

3 ENVIRONMENTAL SETTING, IMPACTS, AND MITIGATION MEASURES

3.0 APPROACH TO THE ENVIRONMENTAL ANALYSIS

3.0.1 INTRODUCTION

The State CEQA Guidelines require an EIR to include an evaluation of potentially significant effects on the physical environment associated with the project and to identify feasible mitigation for those effects. All of the project components (i.e., the generation component, transmission component, and haul component) are evaluated in this analysis. California Code of Regulations (CCR) Title 14, Section 15126.2 (14 CCR Section 15126.2) states that:

An EIR shall identify and focus on the significant environmental effects of the proposed project. In assessing the impact of a proposed project on the environment, the lead agency should normally limit its examination to changes in the existing physical conditions in the affected area as they exist at the time the notice of preparation [NOP] is published, or where no [NOP] is published, at the time environmental analysis is commenced. Direct and indirect significant effects of the project on the environment shall be clearly identified and described, giving due consideration to both the short-term and long-term effects. The discussion should include relevant specifics of the area, the resources involved, physical changes, alterations to ecological systems, and changes induced in population distribution, population concentration, and human use of the land (including commercial and residential development), health and safety problems caused by the physical changes, and other aspects of the resource base such as water, historical resources, scenic quality, and public services. The EIR shall also analyze any significant environmental effects the project might cause by bringing development and people into the area affected.

An EIR also must include a discussion of inconsistencies between the project and applicable general plans and regional plans (14 CCR Section 15125[d]).

According to 14 CCR Section 15126.4, an EIR must describe potentially feasible measures that could avoid or minimize significant adverse impacts (14 CCR Section 15126.4[a][1]) and feasible and practicable measures that are fully enforceable through permit conditions, agreements, or other legally binding process (14 CCR Section 15126.4[a][2]). Mitigation measures are not required for impacts that are found to be less than significant.

This draft document is known as a DEIR. The following discussion introduces Chapter 3 of this DEIR, which addresses the environmental setting, impacts, and mitigation measures for each environmental issue area, and explains the organization and general assumptions used in the analysis. The reader is referred to the individual technical sections regarding specific assumptions, methodology, and significance criteria (thresholds of significance) used in the analysis and determination of significance of impacts.

Each section of Chapter 3 presents a discussion of existing conditions, environmental impacts associated with implementing the project, mitigation measures to avoid or reduce the level of impact, and residual significant impacts (i.e., impacts that would be significant and unavoidable despite implementation of feasible mitigation measures). Issues evaluated in these sections consist of a full range of environmental topics, originally identified

for review in the NOP that was prepared under CEQA requirements for the project and identified in scoping comments on the NOP. The NOP is included in the scoping report that was prepared for the project (Appendix A). Each section in Chapter 3 contains the types of information described below.

3.0.2 SECTION CONTENTS AND DEFINITION OF TERMS

This chapter is organized by issue area, generally corresponding to topics in the CEQA Environmental Checklist (State CEQA Guidelines Appendix G, as amended). As described below, each section in the chapter follows the same format.

ENVIRONMENTAL SETTING

The “Environmental Setting” section provides an overview of the baseline conditions of the physical environment (i.e., the environmental baseline) at project study sites and in the surrounding areas as appropriate, in accordance with 14 CCR Section 15125. The baseline conditions are those that existed at the time the NOP was published, on July 31, 2018. This approach is consistent with the State CEQA Guidelines (14 CCR Section 15125).

REGULATORY SETTING

The “Regulatory Setting” section identifies relevant plans, policies, laws, regulations, and ordinances, and describes required authorizations, permits, and other approvals necessary to implement the project. As noted above, the DEIR needs to address possible conflicts between the proposed project and the objectives of federal, state, regional, or local formally adopted land use plans, policies, or controls for the project area.

According to State CEQA Guidelines Section 15125(d), an EIR “shall discuss any inconsistencies between the proposed project and applicable general plans and regional plans.”

The proposed project would affect a variety of geographical areas. Two general plans would apply to different parts of the project: the *Humboldt County General Plan* (General Plan) and the *City of Fortuna General Plan*. The City of Rio Dell and the City of Ferndale are not included because the project would only allow emergency egress through those jurisdictions. For some issue areas, no policies of a particular jurisdiction’s general plan may apply, depending on the type of improvements or changes proposed within that jurisdiction. Where this is the case, the “Regulatory Setting” section includes a note that no policies from this jurisdiction’s general plan would apply to the project.

ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

The “Environmental Impacts and Mitigation Measures” section identifies potential project impacts on the existing human and natural environment, in accordance with the State CEQA Guidelines (14 CCR Sections 15125 and 15143). The following discussions are included in this section.

“**Thresholds of Significance**” presents criteria established by the lead agencies to define at what level an impact would be considered significant, in accordance with CEQA. Thresholds may be quantitative or qualitative. They may be based on examples found in CEQA regulations or the State CEQA Guidelines; scientific and factual data relative to the lead agency’s jurisdiction; legislative or regulatory performance standards of federal, state, regional, or local agencies, relevant to the impact analysis; Humboldt County (County) goals, objectives, and policies (e.g., the General Plan); views of the public in the affected project area; the policy/regulatory

environment of affected jurisdictions; or other factors. Generally, however, the thresholds of significance are derived from Appendix G of the State CEQA Guidelines, as amended; factual or scientific information and data; and regulatory standards of federal, state, regional, and local agencies.

“**Analysis Methodology**” describes the methods, process, procedures, and/or assumptions used to formulate and conduct the impact analysis.

“**Issues Not Discussed Further**,” where included, summarizes any significance thresholds that are not addressed further in the “Impacts and Mitigation Measures” discussion because they would not be applicable to the project.

“**Impacts and Mitigation Measures**” presents an assessment of the potential direct and indirect impacts of the proposed project (including off-site infrastructure and roadway improvements) on the environmental setting and specifies the level of each impact. Impact levels have been determined by comparing estimated effects with baseline conditions, using the significance thresholds described above. Under CEQA, the environmental setting as it exists at the time the NOP is published (as defined above and as described in the “Environmental Setting” sections of Chapter 3) normally represents baseline physical conditions. See Section 3.0.3, “Terminology Used to Describe Impacts,” below, for definitions of direct and indirect impacts and levels of significance under CEQA.

Impacts are listed numerically and sequentially throughout each section of Chapter 3. For example, impacts in Section 3.3 are identified as 3.3-1, 3.3-2, and so on. Each impact discussion begins with an impact statement and summary of the impact. The discussion that follows the impact statement includes an analysis of the evidence, used to determine a conclusion regarding the level of impact.

Mitigation measures to avoid, minimize, rectify, reduce, or compensate for significant and potentially significant impacts of the project, in accordance with the State CEQA Guidelines (Sections 15370, 15002[a][3], 15021[a][2], and 15091[a][1]), where feasible, are recommended for each significant impact. Each mitigation measure is identified numerically, to correspond with the number of the impact being reduced by the measure. For example, Mitigation Measure 3.3-1 would mitigate Impact 3.3-1.

In addition to the impact analysis in Chapter 3 of this DEIR, Chapter 4, “Cumulative Impacts,” analyzes any impacts that would result from the incremental impact of the proposed project when compounded with other past, present, and reasonably foreseeable future projects.

3.0.3 TERMINOLOGY USED TO DESCRIBE IMPACTS

IMPACT LEVELS

This DEIR uses the following terminology to denote the significance of environmental impacts of the project:

- ▶ **No impact** indicates that the construction, operation, and maintenance of the project would not have any direct or indirect effects on the environment. It means no change from existing conditions. This impact level does not require mitigation.
- ▶ A **less-than-significant impact** is one that would not result in a substantial or potentially substantial adverse change in the physical environment. This impact level does not require mitigation, even if feasible, under CEQA.

- ▶ A **significant impact** is defined by CEQA Section 21068 as one that would cause “a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project.” Under CEQA, mitigation measures or alternatives to the project must be provided, where feasible, to reduce the magnitude of significant impacts.
- ▶ A **potentially significant impact** is one that, if it were to occur, would be considered a significant impact as described above; however, the occurrence of the impact cannot be immediately determined with certainty. For CEQA purposes, a potentially significant impact is treated as if it were a significant impact.
- ▶ A **significant and unavoidable impact** is one that would result in a substantial or potentially substantial adverse effect on the environment, and that could not be reduced to a less-than-significant level even with any feasible mitigation. Under CEQA, a project with significant and unavoidable impacts could proceed, but the lead agency would be required to prepare a “statement of overriding considerations” in accordance with State CEQA Guidelines Section 15093, explaining why the lead agency would proceed with the project in spite of the potential for significant impacts.
- ▶ A **beneficial impact** is an impact that is considered to cause a positive change or improvement in the environment and for which no mitigation measures are required.
- ▶ An impact may have a level of significance that is too uncertain to be reasonably determined, which would be designated **too speculative for meaningful evaluation**, in accordance with State CEQA Guidelines Section 15145. Where some degree of evidence points to the reasonable potential for a significant effect, the DEIR may explain that a determination of significance is uncertain but still is assumed to be “potentially significant,” as described above. In other circumstances, after thorough investigation, the determination of significance still may be too speculative to be meaningful. This is an effect for which the degree of significance cannot be determined for specific reasons, such as because aspects of the impact itself either are unpredictable or the severity of consequences cannot be known at this time.

IMPACT MECHANISMS

Mechanisms that could cause impacts are discussed for each issue area. General categories of impact mechanisms are construction of the project and activities related to future operations, as described in Chapter 2, “Project Description.”

If the project is approved, site work could begin as early as October 2019. The environmental analysis focuses on the baseline at the time the NOP was published (July 31, 2018). Project effects fall into the following three categories:

- ▶ A **temporary effect** would occur only during construction or decommissioning activities. The environmental analysis addresses potentially significant impacts from the direct effects of construction in the generation area, or along transmission routes or road improvement areas. These effects may include direct effects associated with site development, required on- and off-site infrastructure and roadway improvements, and indirect construction impacts associated with proposed construction staging areas, fill activities, and construction traffic.
- ▶ A **short-term effect** would last from the time construction ceases up to 3 years following construction.

- ▶ A **long-term effect** would last longer than 3 years following completion of construction. In some cases, a long-term effect could be considered a permanent effect.

Two types of impacts are possible:

- ▶ A **direct impact** is an impact that would be caused by an action and would occur at the same time and place as the action.
- ▶ An **indirect impact** is an impact that would be caused by an action but would occur later in time, or at another location, yet is reasonably foreseeable in the future. Examples of indirect impacts include growth-inducing effects and other effects related to changes in land use patterns, population density, or growth rate and related effects on the physical environment.

In accordance with California Public Resources Code (PRC) Section 21081.6(a), the County Planning Commission or Board of Supervisors on appeal, if it approves the project, will adopt a mitigation monitoring and reporting program (MMRP) at the time that it certifies the final EIR. The County Planning Commission also will be required to adopt findings identifying each significant effect of the project and the extent to which feasible mitigation measures have been adopted (PRC Section 21081).

The following terms also are used in the impact analyses:

- ▶ A **cumulative impact** is a project impact that is cumulatively considerable (and thus significant) when compounded with impacts from other past, present, and reasonably foreseeable future projects. A project's incremental effects are not "cumulatively considerable" solely because other projects would have a significant cumulative impact; rather, the project also would need to contribute considerably to worsening these impacts.
- ▶ **Construction** applies to activities associated with ground disturbance, construction of new structures and supporting infrastructure and roadways, and demolition of existing structures.
- ▶ "**No feasible mitigation measures are available**" is stated in the discussion of mitigation if the impact would be significant and unavoidable, and no feasible mitigation is available to reduce the magnitude of the impact to a less-than-significant level.

3.1 IMPACTS FOUND NOT TO BE SIGNIFICANT

3.1.1 LAND USE AND PLANNING

Potential land use and planning impacts would result from a conflict with an applicable land use plan, policy, or regulation adopted for avoiding or mitigating an environmental effect, including an applicable habitat conservation plan. Additional land use effects would result from a project that physically divided an established community.

HUMBOLDT COUNTY GENERAL PLAN

The General Plan's land use designation for the majority of this area is Timber, with a smaller amount of Agricultural Grazing. About 100 acres of the project area have a designation of Residential Agriculture. Utilities and energy facilities, including the "erection, construction, alteration, or maintenance of gas, electric, water or

communications transmission facilities, and wind or hydroelectric solar or biomass generation, and other fuel or energy production facilities” are compatible uses in the Timber, Agricultural Grazing, and Residential Agriculture land use designations. Development in Residential Agriculture would require a conditional use permit (CUP) from the County. General Plan Policy E-P3 states that the County supports renewable energy development projects, such as wind. Standard E-S3 states the following:

- A. Unless allowed by right pursuant to California Government Code, Section 65892.13(f) as amended, wind generating facilities shall be a conditionally permitted use in all land use designations except “resource dependent” (MR).
- B. The following shall be considered in reviewing proposed wind generating facilities: parcel size, relationship to other structures, effect on potential down-wind sites, compliance with Uniform Building Code and national Electrical Code, rotor and tower safety, noise, electromagnetic interference, utility notification, height, liability insurance, and appearance and design.
- C. Findings necessary for project approval shall be:
 - 1. The proposed use is not detrimental to the public health, convenience, safety, and welfare.
 - 2. That the use of the property for such purposes will not result in material damage or prejudice to other property in the vicinity.
 - 3. Within the Coastal Zone, the project will not have a significant adverse effect on coastal resources, including wildlife qualities.

Standard E-S5 applies to electrical transmission lines. It states:

- A. Transmission line rights-of-way shall be routed to minimize impacts on the viewshed in the coastal zone, especially in highly scenic areas, and to avoid locations that are on or near habitat, recreational, or archaeological resources, whenever feasible. Scarring, grading, or other vegetative removal shall be minimized and revegetated with plants similar to those in the area.
- B. Where above-ground transmission line placement would unavoidably affect views, underground placement shall be required where it is technically and economically feasible, unless it can be shown that other alternatives are less environmentally damaging. When above-ground facilities are necessary, design of the support towers shall be compatible with the surroundings to the extent safety and economic considerations allow.
- C. Above-ground transmission lines should be sited so as to minimize visual impacts.
- D. Siting of transmission lines should avoid the crests of roadways to minimize their visibility on distant views. Where visual impacts would be minimized, lines should cross the roadway at a downhill low elevation site or a curve in the road.
- E. New major steel tower electrical transmission facilities should be consolidated with existing electrical steel-tower transmission facilities unless there are social, aesthetic, or significant economic concerns.

- F. Existing rights-of-way should be utilized for other related utilities to provide consolidated corridors wherever such uses are compatible or feasible.
- G. Access and construction roads should be located to minimize landform alterations. Road grades and alignments should follow the contour of the land with smooth, gradual curves where possible.

ZONING

Lands crossed by the project area are zoned primarily Agriculture Exclusive (AE) or Timber Production Zone (TPZ), except for limited intermittent segments of the generation transmission line (gen-tie). The land is currently in timber production. Construction and operation of electrical distribution and transmission lines are principally permitted uses in the TPZ; however, a CUP is required in the AE zone. In addition, the development of wind generation facilities is not an enumerated use in any zone district; however, non-enumerated uses may be considered where found similar to and compatible with other enumerated uses in the zone district with a CUP. Accordingly, the project applicant is submitting a CUP application, pursuant to County Code Section 312-3, which, if approved, would cover all project-related activities. The County must make the following findings to issue the CUP:

- ▶ The proposed development is in conformance with the General Plan.
- ▶ The proposed development is consistent with the purposes of the existing zone in which the site is located.
- ▶ The proposed development and conditions under which it may be operated or maintained will not be detrimental to the public health, safety, or welfare or materially injurious to properties or improvements in the vicinity.
- ▶ The proposed development does not reduce the residential density for any parcel below that utilized by the Department of Housing and Community Development in determining compliance with housing element law.

The impact related to a conflict with an applicable habitat conservation plan or natural community conservation plan is addressed in Section 3.5, “Biological Resources.” See Section 3.3, “Agriculture and Forestry Resources,” for a discussion of the effects of the generation component related to agricultural land and timberland use regulations. To the extent that the proposed project meets the findings of Standard E-S3 in the General Plan Energy Element and the required findings and conditions for CUP approval, the project would not conflict with any land use regulations adopted for avoiding or mitigating an environmental effect, as described above.

The project would not physically divide an established community. The generation area is not in an established community area, and construction of the proposed off-site improvements, including transmission line improvements or roadway improvements, would not create physical barriers dividing any established community. The project would comply with County policy regarding the siting of wind electrical generation facilities, including parcel size, relationship to other structures, effects on downwind sites, compliance with the Uniform Building Code and National Electrical Code, rotor and tower safety, noise, electromagnetic interference, utility notification, height, liability insurance, and appearance and design. These impacts are discussed throughout the DEIR where appropriate. Downwind impacts (or the reduction of electricity generating potential for downwind wind energy projects) would not apply because no wind facilities are nearby.

Electromagnetic interference and other safety issues are discussed in Section 3.9, “Hazards and Hazardous Materials.” Noise impacts are discussed in Section 3.11, “Noise.” Appearance and design, including height, are discussed in Section 3.2, “Aesthetics.” Utilities are discussed in Section 3.1.3, “Utilities.” Compliance with the Uniform Building Code is discussed in Section 3.7, “Geology and Soils.”

Land use impacts would be **less than significant**. These issues are not discussed further in this DEIR.

MILITARY OVERFLIGHTS

Review of the California Military Land Use Compatibility Analyst mapping system indicates that portions of the project site lie within a military flight path used for training. The location of a project within a military flight path does not represent an adverse effect on the environment under PRC Section 21098, but does require the County to coordinate with the military point of contact to ensure that no interference would occur.

3.1.2 POPULATION AND HOUSING

Project construction and operation would not result in a substantial permanent increase in population or induce housing construction. Project implementation would generate demand directly for approximately 300 construction personnel for 12–18 months, and for approximately 15 operations and maintenance (O&M) personnel over the project’s life span of 30 years. It is expected that specialized workers with unique skills to erect the wind turbine generators and construct the collection line, gen-tie, and project substation would typically travel to a project site and stay in the community temporarily until the job is complete. These workers would relocate to the next job site rather than residing in Humboldt County permanently once the job is completed.

The project applicant estimates that a maximum of 15 full-time employees would remain to operate and maintain the project. In 2017, the total labor force in Humboldt County was approximately 63,050 people and the unemployment rate was 4.2 percent. Demand for O&M workers during project operation would be extremely small compared to the labor force (EDD 2018).

Based on the numbers of employees needed for the relatively short construction period (12–18 months) and the small number of employees (up to 15) needed to operate the facilities, none of the project components would generate substantial population growth (i.e., growth in amounts or at rates that would exceed current projections). Therefore, population growth is not discussed further in this DEIR.

None of the project components would result in displacement of housing, and thus, none of the options would require the construction of new housing. The project would not displace any people. **No impact** would occur; therefore, this issue is not discussed further in this DEIR.

3.1.3 UTILITIES

WATER SUPPLY

An estimated 62 acre-feet of water would be required for construction-related activities. Most of this water would be used during construction of wind turbines, transmission lines, the project substation, and related facilities; for dust suppression; for compaction of soil backfill; and for manufacture of concrete. Construction-related water demands would be met by treated wastewater discharged from the Scotia Community Services District’s wastewater treatment facility to Humboldt Redwood Company’s log pond in the town of Scotia. Treated effluent

would be delivered to the project site via water truck. The use of water to meet the demands for project construction, therefore, would not constitute a groundwater extraction or a surface water diversion.

O&M facilities would be built on up to 5 acres of land with a building footprint of 5,000–6,000 square feet. The facilities would consist of offices, the Supervisory Control and Data Acquisition (i.e., SCADA) system, a control room, an outdoor storage area, a restroom, a shop area, and outdoor parking. Approximately 1 acre-foot per year (afy) of water would be required to meet the potable water needs for 15 full-time employees, assuming approximately 60 gallons per day of per capita water use and occupancy of 365 days. In addition, the fire flow requirements for the proposed project are estimated to be 0.74 afy.¹ The combined estimated water demand for the proposed project would total 1.74 afy, which represents a *de minimis* extraction under Section 10721 of the California Water Code.²

One new potable groundwater well would be constructed to meet the potable water supply demands of the proposed project. Groundwater would be pumped from the Pepperwood Town Area Groundwater Basin, and groundwater extraction from the basin is approximately 1,504 afy. The California Department of Water Resources determined there were no substantial impacts on the Pepperwood Town Area Groundwater Basin based on this current groundwater use. Table 3.1-1 shows the groundwater supply and demand in average, single-dry, and multiple-dry years.

Table 3.1-1. Projected Water Supply and Demands (afy)

Source	Average Water Year	Single-Dry Water Year	Multiple-Dry Water Years		
			Year 1	Year 2	Year 3
Groundwater Supply	1,504	1,504	1,504	1,504	1,504
Proposed Project Demand	1.74	1.74	1.74	1.74	1.74
Estimated Surplus	1,502.3	1,502.3	1,502.3	1,502.3	1,502.3
Notes: afy = acre-feet per year Source: Stantec 2019					

As shown in Table 3.1-1, adequate supplies are available to serve the proposed project as well as existing and planned future uses, including agricultural and manufacturing uses, under all water year conditions. Therefore, this impact would be **less than significant**.

WASTEWATER

No new development is proposed that would generate wastewater requiring municipal wastewater treatment. Wastewater generated at the O&M facility would be treated in an appropriately sized septic system permitted by Humboldt County Department of Environmental Health that would be installed as part of the project (see Section 3.7, “Geology and Soils,” for more information). Therefore, the proposed project would not result in wastewater discharges that would exceed the North Coast Regional Water Quality Control Board’s requirements; would not result in construction of new or expansion of existing wastewater treatment facilities; and would not exceed a wastewater treatment provider’s capacity to serve the project’s projected demand in addition to the provider’s existing commitments. **No impact** on wastewater treatment facilities would occur, and this issue is not discussed further in this DEIR.

¹ Fire flow requirements have been conservatively assumed to be 2,000 gallons per minute for 2 hours or 240,000 gallons.

² Under Section 10721 of the California Water Code, a *de minimis* extractor is defined as a person who extracts, for domestic purposes, 2 acre-feet or less per year.

STORMWATER FACILITIES

As discussed in Section 3.10, “Hydrology and Water Quality,” new stormwater drainage facilities would be constructed at the project site. These stormwater drainage facilities would include upgrades at existing drainage crossings to reduce erosion and increase drainage capacity, introduction of swales along newly constructed access roads, and other stormwater controls where cuts and fills are of a certain volume.

See Section 3.10, “Hydrology and Water Quality,” for information on project impacts on surface water hydrology and water quality. Physical impacts associated with construction of stormwater facilities are evaluated throughout this DEIR, in Section 3.4, “Air Quality”; Section 3.5, “Biological Resources”; Section 3.6, “Cultural Resources, Including Tribal Cultural Resources”; Section 3.7, Geology and Soils”; Section 3.8, “Greenhouse Gas Emissions”; and other sections, which specifically analyze the potential impacts of project construction. This issue is not discussed further in this DEIR.

SOLID WASTE

The Humboldt Waste Management Authority (HWMA) is a joint powers authority between Humboldt County and several participating cities. HWMA ships waste from its transfer station in Eureka to state-licensed landfills outside Humboldt County. Most of the waste is transported to Anderson Landfill in Shasta County, Dry Creek Landfill in Jackson County, Oregon, or Potrero Hills Landfill in Suisun City. Table 3.1-2 shows the maximum capacity, remaining capacity, and closure dates of these landfills.

Table 3.1-2. Humboldt County Primary Landfills

Facility (County)	Location	Capacity	
Anderson Landfill (Shasta County)	18703 Cambridge Road Anderson, CA 96007	Maximum permitted capacity: Remaining capacity: Maximum permitted throughput: Closure date:	16.4 million cubic yards 10.4 million cubic yards 1,850 tons per day January 1, 2093
Potrero Hills Landfill (Solano County)	3675 Potrero Hills Lane Suisun City, CA 94585	Maximum permitted capacity: Remaining capacity: Maximum permitted throughput: Closure date:	83.1 million cubic yards 13.9 million cubic yards 4,330 tons per day February 14, 2048
Dry Creek Landfill (Jackson County)	6260 Dry Creek Road Eagle Point, OR 97524	Maximum permitted capacity: Remaining capacity: Maximum permitted throughput: Closure date:	76.7 million tons 6.4 million tons 1,266 tons per day January 1, 2112

Sources: CalRecycle 2019a, 2019b; EPA 2018

Construction activities would generate various types of solid waste, including scrap lumber, scrap finishing materials, scrap metals, and other recyclable and nonrecyclable solid waste. Project construction could generate 3 tons per day of solid waste. The 2016 California Green Building Standards Code (CALGreen Code; CCR Title 24, Part 11) requires all construction contractors to reduce construction waste and demolition debris by 65 percent. Code requirements include preparing a construction waste management plan that identifies materials to be diverted from disposal by efficient usage, recycling, reuse on the project, or salvage for future use or sale; determining whether materials would be sorted on-site or mixed; and identifying diversion facilities where the collected materials would be taken. The code also specifies that the amount of materials diverted should be calculated by weight or volume, but not by both (California Building Standards Commission 2016). In addition,

the 2016 CALGreen Code requires that 100 percent of trees, stumps, rocks, and associated vegetation and soils resulting primarily from land clearing be reused or recycled.

Project operation could generate approximately 4,000 pounds per week (0.28 ton daily) of solid waste, which is a fraction of the maximum permitted daily capacity at the three County landfills (7,446 tons). The closure dates of Anderson Landfill, Dry Creek Landfill, and Potrero Hills Landfill are anticipated to be approximately January 1, 2093, February 14, 2048, and January 1, 2112, respectively. These closure dates are beyond the life span of the project. Given the available permitted daily capacity, and based on the remaining life span of the landfills serving the project, sufficient landfill capacity is available to serve the project.

The project does not include any components that would violate any applicable federal, state, or local solid waste regulations. Project construction and operation would comply with all statutes and regulations related to solid waste, including the CalGreen Code. Furthermore, sufficient landfill capacity would be available to accommodate solid waste disposal needs for project construction and operation. This impact would be **less than significant**, and this issue is not discussed further in this DEIR.

3.1.4 RECREATION

As discussed previously, the project would not generate new residents in nearby cities and communities, including Scotia, Fortuna, and Ferndale, and the greater Humboldt County area. Therefore, the project would not increase use of existing, or require construction of, new regional parks or other recreational facilities. For these reasons, **no impact** on recreation would occur, and this issue is not discussed further in this DEIR.

3.1.5 PUBLIC SERVICES

SCHOOLS, PARKS, AND OTHER PUBLIC FACILITIES

Project construction and operation would not result in permanent in-migration of workers who would increase the demand for public facilities. As discussed above in Section 3.1.2, "Population and Housing," many construction workers and O&M employees would come from the local labor pool, and the available labor force in the county would be sufficient to meet much of the employment demand. Workers with specialized skills required to erect the wind turbine generators and construct the collection line, gen-tie line, and project substation would typically travel to a project site and stay until the job is complete, then move to the next assignment. The project applicant estimates that a maximum of 15 full-time employees would remain to operate and maintain the project. Therefore, over the long term, the project would not increase demand for new schools, parks, or other public facilities (i.e., libraries). **No impact** would occur, and these issues are not discussed further in this DEIR.

POLICE PROTECTION SERVICES

The Humboldt County Sheriff's Office provides law enforcement services to the citizens of unincorporated Humboldt County. Police protection services are provided by the Main Eureka Station at 626 4th Street in Eureka, approximately 30 miles north of the project area. The Main Eureka Station unit currently has two lieutenants, four sergeants, six corporals, and 21 deputy sheriffs. They provide law enforcement services 24 hours a day, 7 days a week (Humboldt County Sheriff 2018). The Sheriff's Office has mutual aid agreements with cities in the county and the California Highway Patrol.

The California Highway Patrol has indicated that the project would have no impact on its ability to provide services (California Highway Patrol 2018). However, project construction and operation could increase demand for local police protection services. Typical crime and safety issues during project construction and operation could include trespassing, theft of materials, and vandalism. Humboldt Redwood Company provides security services that monitor for trespassing throughout the area, including the project site. The project applicant would provide on-site security and would limit access in security-sensitive areas. The O&M facility would have gated access with partial or full-perimeter security fence, and the on-site substation would be fenced with a chain-link fence to prevent public access. These on-site security measures would minimize the need for police surveillance and response.

The proposed project would not add residents to Humboldt County; therefore, the project would not require additional Humboldt County Sheriff's Office staff to maintain service ratios. In addition, the project would not increase demand for Humboldt County Sheriff's Office services to the extent that construction of new or expansion of existing sheriff service facilities would be required. Impacts on police protection services would be **less than significant**, and this issue is not discussed further in this DEIR.

3.1.6 ENERGY

Potential energy impacts would result from a project that would generate the wasteful, inefficient, or unnecessary consumption of energy. Additional energy impacts would result from a project that would require or build new energy production and/or transmission facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.

Since the initial adoption of Senate Bill (SB) 1078 (Chapter 516, Statutes of 2002) requiring retail sellers of electricity to provide at least 20 percent of their supply from renewable sources by 2017, several legislative actions have been approved that have increased the renewable source requirements incrementally over time. The most imminent requirement is for all electricity retailers in the state, including publicly owned utilities, investor-owned utilities, electricity service providers, and community choice aggregators to achieve Renewable Portfolio Standards of 33 percent renewable energy by 2020, per SB 2(1X) of 2011. Requirements extending past 2020 have been established by SB 350 (2015), which increased the renewable source requirement to 50 percent by the end of 2030, and SB 100, which took effect on January 1, 2019, increasing the renewable source requirement to 60 percent by 2030 and requiring all the state's electricity to come from carbon-free resources by 2045 (CPUC 2019).

The project would result in construction of new energy production and transmission facilities that would generate renewable energy to supply the transmission grid. The electricity generation process associated with the project would use wind energy technology to convert wind power directly into electricity. Wind energy technology is consistent with the definition of an "eligible renewable energy resource" in Section 399.12 of the California Public Utilities Code and the definition of "in-state renewable electricity generation facility" in PRC Section 25741.

The project would require energy use during construction and operations. Energy demands during construction would be associated primarily with construction equipment and vehicle fueling; energy (fuel and electricity) would be consumed by construction vehicles and equipment operating on site, trucks delivering equipment and

supplies to the project site, and construction workers driving to and from the site. Operational activities would include energy consumption associated with vehicular use and the O&M facility.

Table 3.1-3 presents the total fuel consumption anticipated for the proposed construction activities, shown both for the overall construction period and amortized over an assumed 25-year period of operations. Over the anticipated 18-month construction period, the project would require a total of approximately 1 million gallons of fuel, equivalent to an energy demand of 146,195 million British thermal units (MMBtu). When amortized over the assumed 25-year lifetime of the project, fuel consumption would be approximately 42,000 gallons per year, and energy demand would be approximately 5,850 MMBtu per year. Because diesel fuel is more energy intensive than gasoline, all fuel requirements can be conservatively assumed to use diesel fuel. The calculations shown in Table 3.1-3 are based on the emissions calculations for proposed construction activities and application of a standard carbon dioxide (CO₂) emissions coefficient for diesel fuel (U.S. EIA 2016), to estimate fuel consumption for each phase of construction activities (modeling methodology associated with construction activities is the same as detailed in Section 3.4, “Air Quality,” and the model inputs, assumptions, and outputs provided in Appendix B).

Table 3.1-3. Construction-Related Energy Requirements

Construction Activity	MT CO ₂ e/Activity ^a	Fuel Type ^b	Emissions Factor (MT CO ₂ e/gallon) ^c	Total Gallons
Environmental	4.53	Diesel	0.01016	446
Roadways	2,470.99	Diesel	0.01016	243,208
Foundations	2,084.63	Diesel	0.01016	205,180
Collection System	4,175.45	Diesel	0.01016	410,969
Turbines	746.63	Diesel	0.01016	73,487
Substations	1,204.37	Diesel	0.01016	118,540
O&M Facility	69.38	Diesel	0.01016	6,828
		Total Gallons	Diesel	1,058,658
		Total Energy	MMBtu	146,195.67
		Amortized (over 25 years)	Diesel (gallons/year)	42,346
			<i>MMBtu per year</i>	<i>5,848</i>

Notes: MMBtu = million British thermal units; MT CO₂e = metric tons of carbon dioxide equivalent; O&M = operations and maintenance
Source: Data compiled by AECOM in 2019

Operational energy consumption and total project energy requirements (inclusive of amortized construction energy requirements) are shown in Table 3.1-4 and Table 3.1-5, respectively. Using the California Emission Estimator Model (CalEEMod), electrical and natural gas demands were modeled to estimate energy use, along with on-road and off-road mobile operations equipment. The calculations of fuel use for operational vehicles and off-road maintenance equipment (including an emergency generator) are based on the CalEEMod emissions estimates for the mobile vehicles and equipment, and application of a standard CO₂ emissions coefficient for diesel fuel (U.S. EIA 2016); modeling methodology associated with operations is the same as detailed in Section 3.4, “Air Quality,” and the model inputs, assumptions, and outputs provided in Appendix B. The electrical demands created by the proposed facilities would total approximately 25,680 kilowatt-hours (88 MMBtu) per year, and the natural gas demand generated by the project would be approximately 21,060 thousand British thermal units (21 MMBtu) per year. Vehicles, off-road maintenance equipment, and the emergency generator would generate a demand of approximately 7,175 gallons of fuel per year, or 991 MMBtu per year.

Table 3.1-4. Operational Energy Requirements

Operational Activity	Demand	Unit	MMBtu/year
Facility Energy Demand (natural gas)	21,060	kBtu/year	21
Facility Energy Demand (electricity)	25,680	kWh/year	88
Operations Mobile Energy Use*	7,175	gallons diesel/year	991
	<i>Total Energy</i>	<i>MMBtu/year</i>	<i>1,100</i>

Notes: kBtu = thousand British thermal units; kWh = kilowatt-hours; MMBtu = million British thermal units

* Conservatively assumed all mobile operations utilized diesel fuel.

Source: Data compiled by AECOM in 2019

Table 3.1-5. Total Annual Project Energy Requirements

Energy Generating Source	MMBtu/year
Annual Amortized Construction	5,848
Operational Facility + Mobile	1,100
Total Annual Project Energy Requirements	6,947

Note: MMBtu = million British thermal units

Source: Data compiled by AECOM in 2019

The project’s generating capacity would be 155 megawatts. On an annual basis, this would generate 407,340 megawatt-hours per year (1,389,844 MMBtu per year). This is more than two orders of magnitude greater than the annual energy requirements generated by the project, as shown in Table 3.1-5. Because the project would generate energy from wind power, a renewable source, it would assist the state in meeting the goals and targets established under SB 100 to procure 60 percent of its power from renewable sources by 2030. The project would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency. The project’s contribution to the state’s renewable energy goal would be a **beneficial impact**.

3.1.7 MINERAL RESOURCES

Impacts related to mineral resources would occur if the project would result in the loss of availability of a known mineral resource with regional or statewide value, or the loss of availability of a locally important mineral resource recovery site, as delineated in a local land use plan.

Humboldt County has a wealth of mineral resources. More than 69 extraction sites produce sand and gravel, hard rock, and metals essential for the economic well-being of the county. General Plan Policy MR-P8, Future Development Planning, states: “Plan future development such that it will not interfere with the utilization of identified mineral deposits.”

The California Geological Survey administers a mineral lands inventory and classification process across the state. Surveyed areas are categorized into mineral resource zones (MRZs) on the basis of geologic factors (e.g., presence of mineral deposits). Humboldt County is one of 16 counties in California where the State Geologist has not classified the land based on the known or inferred mineral resource potential of that land, pursuant to Surface Mining and Reclamation Act (SMARA) classifications (CGS 2019). The General Plan identifies rock extraction sites in the county. The location of some of the proposed wind turbines and the gen-tie would overlap some of the SMARA parcels.

Truck trips associated with transporting sand and gravel that would be required for road construction and maintenance could result in temporary access restrictions to mineral operations in the area, because of the presence of trucks hauling aggregate to and from the project site, but such restrictions would be unlikely and would be temporary. If any of these sites or other areas were to be mined in the future, during project construction or operation, the height and spacing of the transmission lines and wind turbine generators would provide adequate clearance for vehicles and equipment to cross under them, if necessary. The project would not preclude limited future mining on-site.

The project applicant is not proposing any form of mineral extraction. Appropriate sources of sand and gravel required for project construction or O&M activities would be identified by a construction contractor. Sand and gravel resources are common in Humboldt County, and project construction 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, or of a locally important mineral resource recovery site. **No impact** would occur; therefore, this issue is not discussed further in this DEIR.

3.1.8 PALEONTOLOGICAL RESOURCES

Research methods included a review of published and unpublished literature and a search for recorded fossil sites at the University of California's Museum of Paleontology (UCMP) on January 1, 2019. These tasks complied with Society of Vertebrate Paleontology guidelines (1995). More than 2,000 paleontological specimens were identified in Humboldt County.

The materials that created the Farallon Plate were jumbled together and crushed, and eventually were lithified to form the rocks that now make up the Franciscan Formation. Because of the way this geologic unit was formed, vertebrate fossils recovered from the Franciscan Formation are extremely rare. Therefore, the Franciscan Formation is considered to be of low paleontological sensitivity.

Furthermore, a search of the UCMP database (2019) indicated that nearly all recorded vertebrate fossils from Humboldt County have been recovered from Miocene-age sediments, which are substantially younger than the Franciscan, and no vertebrate or plant fossils have been recovered from the Franciscan. Therefore, the potential for uncovering unique, scientifically important fossil remains during project-related earthmoving activities would be extremely low. Because project components would not be constructed within paleontologically sensitive rock formations, **no impact** related to damage or destruction of unique paleontological resources would occur. This issue is not discussed further in this DEIR.

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