 2017 Draft – 3Q 2018
	Eagle Use Survey Report	West Draft – 4Q 2018
	Nest Survey Memo	West Results provided – 4Q 2017 and 3Q 2018
	Bat Desktop Assessment Report	West Draft – Spring 2018
Wetlands and Waters Memorandum	Stantec	2Q 2018
Noise Technical Report	Stantec	Spring 2018
Phase 1 Cultural Resources Report	Stantec	Spring 2018
Economic Impact Analysis	Stantec	Spring 2018

## 4.0 FIGURES





**Figure 1**  
**Vicinity Map**  
 Fountain Wind Project

**Legend**

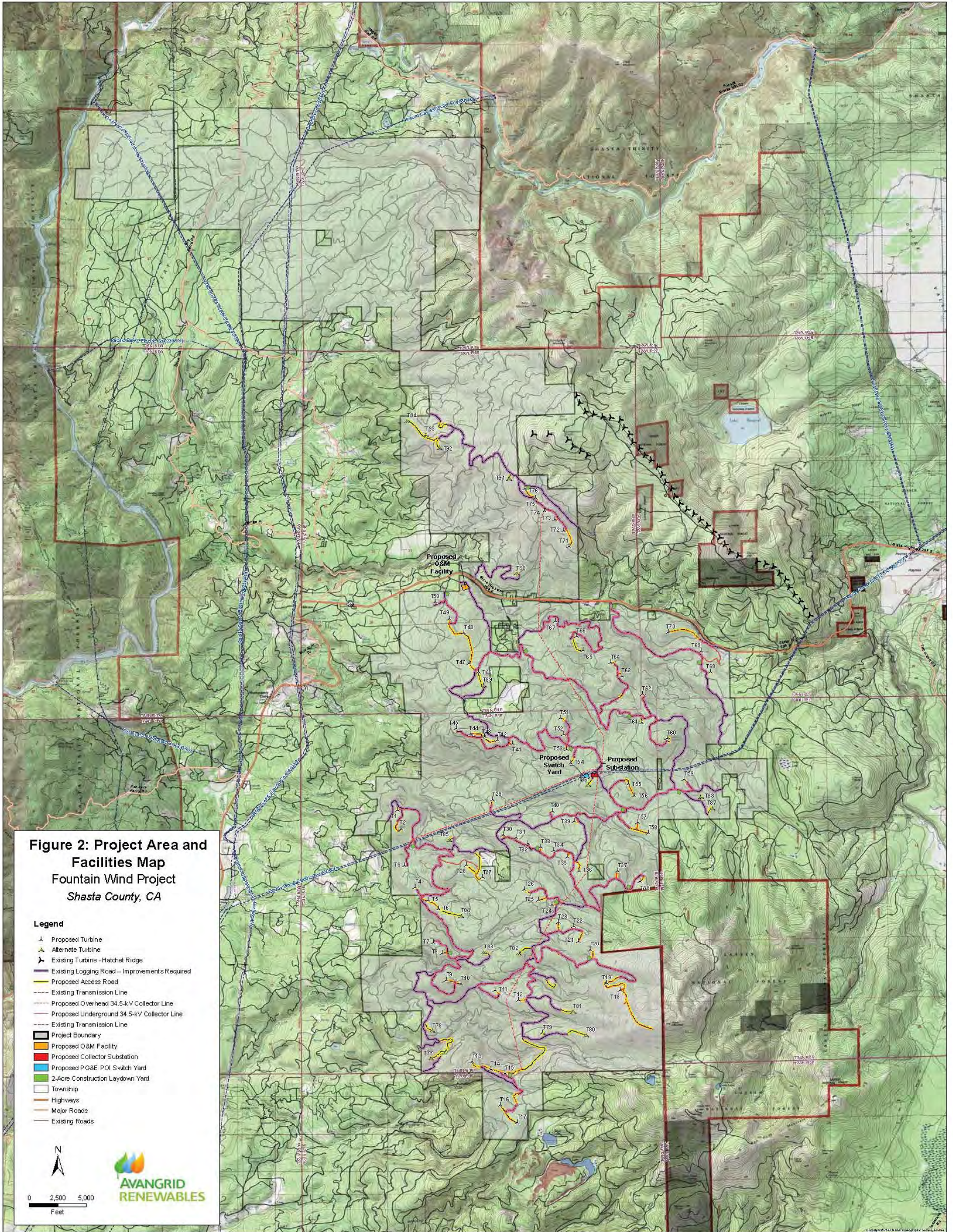
- Existing Hatchet Ridge Wind Farm Turbine
- Interstate
- Highway
- Major Road
- Project Boundary



Modified Date: 1/2/2019

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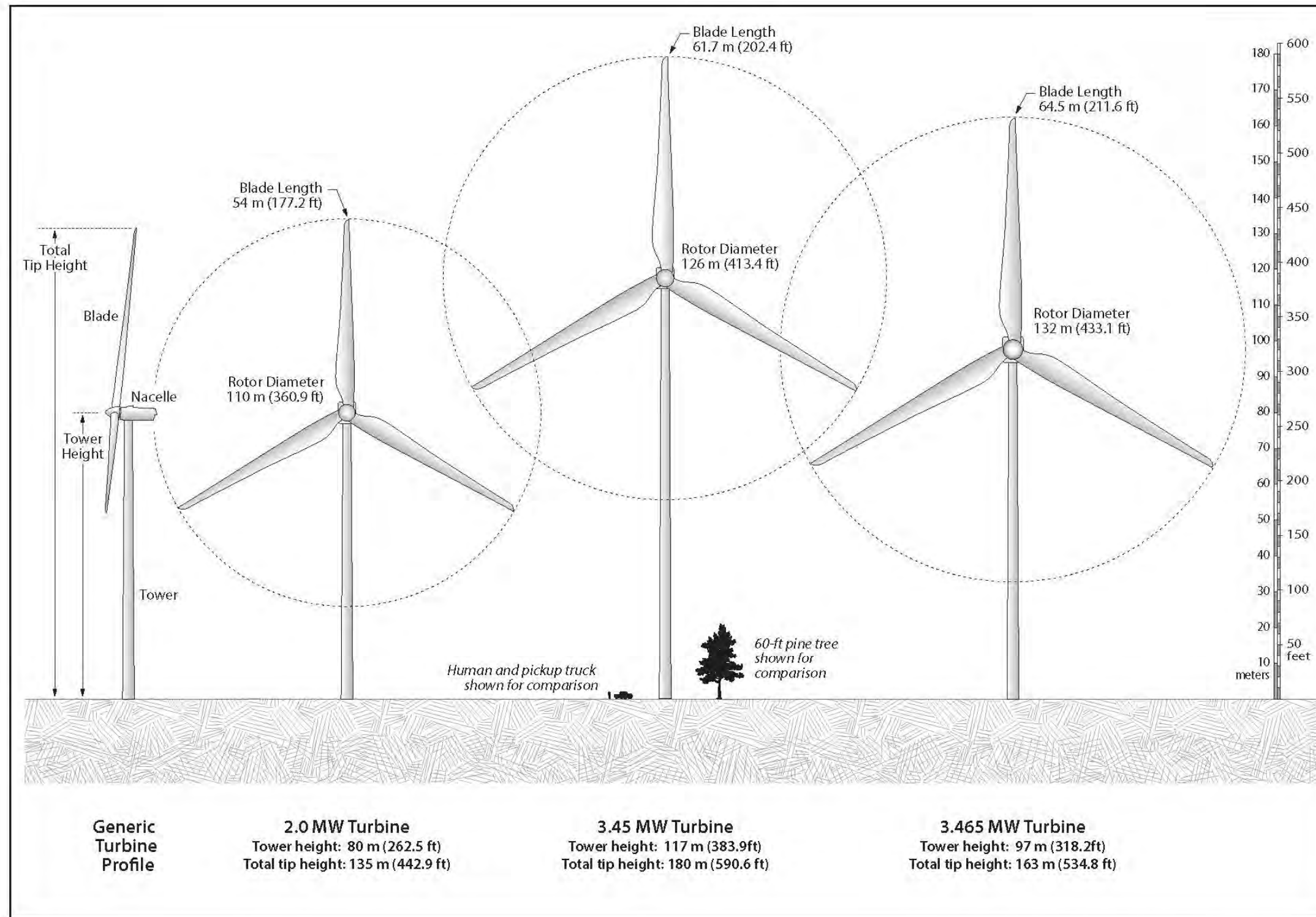
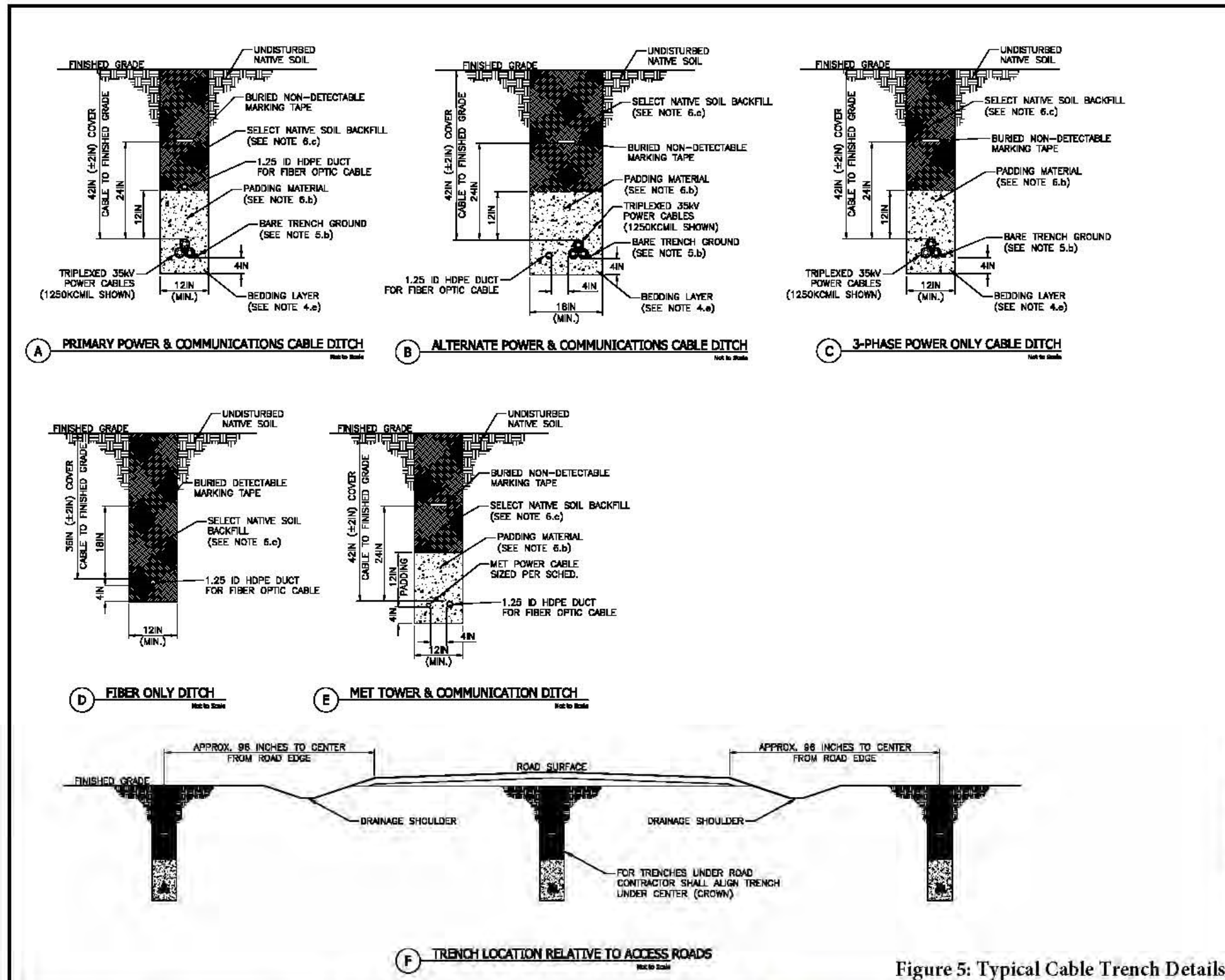


Figure 3: Typical Wind Turbine Profile







**NOTES**

1. ALL EXISTING UTILITIES MUST BE LOCATED BEFORE ANY EXCAVATION/TRENCHING IS STARTED. REGARDLESS OF OTHER UTILITY CONTACTS, CONTRACTOR MUST NOTIFY LOCAL LOCATING CLEARING HOUSE (I.E. ONECALL) OR OTHER STATE BODY.
2. ALL GRADE SURFACES THAT ARE DISTURBED SHALL BE RESTORED TO ESSENTIALLY ORIGINAL CONDITION AND TO THE SATISFACTION OF THE OWNER.
3. THE CABLE ROUTE TO BE FOLLOWED BY CONTRACTOR SHALL BE AS STAKED BY THE OWNER. ALL TRENCHES SHALL FOLLOW AS STRAIGHT A LINE AS PRACTICAL. ANY DEVIATION FROM THE ROUTING PROVIDED SHALL BE DISCUSSED WITH AND APPROVED BY THE OWNER PRIOR TO CONSTRUCTION. ROCK MAY BE REMOVED BY ANY MEANS CONTRACTOR PREFERS, EXCEPT BLASTING. BLASTING WILL NOT BE PERMITTED UNLESS SPECIALLY AUTHORIZED BY OWNER.
4. IF THE GROUND WATER LEVEL IS ABOVE THE BOTTOM OF THE TRENCH THE CONTRACTOR AND OWNER SHALL DISCUSS AND AGREE UPON AN ALTERNATIVE CABLE INSTALLATION METHOD. IF THE GROUND WATER LEVEL IS BELOW THE BOTTOM OF THE TRENCH THE FOLLOWING REQUIREMENTS SHALL BE SATISFIED:
  - 4.a. EVERY TRENCH MUST BE A MINIMUM OF 12-INCHES WIDE (WITH PROPER SLOPE FOR WEAK SOILS), AND MUST PROVIDE SUFFICIENT SPACE TO ALLOW COMPACTION AS SPECIFIED WITH THE EQUIPMENT BEING UTILIZED. THE CONTRACTOR SHALL ENSURE THAT SUFFICIENT AMOUNT OF FINE SOIL IS ADDED ABOVE CABLE FOR BACKFILLS.
  - 4.b. THE TOP SOIL MUST BE PUSHED TO ONE SIDE OF THE TRENCH ROUTE AND KEPT SEPARATE FROM BASE MATERIAL. THE STORED TOP SOIL IS TO BE SPREAD UNIFORMLY OVER THE AREA DISTURBED BY TRENCHING FOLLOWING BACKFILL AND COMPACTION.
  - 4.c. CONTRACTOR SHALL PROTECT ALL TRENCHES AND OTHER EXCAVATIONS FROM SURFACE WATER RUNOFF. ANY WATER THAT HAS ACCUMULATED IN THE EXCAVATION SHALL BE REMOVED AND ANY SOFT TRENCH BOTTOM REMOVED AND REPLACED PRIOR TO THE INSTALLATION OF THE CABLES. THIS INCLUDES REMOVAL AND REPLACEMENT OF SAND BACKFILL THAT HAS BECOME CONTAMINATED WITH SILT, ROCKS, MUD, CLAY, ETC. THE REMOVAL OF WATER AND CORRECTION OF SOFT GROUND CONDITIONS DUE TO SURFACE WATER WILL BE THE RESPONSIBILITY OF CONTRACTOR.
  - 4.d. CONTRACTOR MUST PROTECT THE PUBLIC AND LIVESTOCK FROM ALL TRENCHES AND EXCAVATIONS BY UTILIZING SUITABLE BARRICADES OR OTHER WARNING DEVICES.
  - 4.e. ALL TRENCHES SHALL BE EXCAVATED TO DEPTH AS NECESSARY TO MAINTAIN THE SPECIFIED COVER OVER THE INSTALLED CABLE. IF THE BOTTOM OF THE TRENCH CONTAINS ROCKS, WOOD, VEGETATION MATERIAL OR OTHER HARD, ROUGH, OR SHARP MATERIALS THAT COULD DAMAGE THE CABLE, THE TRENCH SHALL BE OVER-EXCAVATED AND BACKFILLED WITH A 4-INCH LAYER OF COMPACTED FINE CLEAN SOIL (NOTHING LARGER THAN WHAT WOULD PASS THROUGH A 3/8-INCH SCREEN) OR SAND PRIOR TO THE CABLE BEING LAID IN PLACE.
5. ALL DIRECT BURIED POWER CABLES SHALL BE INSTALLED IN ACCORDANCE WITH THE FOLLOWING:
  - 5.a. 34.5KV CABLES SHALL BE PLACED IN A TRIANGULAR CONFIGURATION, WITH NO INTENTIONAL SEPARATION, SECURED TOGETHER AS NEEDED WITH CABLE TIES TO ENSURE THEY REMAIN IN THIS CONFIGURATION DURING AND AFTER INSTALLATION & BACKFILL. PROPER TIEING TOOLS SHALL BE USED TO PREVENT OVER-TIGHTENING OF THE CABLE TIE.
  - 5.b. A 4/0 BARE COPPER WIRE SHALL RUN IN THE TRENCH WITH THE POWER CABLES. THERE SHALL BE NO INTENTIONAL SEPARATION BETWEEN THIS WIRE AND THE POWER CONDUCTORS.
  - 5.c. WHEN INSTALLED ABOVE THE POWER CABLES, THE INNERDUCT FOR FIBER OPTIC COMMUNICATION CABLE SHALL BE LAID ON TOP OF THE PADDING MATERIAL WHEN INSTALLED AT THE SAME DEPTH AS THE POWER CABLE. THE INNERDUCT AND THE POWER CABLE SHALL BE SEPARATED BY A MINIMUM OF 4 INCHES.
  - 5.d. WHERE TWO OR MORE PARALLEL COMMUNICATION CABLES ARE REQUIRED IN TRENCH, LAY EACH INNERDUCT NEXT TO EACH OTHER WHILE STILL MAINTAINING CLEARANCES SHOWN.
6. BACKFILL AND COMPACTION REQUIREMENTS ARE AS FOLLOWS:
  - 6.a. ALL EXCAVATED AREAS, INCLUDING TRENCHES AND BELL HOLES MUST BE THOROUGHLY COMPACTED TO NO LESS THAN 85% STANDARD PROCTOR OR 105 PCT. UNLESS OTHERWISE NOTED. COMPACTION SHALL BE BY PROPER METHODOLOGY. SPECIAL CARE MUST BE TAKEN IN THE AREAS WHERE THE THERMAL TESTING OF SOILS IN THAT AREA INDICATES A POTENTIALLY HIGH RESISTIVITY. COMPACTION BY FLOODING WILL NOT BE PERMITTED.
  - 6.b. THE FIRST 12-INCHES OF BACKFILL ABOVE THE CABLE (THIS IS THE CABLE PADDING) MUST BE FREE OF ROCKS, TOP SOIL, ROOTS, AND OTHER ORGANIC MATTER (NOTHING LARGER THAN WHAT WOULD PASS THROUGH A 3/8-INCH SCREEN). IF HEAVY STIFF CLAY IS ENCOUNTERED, THE NATIVE MATERIAL MUST BE EITHER MIXED WITH SANDY SOIL FROM OTHER STRATA IN THE SAME TRENCH, MIXED WITH FINE GRADE SAND THAT IS IMPORTED, OR REPLACED WITH IMPORTED MATERIAL. SELECT NATIVE SOIL CAN BE USED FOR THE REMAINDER OF THE TRENCH BACKFILL EXCEPT THAT LARGE CLUMPS AND ROCKS LARGER THAN 4-INCHES MUST BE EXCLUDED AND SUFFICIENT FINES PROVIDED TO ELIMINATE VOIDS.
  - 6.c. AT THE BEGINNING OF THE TRENCH BACKFILLING OPERATION, THE CONTRACTOR AND THE OWNER SHALL DETERMINE THE SUITABILITY OF THE NATIVE SOIL FOR USE AS BACKFILL AND ANY ADDITIONAL MEASURES THAT MAY BE REQUIRED TO ENSURE ADEQUATE COMPACTION.
  - 6.d. THE CONTRACTOR SHALL FILL THE TRENCH TO PRE-CONSTRUCTION GRADE WITH THE STOCKPILED TOP SOIL AND WITH ADDITIONAL BACKFILL ADDED TO ALLOW FOR SETTLING. CONTRACTOR MAY SLIGHTLY OVERFILL TRENCH IN ORDER TO ALLOW FOR SETTLING.
7. CONTRACTOR SHALL PROVIDE AND INSTALL A PLASTIC WARNING TAPE IN ALL TRENCHES DURING BACKFILLING. THIS TAPE SHALL BE INSTALLED APPROXIMATELY 24-INCHES ABOVE THE CABLES. THE TAPE SHALL BE 6" WIDE, RED WITH BLACK LETTERS, MARKED "CAUTION - BURIED ELECTRIC LINES BELOW".
8. EXCAVATED SOIL AND ROCK THAT IS NOT REUSED IN BACKFILLING THE TRENCHES IS TO BE DISTRIBUTED ACROSS THE SITE PER THE DIRECTION OF THE OWNER.
9. ALL EXCAVATION, TRENCHING AND ELECTRICAL SYSTEM CONSTRUCTION WILL BE DONE IN ACCORDANCE WITH THE FORMAL STORM WATER POLLUTION PREVENTION PLAN (SWPPP) FOR THE PROJECT.

**CONCEPTUAL DESIGN  
NOT FOR CONSTRUCTION**

Figure 5: Typical Cable Trench Details

NO.	REVISIONS	DATE	BY	CHK	APR	NO.	REVISIONS	DATE	BY	CHK	APR



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ENGINEERING RECORD	DATE
DRAWN:	
DESIGNED:	
CHECKED:	
APPROVED:	

FILE: Trench Details.dwg	SCALE: NONE	DWG. NO.:	DATE:	REV:
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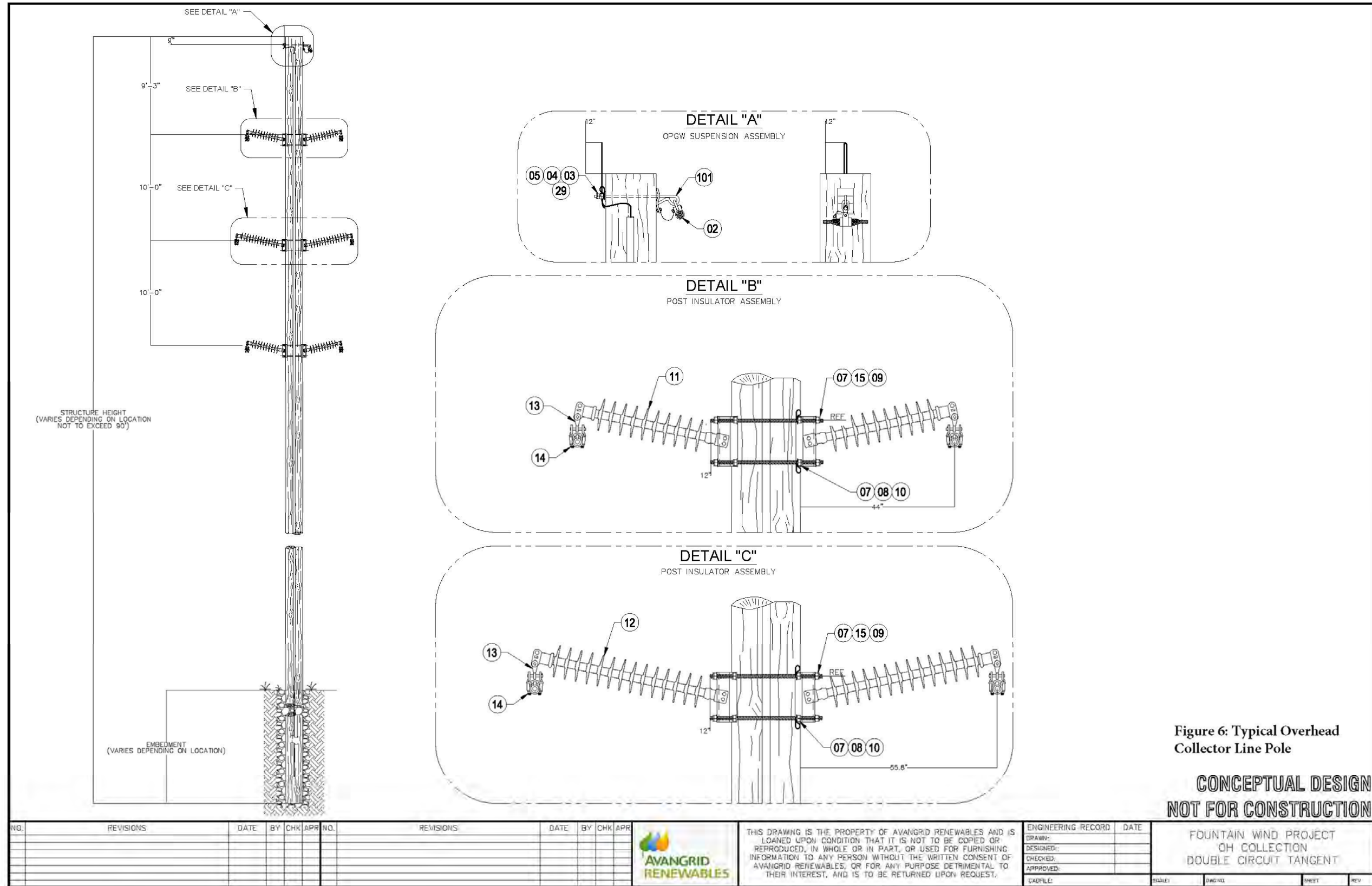


Figure 6: Typical Overhead Collector Line Pole

**CONCEPTUAL DESIGN  
NOT FOR CONSTRUCTION**

NO.	REVISIONS	DATE	BY	CHK	APR	NO.	REVISIONS	DATE	BY	CHK	APR

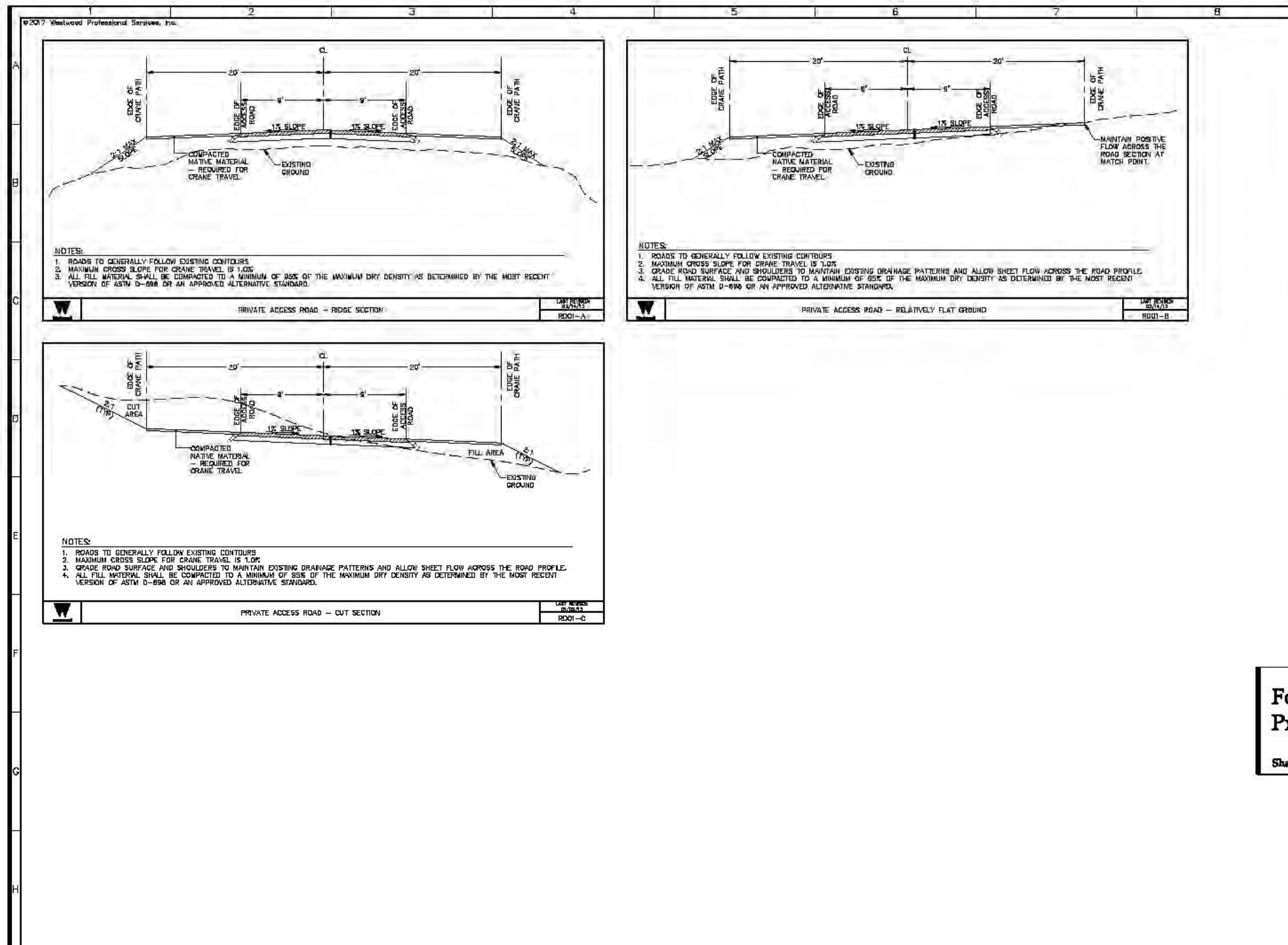


**AVANGRID  
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ENGINEERING RECORD	DATE
DRAWN:	
DESIGNED:	
CHECKED:	
APPROVED:	
CADFILE:	

SCALE:	DWG NO:	SHEET:	REV:



**Westwood**  
 1000 Westwood Drive  
 Westwood, CA 94091  
 (415) 339-1000  
 westwood.com

Designed	
Checked	
Drawn	
Approved (Name, Title)	
Reviewed (Name, Title)	
Prepared for	

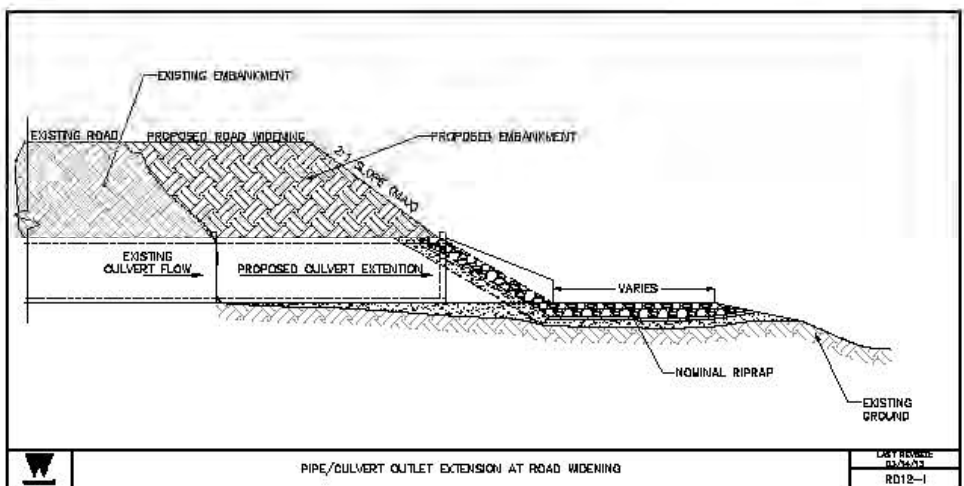
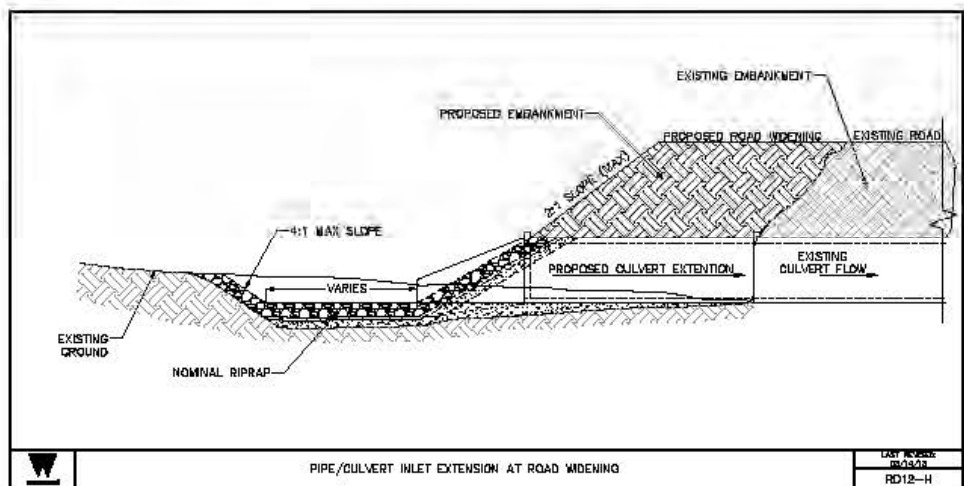
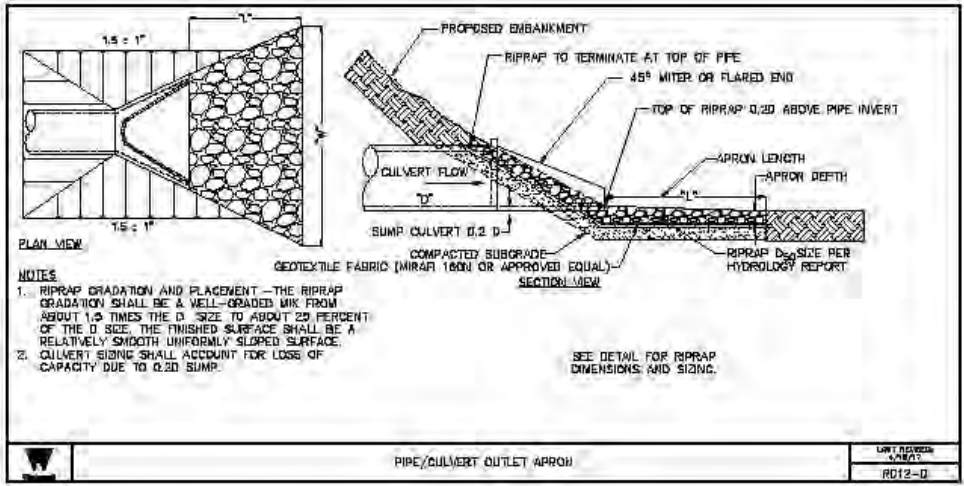
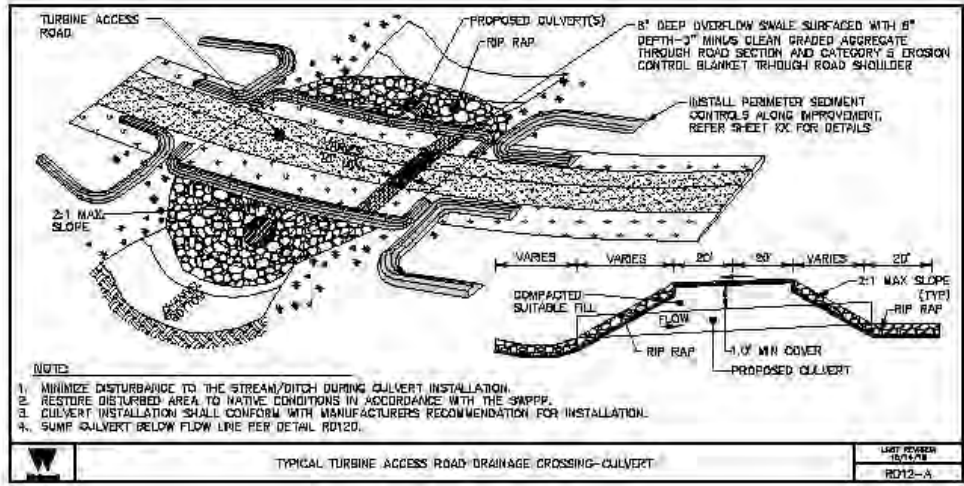


**Fountain Wind Project**  
 Shasta County, California

Access Road Details  
 Figure 7a: Access Road Cross Section Details

**NOT FOR CONSTRUCTION**

Date: 6/19/17  
 Sheet: 1 OF 1



**Westwood**

Professional Services, Inc.

1000 Airport Dr. Suite 100  
Folsom, CA 95630  
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Prepared for:

**AVANGRID**  
RENEWABLES

1105 30th Street SE, Suite 700  
Durham, NC 27709

**Fountain Wind Project**

Shasta County, California

**Drainage Details**

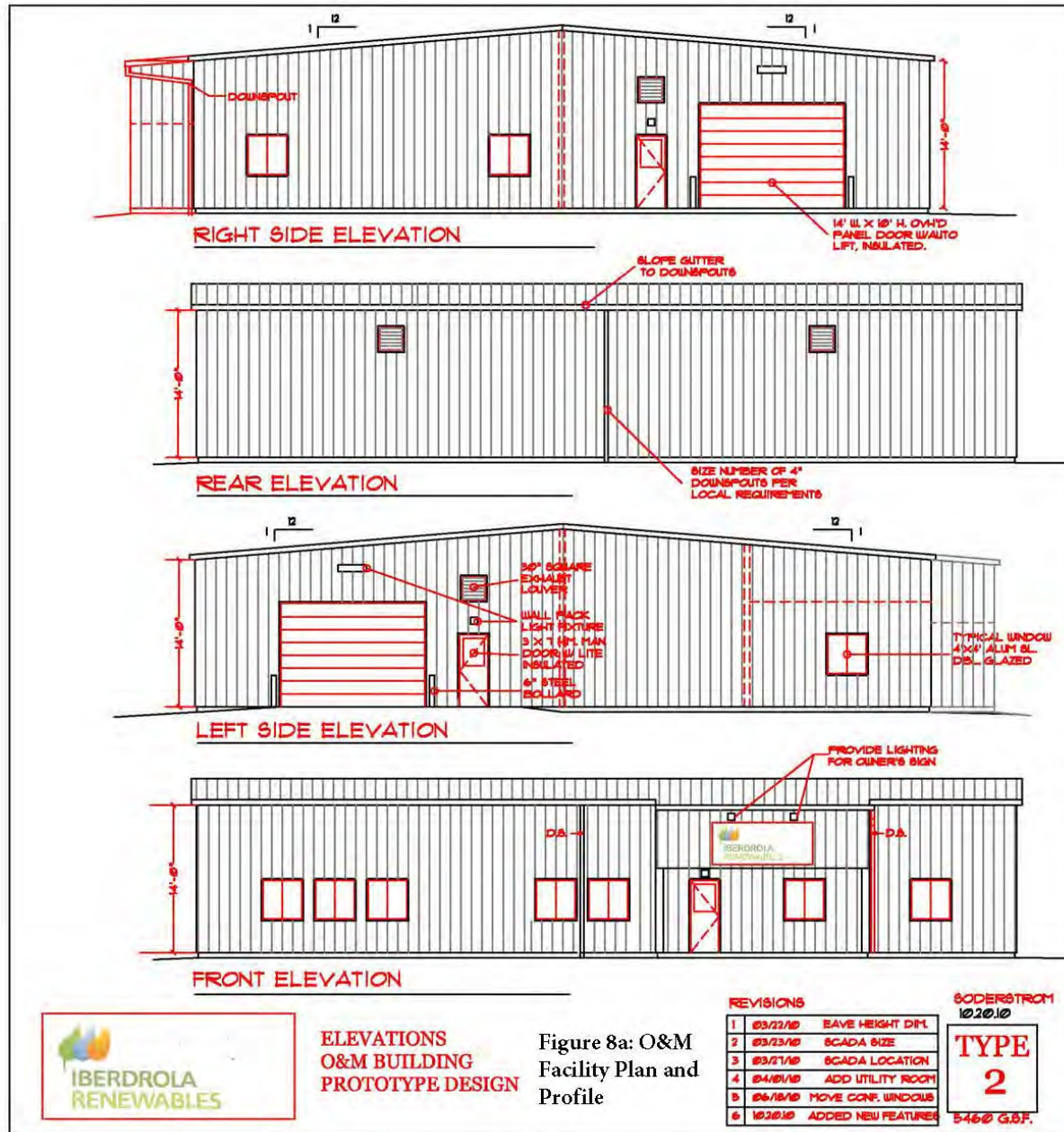
Figure 7b: Access Road Cross Section Details

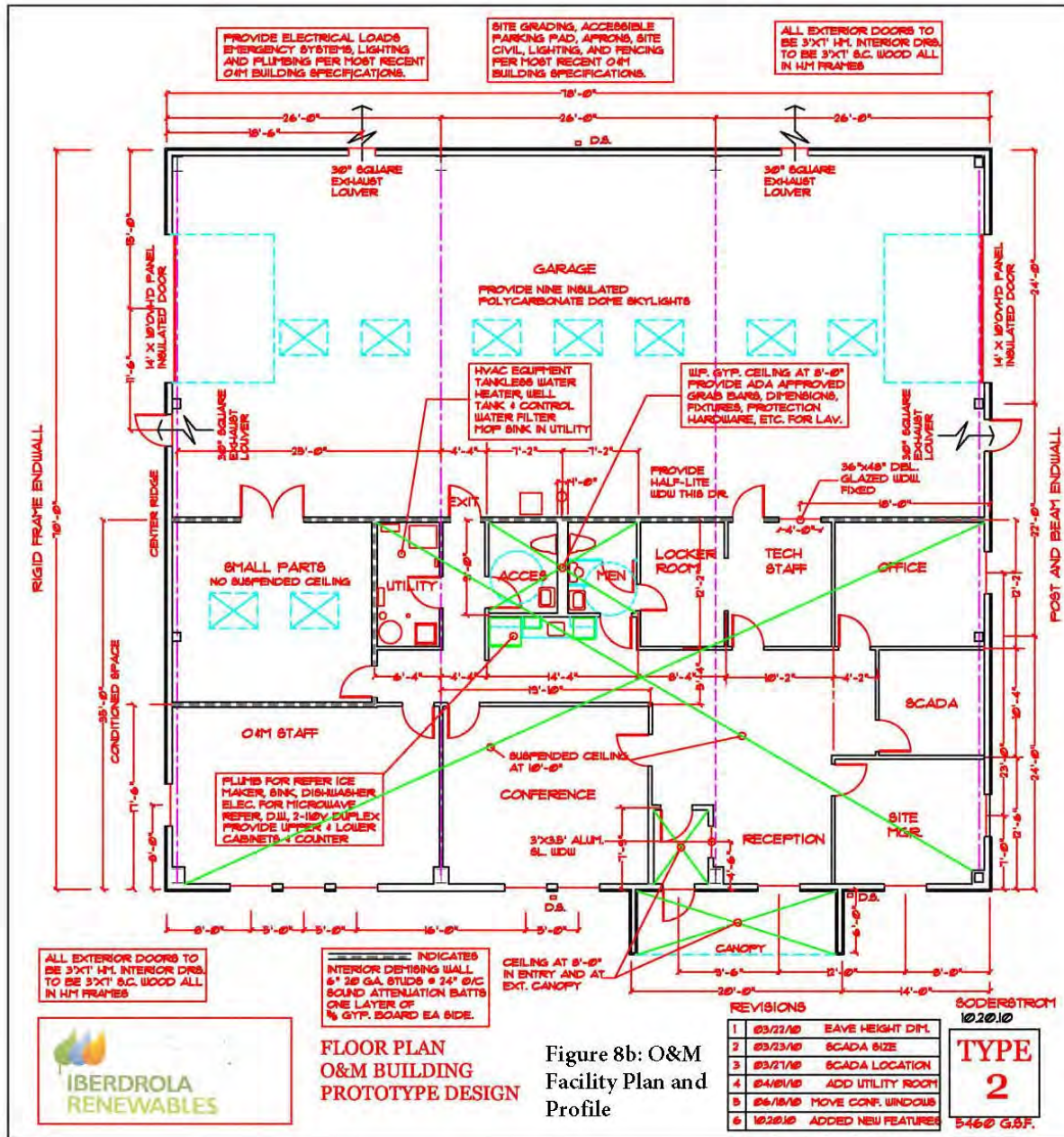
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Date: 6/19/17  
Sheet: 1 OF 1

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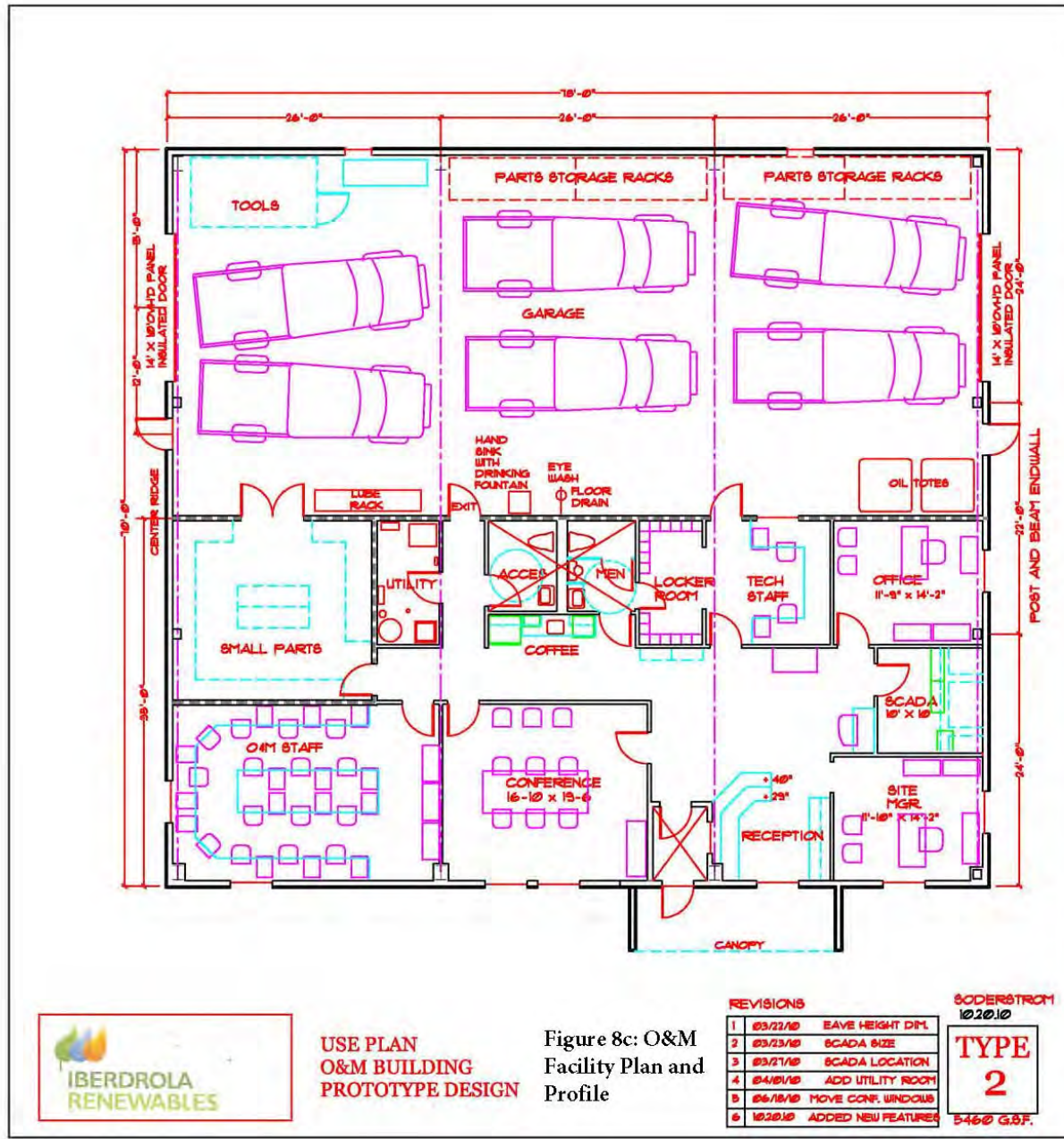




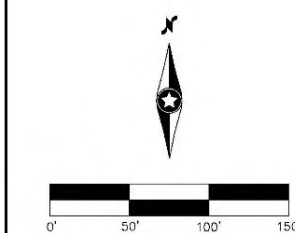


Figure 9: Site Plan O&M Facility

Designed: \_\_\_\_\_  
 Checked: \_\_\_\_\_  
 Drawn: \_\_\_\_\_  
 Record Drawing by/date: \_\_\_\_\_

Revisions #	DATE	DESCRIPTION

Prepared for:  
  
**AVANGRID RENEWABLES**  
 1125 NW Couch St, Suite 700  
 Portland, OR 97209



**Fountain Wind Project**  
 Shasta County, California

O&M Exhibit

NOT FOR CONSTRUCTION

Date: 09/05/17  
 Sheet: 1 OF 1

## 5.0 INITIAL STUDY COMMENTS

**PROJECT NUMBER** Fountain Wind Project (UP16-007) - Pacific Wind Development, LLC

### **GENERAL COMMENTS:**

**Special Studies:** The following project-specific studies have been completed for the proposal and will be considered as part of the record of decision for the Negative Declaration. These studies are available for review through the Shasta County Planning Division.

1. Desktop Geotechnical Report, \*(Prepared by Barr), \*(January, 2017).

**Agency Referrals:** Prior to an environmental recommendation, referrals for this project were sent to agencies thought to have responsible agency or reviewing agency authority. The responses to those referrals (attached), where appropriate, have been incorporated into this document and will be considered as part of the record of decision for the Negative Declaration. Copies of all referral comments may be reviewed through the Shasta County Planning Division. To date, referral comments have been received from the following State agencies or any other agencies which have identified CEQA concerns:

1. Burney Fire Protection District
2. California Department of Fish and Wildlife
3. California Department of Transportation
4. Central Valley Regional Water Quality Control Board
5. Frontier Communications
6. Pit Rive Tribe
7. Shasta County Assessor/Recorder
8. Shasta County Air Quality Management District
9. Shasta County Fire Department
10. Shasta County Office of the Sheriff
11. Shasta Mosquito and Vector Control District
12. Wintu Audubon Society

**Conclusion/Summary:** Based on a field review by the Planning Division and other agency staff, early consultation review comments from other agencies, information provided by the applicant, and existing information available to the Planning Division, the project, may have a “potentially significant impact” on the environment, and an environmental impact report is required.



## 6.0 REFERENCES

- APLIC (Avian Powerline Interaction Committee) 2012. Reducing Avian Collisions with Power Lines - The State of The Art in 2012. Edison Electrical Institute. <http://www.eei.org/resourcesandmedia/products/Pages/ProductDetails.aspx?prod=F20558BF-A097-4289-A8BA-1674B6096523&type=P>
- California Department of Conservation. 2017. Shasta County Williamson Act FY 2006/2007. Sheet 2 of 2. [ftp://ftp.consrv.ca.gov/pub/dlrp/wa/Shasta\\_e\\_06\\_07\\_WA.pdf](ftp://ftp.consrv.ca.gov/pub/dlrp/wa/Shasta_e_06_07_WA.pdf)
- California Energy Commission and California Department of Fish and Game. 2007. California Guidelines for Reducing Impacts to Birds and Bats from Wind Energy Development. Available online: <http://www.energy.ca.gov/2007publications/CEC-700-2007-008/CEC-700-2007-008-CMF.PDF>
- Johnson, G. D., and S. E. Stephens. 2011. Wind Power and Bio Fuels: A Green Dilemma for Wildlife Conservation. Chapter 8. Pp. 131-155. In: D. E. Naugle, ed. Energy Development and Wildlife Conservation in Western North America. Island Press, Washington, D.C.
- Shasta County. 2004. Shasta County General Plan as Amended Through September 2004. September. Available online: [https://www.co.shasta.ca.us/index/drm\\_index/planning\\_index/plng\\_general\\_plan.aspx](https://www.co.shasta.ca.us/index/drm_index/planning_index/plng_general_plan.aspx)
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- Tetra Tech, Inc. 2013. Hatchet Ridge Wind Farm Post-Construction Mortality Monitoring Year Two Annual Report. Prepared for: Hatchet Ridge Wind, LLC, Portland, Oregon. Available online at: <http://wintuadubon.org/Documents/HatchetRidgeYear2FinalReport3-13.pdf>
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- USFWS (U.S. Fish and Wildlife Service). 2012. Land-Based Wind Energy Guidelines. March 23, 2012. 82 pp. Available online: [http://www.fws.gov/cno/pdf/Energy/2012\\_Wind\\_Energy\\_Guidelines\\_final.pdf](http://www.fws.gov/cno/pdf/Energy/2012_Wind_Energy_Guidelines_final.pdf)
- USFWS. 2013. Eagle Conservation Plan Guidance: Module 1 - Land-Based Wind Energy, Version 2. US Department of the Interior, Fish and Wildlife Service, Division of Migratory Bird Management. April 2013. Executive Summary and front matter + 103 pp.
- USFWS. 2016. Eagle Permits; Revisions to Regulations for Eagle Incidental Take and Take of Eagle Nests; Final Rule. 50 CFR 13 and 22. United States Fish and Wildlife Service, Department of the Interior. 81 Federal Register (Fr) 242: 91494-91554. December 16, 2016.
- Woodbridge, B., and C. D. Hargis. 2006. Northern Goshawk Inventory and Monitoring Technical Guide. General Technical Report WO-71. U.S. Department of Agriculture (USDA), Forest Service, Washington, D.C. 80 pp. July 2006.

## **7.0 SOURCES OF DOCUMENTATION FOR INITIAL STUDY CHECKLIST**

In addition to the above, the following are sources of documentation for Initial Study Checklists in Shasta County. All headings of this source document correspond to the headings of the initial study checklist. In addition to the resources listed below, initial study analysis may also be based on field observations by the staff person responsible for completing the initial study. Most resource materials are on file in the office of the Shasta County Department of Resource Management, Planning Division, 1855 Placer Street, Suite 103, Redding, CA 96001, Phone: (530) 225-5532.

### **GENERAL PLAN AND ZONING**

1. Shasta County General Plan and land use designation maps.
2. Applicable community plans, airport plans and specific plans.
3. Shasta County Zoning Ordinance (Shasta County Code Title 17) and zone district maps.

### **ENVIRONMENTAL IMPACTS**

#### **I. AESTHETICS**

1. Shasta County General Plan, Section 6.8 Scenic Highways, and Section 7.6 Design Review.
2. Zoning Standards per Shasta County Code, Title 17.

#### **II. AGRICULTURAL AND FORESTRY RESOURCES**

1. Shasta County General Plan, Section 6.1 Agricultural Lands.
2. Shasta County General Plan, Section 6.2 Timber Lands.
3. Soil Survey of Shasta County Area, California, published by U.S. Department of Agriculture, Soil Conservation Service and Forest Service, August 1974.

#### **III. AIR QUALITY**

1. Shasta County General Plan Section, 6.5 Air Quality.
2. Northern Sacramento Valley Air Basin, 2006 Air Quality Attainment Plan.
3. Records of, or consultation with, the Shasta County Department of Resource Management, Air Quality Management District.

#### **IV. BIOLOGICAL RESOURCES**

1. Shasta County General Plan, Section 6.2 Timberlands, and Section 6.7 Fish and Wildlife Habitat.
2. Designated Endangered, Threatened, or Rare Plants and Candidates with Official Listing Dates, published by the California Department of Fish and Wildlife.
3. Natural Diversity Data Base Records of the California Department of Fish and Wildlife.
4. Federal Listing of Rare and Endangered Species.
5. Shasta County General Plan, Section 6.7 Fish and Wildlife Habitat.
6. State and Federal List of Endangered and Threatened Animals of California, published by the California Department of Fish and Wildlife.
7. Natural Diversity Data Base Records of the California Department of Fish and Wildlife.

#### **V. CULTURAL RESOURCES**

1. Shasta County General Plan, Section 6.10 Heritage Resources.
2. Records of, or consultation with, the following:
  - a. The Northeast Information Center of the California Historical Resources Information System, Department of Anthropology, California State University, Chico.
  - b. State Office of Historic Preservation.
  - c. Local Native American representatives.
  - d. Shasta Historical Society.

## **VI. GEOLOGY AND SOILS**

1. Shasta County General Plan, Section 5.1 Seismic and Geologic Hazards, Section 6.1 Agricultural Lands, and Section 6.3 Minerals.
2. County of Shasta, Erosion and Sediment Control Standards, Design Manual
3. Soil Survey of Shasta County Area, California, published by U.S. Department of Agriculture, Soil Conservation Service and Forest Service, August 1974.
4. Alquist - Priolo, Earthquake Fault Zoning Maps.

## **VII. GREENHOUSE GAS EMISSIONS**

1. Shasta Regional Climate Action Plan
2. California Air Pollution Control Officers Association (White Paper) CEQA & Climate Change, Evaluating and Addressing Greenhouse Gas Emissions from Projects Subject to the California Environmental Quality Act

## **VIII. HAZARDS AND HAZARDOUS MATERIALS**

1. Shasta County General Plan, Section 5.4 Fire Safety and Sheriff Protection, and Section 5.6 Hazardous Materials.
2. County of Shasta Multi-Hazard Functional Plan
3. Records of, or consultation with, the following:
  - a. Shasta County Department of Resource Management, Environmental Health Division.
  - b. Shasta County Fire Prevention Officer.
  - c. Shasta County Sheriff's Department, Office of Emergency Services.
  - d. Shasta County Department of Public Works.
  - e. California Environmental Protection Agency, California Regional Water Quality Control Board, Central Valley Region.

## **IX. HYDROLOGY AND WATER QUALITY**

1. Shasta County General Plan, Section 5.2 Flood Protection, Section 5.3 Dam Failure Inundation, and Section 6.6 Water Resources and Water Quality.
2. Flood Boundary and Floodway Maps and Flood Insurance Rate Maps for Shasta County prepared by the Federal Emergency Management Agency, as revised to date.
3. Records of, or consultation with, the Shasta County Department of Public Works acting as the Flood Control Agency and Community Water Systems manager.

## **X. LAND USE AND PLANNING**

1. Shasta County General Plan land use designation maps and zone district maps.
2. Shasta County Assessor's Office land use data.

## **XI. MINERAL RESOURCES**

1. Shasta County General Plan Section 6.3 Minerals.

## **XII. NOISE**

1. Shasta County General Plan, Section 5.5 Noise and Technical Appendix B.

## **XIII. POPULATION AND HOUSING**

1. Shasta County General Plan, Section 7.1 Community Organization and Development Patterns.
2. Census data from U.S. Department of Commerce, Bureau of the Census.
3. Census data from the California Department of Finance.
4. Shasta County General Plan, Section 7.3 Housing Element.
5. Shasta County Department of Housing and Community Action Programs.

## **XIV. PUBLIC SERVICES**

1. Shasta County General Plan, Section 7.5 Public Facilities.
2. Records of, or consultation with, the following:
  - a. Shasta County Fire Prevention Officer.

- b. Shasta County Sheriff's Department.
- c. Shasta County Office of Education.
- d. Shasta County Department of Public Works.

**XV. RECREATION**

- 1. Shasta County General Plan, Section 6.9 Open Space and Recreation.

**XVI. TRANSPORTATION/TRAFFIC**

- 1. Shasta County General Plan, Section 7.4 Circulation.
- 2. Records of, or consultation with, the following:
  - a. Shasta County Department of Public Works.
  - b. Shasta County Regional Transportation Planning Agency.
  - c. Shasta County Congestion Management Plan/Transit Development Plan.
- 3. Institute of Transportation Engineers, Trip Generation Rates.

**XVII. TRIBAL CULTURAL RESOURCES**

- 1. Tribal Consultation in accordance with Public Resources Code section 21080.3.1

**XVIII. UTILITIES AND SERVICE SYSTEMS**

- 1. Records of, or consultation with, the following:
  - a. Pacific Gas and Electric Company.
  - b. Pacific Power and Light Company.
  - c. Pacific Bell Telephone Company.
  - d. Citizens Utilities Company.
  - e. T.C.I.
  - f. Marks Cablevision.
  - g. Shasta County Department of Resource Management, Environmental Health Division.
  - h. Shasta County Department of Public Works.