MITIGATION MONITORING AND REPORTING PROGRAM

Humboldt Wind Energy Project

SCH No. 201872076

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NOVEMBER 2019

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CALIFORNIA ENVIRONMENTAL QUALITY ACT REQUIREMENT

Section 21081.6 of the California Public Resources Code and Section 15091(d) and Section 15097 of the State CEQA Guidelines require public agencies "to adopt a reporting or monitoring program (MMRP) for changes to the project which it has adopted or made conditions of project approval to mitigate or avoid significant effects on the environment." A MMRP is required because the Environmental Impact Report (EIR) for the project identified potentially significant adverse impacts related to construction and operation of the Humboldt Wind Energy project, and mitigation measures have been identified to reduce most of those impacts to less than significant. Some impacts will remain significant and unavoidable, even with implementation of the mitigation measures identified in the EIR and this MMRP.

PURPOSE OF MITIGATION MONITORING AND REPORTING PROGRAM

This MMRP summarizes the mitigation measures, implementation schedule, and responsible parties for implementing, monitoring and enforcing the mitigation measures required of the proposed Humboldt Wind Energy project. This MMRP will be adopted by Humboldt County if it approves the project and will be kept on file at the Humboldt County Planning and Building Department, 3015 H Street, Eureka, CA 95501. The County will use this MMRP to ensure that identified mitigation measures, adopted as a condition of project approval, are implemented appropriately.

ROLES AND RESPONSIBILITIES

Humboldt County will be responsible for monitoring the implementation of mitigation measures designed to minimize impacts associated with the project. Allthough Humboldt County shall have ultimate responsibility for ensuring implementation, the project applicant will be assigned the responsibility of actually implementing the mitigation and reporting on the implementation. Humboldt County shall retain the primary responsibility for ensuring that the project meets the requirements of this MMRP.

The project applicant shall designate specific personnel who will be responsible for monitoring implementation of the mitigation that will occur during project construction and operation. The designated personnel will be responsible for submitting documentation and reports to Humboldt County on a schedule consistent with the mitigation measure and in a manner necessary for demonstrating compliance with mitigation requirements. The project applicant shall ensure that the designated personnel have authority to require implementation of mitigation requirements and shall be capable of halting project construction or operation activities found to be inconsistent with mitigation objectives or project approval conditions.

The project applicant and its appointed contractor also shall be responsible for ensuring that all construction and operation personnel understand their responsibilities for adhering to the performance requirements of the mitigation plan and other contractual requirements related to the implementation of mitigation as part of project construction and operation.

If alternative measures are identified that would be equally effective in mitigating the identified impacts, such as those developed during project-specific permitting with the regulatory agencies, implementation of those alternative measures will not occur until agreed on by Humboldt County. Such changes shall be documented in writing and kept on file with the County.

CHANGES TO MITIGATION MEASURES

The mitigation measures in this MMRP are from the Draft EIR (DEIR) for the Humboldt Wind Energy Project dated April 2019. Mitigation measures revised since circulation of the DEIR are from the Final EIR (FEIR) dated November 2019.

REPORTING

Humboldt County will require the project applicant to prepare a monitoring report upon completion of the project construction describing the compliance of the activity with the required mitigation measures. Information regarding inspections and other requirements shall be compiled and explained in the report. The report will be designed to simply and clearly identify whether mitigation measures have been adequately implemented. At a minimum, each report will identify the mitigation measures or conditions to be monitored for implementation, whether compliance with the mitigation measures or conditions has occurred, the procedures used to assess compliance, and whether further action is required. Where required by specific mitigation measures, the project applicant shall also submit annual (or other reports frequency) reports as outlined in this MMPR during operation. The reports will be presented to theHumboldt County Planning and Building Department.

MITIGATION MONITORING AND REPORTING TABLE

The mitigation monitoring and reporting table below presents the following:

- Mitigation measures number and name, by resource topic;
- Timing of mitigation measures;
- Responsible party for implementation
- Responsible party for enforcement
- Completion of implementation

Mitigation Monitoring and Reporting Program

	Mitigation Measures	Timing	Responsible Party for Implementation	Responsible Party for Enforcement	Completion of Implementation	
					Action	Date Completed
3.2	Aesthetics					
3.2-1a	Design the Project to Avoid Aesthetic Impacts. The project applicant shall consider topography when siting WTGs and shall avoid major modifications to natural landforms or other characteristic parts of the landscape. The WTGs shall be clustered or grouped to break up overly long lines of WTGs. The WTGs shall be similar in shape and size. Each WTG shall be painted an off-white or uniform light-grey color, per manufacturer's requirements. To minimize the structures' reflectivity, the paint used shall have a gloss level that does not exceed 30 percent, or 60–70 gloss units, as calculated by the manufacturer. The surfaces of all other structures (e.g., substations, O&M building) shall be given low-reflectivity finishes with neutral colors to minimize the contrast of the structures with their backdrops. Commercial messages and symbols shall be prohibited on WTGs. Overhead transmission lines shall not use lattice steel towers. In lieu of H-frame wooden structures, tubular steel poles or concrete poles may be used and shall be painted light grey or shall be dulled galvanized steel or other nonreflective surface. To minimize ground disturbance, existing roadways shall be used to access WTG pads. All construction-related areas shall be kept clean and tidy by storing construction materials and equipment in the construction staging and laydown areas and/or generally away from public view. The project applicant shall remove construction debris promptly at intervals of 2 weeks or less, at any one location. The Humboldt County Planning & Building Department shall enforce the requirements of this measure through site plan review.	During construction.	Project applicant.	Humboldt County Planning & Building Department; Federal Aviation Administration.		
3.2-1b	Implement Operational Measures to Reduce Aesthetic Impacts. WTGs shall be kept clean and in good repair. Nacelle covers and rotor nose cones shall always be maintained in place and undamaged. Inoperative WTGs shall be repaired, replaced, or removed as quickly as feasible because a WTG that is broken or disabled will create a health and safety hazard and disrupt the visual experience of the casual observer. The project applicant shall remove derelict WTGs and derelict parts and pieces within 60 days of decommissioning, and shall relocate such equipment and derelict parts and pieces to an area that is screened from view and/or not visible to the general public. Similarly, O&M areas shall be kept clean and tidy by storing all equipment, parts, and supplies in areas that are screened from view and/or are generally not visible to the general public. Grading and landscape treatment around tower bases shall match the conditions of surrounding landscape and habitat to recreate a pleasing visual environment.	During construction.	Project applicant.	Humboldt County Planning & Building Department; Federal Aviation Administration.		
3.3	Agricultural Resources					
	None					
3.4	Air Quality					

Mitigation Monitoring and Reporting Program

Mitigation Measures		Timing	Responsible Party for Implementation	Responsible Party for Enforcement	Completion of Implementation	
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3.4-1	Use Current-Phase Equipment for all Construction Off-Road Vehicles and Equipment. The construction contractor shall use current-phase off-road construction vehicles and equipment (currently Tier 4 final) for construction activities. This requirement shall be shown in all construction plans and implemented through the issuance of construction permits. Alternatively, if there is insufficient availability of equipment that meets or exceeds ARB's standard (currently Tier 4) for heavy-duty diesel engines, an emissions reduction plan shall be prepared to identify other emission reduction measures to reduce NO_X emissions equivalent to what would be achieved through using current-phase equipment. The plan shall identify requirements to be implemented during construction, such as limiting the simultaneous operation of construction equipment on any given day to reduce maximum daily emissions, and shall quantify the maximum daily and total annual emissions with implementation of the identified measures. This plan shall be approved by NCUAQMD before any construction permits are issued.	During construction.	Project applicant; construction contractor.	Humboldt County Planning & Building Department.		
3.5	Biological Resources					
3.5-1a	Minimize the Construction Footprint to Avoid Impacts on All Suitable Marbled Murrelet Nesting Habitat. The project applicant shall not remove any old-growth redwood or mature coniferous forest that could support nesting marbled murrelets, and to the extent feasible shall maximize the buffer between construction activities and suitable marbled murrelet habitat. The project applicant shall prepare documentation depicting the location of marbled murrelet nesting habitat overlain with the construction footprint to confirm that construction activities would have no direct impacts on suitable marbled murrelet habitat. The documentation shall be submitted to the Humboldt County Planning & Building Department, CDFW, and USFWS before approval of grading or improvement plans or any ground-disturbing activities.	Submittal of documentation showing buffers and approval by CDFW and USFWS: Before approval of grading or improvement plans or any ground-disturbing activities.	Project applicant.	Humboldt County Planning & Building Department, CDFW, and USFWS.		
3.5-1b	Avoid Indirect Impacts on Nesting Marbled Murrelet. During the marbled murrelet nesting season (March 24–September 15), the project applicant shall maintain a no-disturbance buffer between the construction activity and marbled murrelet nesting habitat as described below. An exhibit showing the project improvements and marbled murrelet nesting habitat buffers shall be prepared demonstrating compliance with this mitigation measure. A biological monitor will be present to ensure compliance with buffers required in this measure. The following auditory disturbance buffers shall be maintained between the construction activity and marbled murrelet nesting habitat:	Submittal of documentation showing buffers and approval by CDFW and USFWS: Before approval of grading or improvement plans or any ground-disturbing activities.	Project applicant.	Humboldt County Planning & Building Department, CDFW, and USFWS.		

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	<table><tr><th>Construction Activity</th><th>Buffer Distance (meters)</th></tr><tr><td>Noise “high” (81–90 dB)</td><td>100</td></tr><tr><td>Noise “very high” (91–100 dB)</td><td>250</td></tr><tr><td>Noise “Extreme” (101–110 dB)</td><td>400</td></tr></table> The “high” and “very high” buffers described in the table above are not applicable in situations where potential marbled murrelet nesting habitat is separated from construction activity by Highway 101 or where habitat is directly adjacent to Highway 101. Instead, the project applicant shall maintain a no-disturbance buffer of 50 meters between construction activities that generate “very high” noise and these habitat stands during the period one hour after sunrise to one hour before sunset. The 50-meter buffer is based on USFWS guidance (USFWS 2006) for very high preconstruction ambient noise at this site during operating hours. Between one hour before sunset to one hour after sunrise, the project applicant shall maintain this 50-meter no-disturbance buffer between these stands and construction activities that generate “high” noise. If implementation of the buffers described above is infeasible, the project applicant shall consult with CDFW and USFWS regarding an alternative buffer size. The project applicant shall provide documentation of concurrence from CDFW and USFWS to the Humboldt County Planning & Building Department for the alternative buffer size before issuance of construction permits.					
3.5-1c	Develop and Implement a Worker Environmental Awareness Program. Before the start of any construction activity, the project applicant shall develop a worker environmental awareness program subject to review and approval by the Humboldt County Planning & Building Department, in consultation with CDFW and USFWS. Before the start of construction, the environmental training shall be provided to all personnel working on the project site during construction and operation. Training materials and briefings shall include but not be limited to: • discussion of the federal ESA and CESA, the BGEPA, the MBTA, and CWA; California Fish and Game Code Sections 3503, 3503.5, 3511, 3513, 3800(a), 4150, 4700, 5050, 5515, and 1602; 14 CCR Sections 30.10 and 251.1; the Porter-Cologne Act; CDFA Code Sections 5004 and 7201; and the California Coastal Act, as applicable; • the consequences of noncompliance with these regulatory requirements; • specific conditions of any permits from regulatory and other agencies obtained for the project (USACE, North Coast RWQCB, the CCC, USFWS, NMFS, CDFW, and the County); • identification and values of the special-status plant and wildlife species to be protected; • identification of any important wildlife habitat and sensitive natural communities to be protected; • identification of special-status species, life history descriptions, habitat requirements during various life stages, and the species’ protected status;	Submittal of worker environmental awareness program training materials: Before approval of grading or improvement plans or any ground-disturbing activities. Avoidance and minimization measures: Before and during construction activities proposed to take place during the marbled	Project applicant.	Humboldt County Planning & Building Department, in consultation with CDFW, USFWS, and other agencies with permit conditions related to biological resources.		

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Mitigation Measures		Timing	Responsible Party for Implementation	Responsible Party for Enforcement	Completion of Implementation	
					Action	Date Completed
	• fire protection measures; • measures to avoid introduction and minimize the spread of invasive weeds during construction and operation; • trash and food waste management procedures to prevent attracting corvids or nuisance wildlife to the site; • hazardous substance spill prevention and containment measures; • clear instructions that if any workers encounter a special-status species within or near the project site during construction, work shall halt and the project biologist and project applicant shall be informed; • clear instructions regarding the scenarios in which permit conditions require the notification of specific agencies, the method for contacting the agencies, and the legally required time frames for such contact; • a contact person at the on-call biological services provider in the event of the discovery of dead or injured wildlife; and • review of any mitigation requirements related to biological resources. The training program shall be recorded and subsequently shown to all construction personnel who cannot attend the initial training program before their participation in any construction activity. The project applicant shall submit to the County documentation that all personnel working on the project site during construction and operation have signed a statement that they accept responsibility for acting in accordance with the worker environmental awareness program. Worker environmental awareness program training materials shall be submitted to the County and the regulatory agencies whose permits are addressed in the training, for their review and approval before ground-disturbing activities begin. Once approved, all project applicant, consultant, and construction personnel entering the project site shall be trained before being allowed on-site.	murrelet nesting season (March 24–September 15, annually).				
3.5-2a	Avoid and Minimize Operational Impacts on Marbled Murrelets. The project applicant shall implement the measures listed below to minimize and avoid collisions of marbled murrelets with project components, including WTGs and the gen-tie. As discussed in Chapter 2, "Project Description," the gen-tie would over the Eel River. • WTGs shall not be placed in areas characterized by high passage rates for marbled murrelets as described in the Marbled Murrelet Collision Risk Assessment Associated with the Humboldt Wind Project Proposed for Humboldt County, California: 2-Year Report in Appendix B of this FEIR. Before issuance of any construction permits, the project applicant shall provide a map to the Humboldt County Planning & Building Department showing proposed WTG locations relative to marbled murrelet high-passage areas. • The gen-tie shall be sited in accordance with the following criteria:	Submittal of a map showing proposed WTG locations relative to marbled murrelet high-passage areas: Before issuance of any construction permits.	Project applicant.	Humboldt County Planning & Building Department, in consultation with CDFW and USFWS.		

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	Mitigation Measures	Timing	Responsible Party for Implementation	Responsible Party for Enforcement	Completion of Implementation	
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	o If the gen-tie is to be placed on a ridgeline (particularly saddles), documentation shall be submitted showing that the location is not a high-use or high-activity area for marbled murrelet. o The gen-tie shall not be placed within 200 meters of old-growth or mature conifer forest stands of adequate size to support nesting murrelets The gen-tie transmission lines shall be designed to increase their visibility to marbled murrelet. The project applicant shall use approaches developed in consultation with USFWS and CDFW to increase the visibility of project gen-tie transmission line spans located near areas of potentially concentrated marbled murrelet use such as those described above. These approaches could include placement of bird diverters, aviation balls, or reflective diverters, the choice in application of which will be based on site-specific characteristics of the gen-tie conductors and static wires relative to the forest canopy.					
3.5-2b	Conduct Postconstruction Mortality Monitoring for Marbled Murrelets and Other Species. The project applicant shall prepare and implement PCMM plan as described below to evaluate operational impacts on common bird and bat species and special-status species, including bald and golden eagles and marbled murrelet. The PCMM plan targets attainment of the detection probability (g) standard for murrelets (and the various detection probability standards for other taxa [common bird and bat species and special-status species, including bald and golden eagles] discussed in the respective sections, below). The PCMM plan will include proposed field methods to attain the detection probability standards, including plot size, search interval, number of turbines searched, and transect spacing. The PCMM plan will also identify additional measures that will be available and possibly implemented should interim evaluations of the g value indicate that the standard for any individual taxa may not be reached. These measures could include decrease in the search interval, search habitat management such as mowing of high grasses and other vegetation, closer spacing between search transects within search plots, and the use of scent dogs. The PCMM shall be conducted annually for the life of the project, beginning with a 3-year period of "intensive" surveys (full plots around WTGs plus roads and pads) and followed by less intensive annual monitoring of mortality using a "roads and pads" design. As identified in the PCMM, studies shall be designed to ensure a minimum value of (g) (Dalthorp et al. 2017) for marbled murrelet of 30 percent during "intensive" searches (first 3 years) and 8 percent for subsequent annual "road and pad" searches. The overall detection probability for the EoA model represents the probability of detecting a carcass present on the site during the period of evaluation and is based on the results of searcher efficiency and carcass persistence trials, and the spatial and temporal extent of coverage (i.e., proportion of WTGs or time for which searches occurred). Searcher efficiency trials for medium-sized birds shall specifically utilize carcasses that serve as an acceptable proxy for marbled murrelet. Spatial coverage estimates shall also account for the proportion of carcasses expected to fall outside of the search area, based on the search radius from the WTG location and turbine height. This can be estimated initially using information provided by Hull and Muir (2010) or another scientifically defensible source. After a sufficient	Submittal of a postconstruction monitoring plan: Before issuance of any construction permits. Annual reports on postconstruction monitoring: For the life of the project.	Project applicant.	Humboldt County Planning & Building Department, in consultation with CDFW and USFWS.		

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Mitigation Measures		Timing	Responsible Party for Implementation	Responsible Party for Enforcement	Completion of Implementation	
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	number of full plot and road and pad searches has been conducted, it may be possible to estimate the proportion of carcasses falling within the search area from site-specific carcass data. An example calculation of the overall detection probability (g) would be if the probability of detecting a carcass is 50 percent based on combined results of searcher efficiency and carcass persistence trials, and full plot searches (100 percent of carcasses fall within search plot) are conducted at 50 percent of project WTGs, g would be equal to 25 percent (0.5*0.5). To achieve the required 30 percent detection probability level, various search parameters can be adjusted, including the number of WTGs searched, search radius, search interval, and others. The level of search effort may be increased during the marbled murrelet nesting season, but adequate survey effort must still be implemented during the nonbreeding season for the species to meet PCMM objectives for other species (see eagles below). If search effort varies among seasons, the difference in marbled murrelet occurrence (and expected fatality rate) between the seasons must be accounted for in a scientifically defensible fashion when incorporating into overall calculations of g. At the completion of each year of PCMM studies, the maximum credible number of marbled murrelet mortalities shall be estimated using the EoA model and PCMM data. Separate estimates based on the 50 percent and 90 percent credibility levels ($1-\alpha$, where α=0.5 and 0.1, respectively) shall be calculated. There is a 50 percent probability that the actual number of marbled murrelet mortalities is greater than the 50 percent credible number, and a 10 percent probability that the actual number is greater than the 90 percent credible number of mortalities. These estimates can be used as triggers for potential adaptive management or to evaluate effectiveness of mitigation. If CDFW and USFWS incidental take permits for marbled murrelets specify PCMM methods that differ from those described above, the stricter or most conservative measures shall apply.					
3.5-2c	Implement Compensatory Mitigation to Offset Operational Impacts on Marbled Murrelets. The project applicant shall prepare and implement a marbled murrelet mitigation plan to offset the anticipated level of marbled murrelet take over the operational life of the project. The plan shall be based on the *Compensatory Mitigation Strategy for Marbled Murrelets Impacted by Operation of the Humboldt Wind Project, Appenidix B of this FEIR*. The anticipated level of take is set at 7.77 marbled murrelets over 30 years of project operation. Implementing the marbled murrelet mitigation plan must create at least one individual marbled murrelet for each marbled murrelet taken as a result of the project. The marbled murrelet mitigation plan will describe in detail the proposed measures to minimize and fully mitigate all impacts of the project on marbled murrlets as described in the *Compensatory Mitigation Strategy for Marbled Murrelets Impacted by Operation of the Humboldt Wind Project,* Appenidix B of this FEIR, including a description of the monitoring and reporting process to document compliance with and effectiveness of the minimization and mitigation measures; and a description of the funding and process required for implementation of the minimization, mitigation, and monitoring measures. The project applicant shall establish an endowment to fund implementation and monitoring of the marbled murrelet mitigation plan and shall demonstrate that funding is available to support implementation of the plan for the life of the	Submittal of marbled murrelet mitigation plan and postconstruction monitoring plan: Before issuance of any construction permits. Annual reports on postconstruction monitoring: For the life of the project.	Project applicant.	Humboldt County Planning & Building Department, in consultation with CDFW and USFWS.		

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project. The performance standard for corvid reduction for the marbled murrelet mitigation plan shall be 35% below baseline, as described in the *Compensatory Mitigation Strategy for Marbled Murrelets Impacted by Operation of the Humboldt Wind Project,* Appenidix B of this FEIR. The plan will include the following elements: • A description of how predator management will be implemented at Van Duzen County Park to reduce the abundance and concentration of corvids (Steller's jays and ravens), which will include but not be limited to: o installation of specialized trash receptacles, recycling stations, and food lockers to reduce the availability of supplemental food resources to corvids and other wildlife; o installation of grates and rock bins under campsite faucets to reduce corvid attraction and feeding; and o implementation of a "crumb clean" outreach campaign, including installation of signs and providing funding for personnel to enforce the campaign and conduct outreach to visitors to ensure compliance. • A monitoring plan to assess the effectiveness of the predator management and outreach campaign, and a reporting plan to describe the results of the monitoring. Monitoring of marbled murrelet reproductive improvement will be implemented using corvid abundance as a proxy. Corvid surveys will be conducted beforehand as a baseline and then every other year for at least the first 10 years of corvid management to index use of the sites and to compare to corvid abundance. • A workplan for collaborating with land managers of adjoining parcels and nearby reserves to facilitate comprehensive predator and visitor management in areas adjacent to Van Duzen County Park. • A funding plan detailing the costs associated with implementation of the plan for the life of the project, and a description of a nonwasting endowment that will be established to fund ongoing predator management, visitor outreach, and monitoring. A fund will be established for ongoing implementation of the plan within 24 months of the beginning of project operation. Until the fund is established the applicant/operator shall be responsible for implementing and monitoring success of the plan. • A schedule for mitigation implementation and reporting. The project applicant shall implement an adaptive management plan if monitoring indicates that the effectiveness of the marbled murrelet mitigation plan is falling short of mitigation goals, or if take levels are on a trajectory to exceed the anticipated take limit. Adaptive management actions to rectify a shortfall in production of sufficient marbled murrelets to offset take shall involve consultation with CDFW and USFWS to develop and implement additional compensatory mitigation. This mitigation may include, but is not limited to, funding to support the following efforts:					

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	• Relocation of recreational facilities out of murrelet habitat. The California Department of Parks and Recreation is seeking funding to relocate a popular day-use picnic area and public restroom facility that currently exists within marbled murrelet old-growth redwood habitat at Founders Grove in Humboldt Redwoods State Park (McAllister, pers. comm., 2019). This day-use area regularly accommodates busloads of tourists who use it as a rest area and leave food behind as they walk on trails. Removing anthropogenic food subsidies in marbled murrelet habitat would help reduce predator pressures on murrelets in the same manner as is proposed for Van Duzen County Park. • Habitat enhancements in buffer forest. The California Department of Parks and Recreation has proposed and is seeking funding to thin and release approximately 125 acres of second-growth forest immediately adjacent to Founders Grove to accelerate the progress of these buffers toward old-growth conditions (McAllister, pers. comm., 2019). To further increase benefits to murrelets, canopy manipulation is proposed for these old-growth buffers to further expedite the process of generating murrelet nesting habitat. Such canopy manipulation work has already been successfully completed elsewhere in the park. Approximately 20,000 acres of formerly harvested stands in Humboldt Redwoods State Park adjacent to occupied murrelet habitat are in need of intervention to help promote the buffering of occupied stands and ultimately provide additional murrelet habitat. • Removal of derelict fishing gear. Removal of derelict fishing gear that poses an an entanglement hazard for foraging marbled murrelets could provide benefits to marbled murrelets by reducing fatalities. This measure is currently under consideration as mitigation for murrelets for the Skookumchuk wind project in Washington, and a pilot study has been conducted by SeaDoc out of Humboldt Bay (https://www.seadocsociety.org/california-lost-fishing-gear-removal-project/). If CDFW and USFWS incidental take permits for marbled murrelets require avoidance, minimization, mitigation measures, or postconstruction monitoring approaches that differ from those described above, the stricter or most conservative measures shall apply. The avoidance, minimization, and mitigation measures implemented in fulfillment of the CDFW and USFWS incidental take permit requirements will be counted toward fulfillment of the mitigation requirements described above.					
3.5-3	Avoid and Minimize Impacts on Nesting Eagles. The project applicant shall implement the following measures to avoid and minimize impacts on nesting eagles: • If construction activities are proposed during the eagle breeding season (January 1–August 31), the project applicant shall conduct preconstruction eagle nesting surveys to determine whether active eagle nests or territories are present within 2 miles of construction boundaries. Surveys shall be conducted by a qualified biologist experienced with the natural history and nesting/territorial behavior of eagles. The ground-based surveys shall be designed to cover all previously documented eagle nest locations (from the CNDDB, HRC monitoring results, or other	Preconstruction survey results: Submitted by August 31 of the year in which surveys were conducted. Surveys and monitoring: Before	Project applicant.	Humboldt County Planning & Building Department, in consultation with CDFW and USFWS.		

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Mitigation Measures	Timing	Responsible Party for Implementation	Responsible Party for Enforcement	Completion of Implementation	
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reliable sources) and suitable eagles nesting habitat within the 2-mile buffer from the project construction boundaries • Two 4-hour observations shall be conducted at each nest (multiple nests may be observed simultaneously), including one monitoring period in February, during courtship and before egg-laying, and one in early March to determine whether territories are occupied by adult eagles and to identify nesting activity where possible. • The results of the surveys shall be documented in a report and submitted to the Humboldt County Planning & Building Department, USFWS, and CDFW no later than August 31 of the breeding season in which the survey was conducted. • If preconstruction surveys determine that active nests are present within 2 miles of construction activities, the project applicant shall avoid disturbance at active eagle nests. Consistent with the USFWS National Bald Eagle Management Guidelines (2007) and the guidance and recommendations of Millsap et al. (2015) for golden eagles, any nest previously constructed or used by bald or golden eagles should be treated as active unless (1) the nest has been confirmed based on monitoring data to be inactive for at least the previous five breeding seasons or (2) as described in USFWS (2007) guidance, compelling evidence is available to support the conclusion that the nest is unlikely to be used again in the future. • Active eagle nests shall be subject to the following avoidance buffer distances based on USFWS (2007) guidance for bald eagle and USFWS (2002) guidance for golden eagle, unless specific circumstances warrant a lesser distance in accordance with exceptions set forth in the respective sets of guidelines. During construction, a qualified biological monitor shall be present to observe and record behavior of eagles at the nest and to detect eagle response to construction activities and related disturbance. Biological monitors may modify buffers as appropriate based on these observations, in consultation with CDFW and USFWS. The distances presented parenthetically below are for bald eagle and golden eagle (respectively) and assume a direct line of sight between the indicated work activity and the active nest: o Human foot traffic (100 meters/800 meters) o Pass-through vehicular traffic (200 meters/400 meters) o Any other construction work except the types described below (200 meters/800 meters) o Blasting (800 meters for both species) o Helicopter flight (300 meters/800 meters [horizontal and vertical]) Active eagle nests and associated buffers shall be discussed in the worker environmental awareness program training for construction workers (Mitigation Measure 3.5-1c). Compliance with eagle buffers shall be demonstrated in the monitoring reports submitted by the biological monitor (Mitigation Measure 3.5-19a, “Minimize Impacts on Wildlife and Monitor during Construction”).	and during construction. Continuously during all project related construction and operational activities, as applicable.				

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Mitigation Measures		Timing	Responsible Party for Implementation	Responsible Party for Enforcement	Completion of Implementation	
					Action	Date Completed
3.5-5a	Avoid, Minimize, and Compensate for Operational Impacts on Eagles. The project applicant shall design and operate the project to minimize potential operational impacts on eagles by adhering to the following impact avoidance and minimization measures: • Maintain a landscape around WTGs that does not encourage raptor occurrence by maintaining rodent prey populations to relatively low levels. • Adhere to the general guidelines for turbine and WTG tower design and operation to minimize bird and bat mortality, use turbines and WTG tower designs lacking potential raptor perches that may encourage bird activity near the moving rotors, and avoid guy wires on meteorological towers. • Design and construct all energized project components, including the entire gen-tie, according to APLIC (2006) standards to minimize the potential for electrocution or collision with transmission lines by raptors and other large birds. The project applicant shall demonstrate compliance with BGEPA: • Before beginning project construction, the project applicant shall demonstrate to the Humboldt County Planning & Building Department that it has consulted with USFWS regarding potential impacts of the proposed project on eagles, that the proposed project has been assessed in accordance with the USFWS (2013) *Eagle Conservation Plan Guidance*, and that the project is in compliance with the BGEPA. If the project applicant voluntarily elects to pursue an incidental take permit for eagles with USFWS, any mitigation measures implemented in association with the permit (e.g., mortality monitoring, utility pole retrofits for compensatory mitigation) shall also be counted toward the mitigation recommendations provided below.	Documentation of consultation with USFWS: Before issuance of any construction permits.	Project applicant.	Humboldt County Planning & Building Department, in consultation with USFWS.		
3.5-5b	Conduct Postconstruction Mortality Monitoring for Eagles. • As described for marbled murrelet in Mitigation Measure 3.5-2b, the project applicant shall conduct PCMM studies for the life of the project to assess impacts of project operation on eagles. The PCMM shall be designed to ensure a minimum overall detection probability (g) of 30 percent for bald or golden eagles during "intensive" searches (first 3 years) and 10 percent for subsequent annual "road and pad" searches. The overall detection probability shall be calculated as described for marbled murrelet (Mitigation Measure 3.5-2b; Dalthorp et al. 2017). • Because eagles are larger than marbled murrelets, the methods outlined for marbled murrelet in Mitigation Measure 3.5-2b are expected to provide adequate detection rates for eagle carcasses. However, because the risk of eagle mortality is spread more evenly throughout the year than the risk of marbled murrelet mortality, the project applicant shall ensure that the search effort for eagle carcasses is distributed evenly throughout all seasons. • The overall detection of eagle carcasses (g) shall be calculated based on results of searcher efficiency trials with large raptor carcasses. The overall detection probability for the Evidence of Absence (EoA) model represents the probability of detecting a carcass present on the site	Avoidance and minimization of impacts, BGEPA compliance, and postconstruction mortality monitoring: For the life of the project. .	Project applicant.	Humboldt County Planning & Building Department, in consultation with USFWS.		

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	during the evaluation period and is based on the results of searcher efficiency and carcass persistence trials, and the spatial and temporal extent of coverage (i.e., proportion of WTGs or time for which searches occurred). • At the completion of each year of PCMM studies, the maximum credible number of bald and golden eagle mortalities shall be estimated based on the 80 percent credibility level ($1-\alpha$, where α=0.2) using the EoA model and PCMM data. This estimate will be used to determine project-related loss (i.e., eagle injury or mortality which results in the removal of a bird from the population) for compensatory mitigation requirements, as outlined below (see Mitigation Measure 3.5-5c). The project applicant shall provide annual reports describing postconstruction monitoring results to the Humboldt County Planning & Building Department and to USFWS.					
3.5-5c	Implement Compensatory Mitigation to Offset Operational Impacts on Eagles. • The project applicant shall compensate for the loss of any golden or bald eagles injured or killed as a result of project operation by paying for the retrofitting of electrical utility poles that present a high risk of electrocution to eagles, as prescribed in the *Eagle Conservation Plan Guidance*, Appendix G (USFWS 2013) in accordance with the following requirments: • For each instance of estimated project-related loss (see Mitigation Measure 3.5b) that removes a bird from the population, 32 utility poles shall be retrofitted. This is based on a resource equivalency analysis (REA) performed by USFWS (2013; Appendix G) and assumes that each retrofitted pole would result in 10 years of avoided loss from electrocution. Certain utility poles may be eligible for "reframing" (as opposed to retrofitting) to avoid electrocution, which is assumed by USFWS to result in 30 years of avoided loss rather than 10 years. The reframing of 14 poles will be sufficient to offset take of a single eagle, according to the REA analysis. • Utility poles that are permanently removed as part of an "undergrounding" process will be considered to result in avoided loss of eagles for 30 years as discussed in the project description. • Compensatory mitigation for the loss of each eagle shall be completed within 1 year of each instance of documented take. Retrofitted poles must be Only poles considered "high-risk" for electrocution (per USFWS 2013, Appendix G), will be eligible for compensatory mitigation through retrofit or removal, and for instances of bald eagle take must these poles will be located in areas where both species occur and within the Pacific Flyway corridor north of 40 degrees North latitude. For instances of golden eagle take, retrofitted poles must be located within the Pacific Flyway. These areas represent the USFWS-designated "Eagle Management Units" for bald and golden eagles at the project site, respectively (USFWS 2016a). • The project applicant may perform utility pole retrofits or removals at any time to achieve positive credit toward future eagle mortalities. The project applicant shall receive such credit upon completion of the mitgiation proposed in revised Mitigation Measure 3.5-11, described in "Raptor Operational Impacts," in Chapter 9 of this FEIR, which will involve undergrounding of 5	Implementation of compensatory mitigation; within 1 year of documented take for the life of the project. Report on implementation of compensatory mitigation: Within 1 year of each documented instance of takethereafter.	Project applicant.	Humboldt County Planning & Building Department, in consultation with USFWS.		

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	miles of existing ridgeline overhead transmission lines in the project area. Once the credit derived from Migation Measure 3.5-11 is exhausted, additional poles to retrofit or reframe will be identified and addressed or funds will be provided to a mitigation bank for pole retrofitting and reframing. The project applicant shall provide a report describing successful implementation of the electric utility pole retrofits for every bald or golden eagle taken as a result of project operations to the Humboldt County Planning & Building Department and to USFWS. The report shall be provided no more than 1 year after detection of the eagle take. If the project applicant pursues a federal eagle incidental take permit and develops separate mitigation measures for eagles in association with an eagle conservation plan, any mitigation completed toward the eagle take permit requirements shall be counted toward the mitigation requirements outlined above.					
3.5-6	Minimize Construction Disturbance to Northern Spotted Owl. To prevent nest abandonment caused by auditory and visual disturbance, the project applicant shall implement the following noise and visual disturbance buffers during the nesting season in accordance with the USFWS guidelines *Estimating the Effects of Auditory and Visual Disturbance to Northern Spotted Owls and Marbled Murrelets in Northwestern California* (USFWS 2006): • 100 meters for high construction noise (81–90 decibels [dB]) • 250 meters for very high construction noise (91–100 dB) • 400 meters for extreme construction noise (101–110 dB) The buffer sizes listed above are default thresholds. Site-specific sound attenuation shall be considered and buffers resized accordingly, and approved by CDFW and USFWS. Buffers shall be placed around northern spotted owl activity centers near the project site as determined during preconstruction surveys and shall account for the locations in the project area where extreme versus high category noise would occur. Buffers shall be clearly indicated on construction drawings and adherence to buffers shall be monitored during construction activities by a qualified monitor. The project applicant shall provide documentation to the Humboldt County Planning & Building Department that CDFW and USFWS have been consulted in developing the size of the auditory buffer and the level of monitoring and reporting required during construction, and that buffers have been established and adhered to during construction.	Surveys and buffer establishment: Before construction. Monitoring and reporting: During construction near northern spotted owl activity centers and buffers. Documentation of compliance: During and after construction.	Project applicant.	Humboldt County Planning & Building Department, in consultation with CDFW and USFWS.		
3.5-7	Avoid, Minimize, and Compensate for Construction Impacts on Northern Spotted Owl. The project applicant shall implement the following measures to avoid, minimize, and compensate for impacts of project construction on northern spotted owl: • Develop a map based on the best available information depicting the locations of foraging, nesting, and roosting habitat for northern spotted owls on the project site. This information will guide efforts to minimize habitat impacts during the project's final design. The project applicant shall minimize, to the extent feasible, the removal or degradation of mature coniferous forest habitat or other habitats that could support foraging, roosting, or nesting northern spotted owls.	Documentation of northern spotted owl minimization efforts and accounting of temporary and permanent impacts: Within 1 month of	Project applicant.	Humboldt County Planning & Building Department, in consultation with CDFW and USFWS.		

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Upon completion of construction, the project applicant shall submit to the Humboldt County Planning & Building Department, CDFW, and USFWS documentation of these minimization efforts, and shall provide an accounting of northern spotted owl foraging, nesting, and roosting habitat temporarily and permanently affected by construction. • Provide documentation to the Humboldt County Planning & Building Department, CDFW, and USFWS confirming that project activities will not preclude the landowners who are subject to the Forest Practices Act from maintaining functional habitat thresholds for all spotted owl activity sites occurring within 0.7 mile of the project area upon completion of construction. The thresholds that the subject landowners must meet include: o Maintain functional nesting habitat (no habitat modifications, no entry) within 500 feet of northern spotted owl activity centers. o Maintain functional foraging and roosting habitat and avoid disturbance within 500–1,000 feet of northern spotted owl activity centers during nesting season. o Provide 500 acres of functional habitat within 0.7 mile of activity centers. o Provide 1,336 acres of functional habitat within 1.3 miles of activity centers. • Provide compensatory mitigation for northern spotted owl foraging, nesting, and roosting habitat that is permanently removed (clearing for the gen-tie and roads is considered a permanent impact). This mitigation may be composed of one or more of the following options, and shall be developed in consultation with CDFW and USFWS: o The project applicant shall mitigate permanent and fragmentation impacts on northern spotted owl foraging, nesting, and roosting habitat by permanently preserving lands at the ratios described in Table 3.5-11a through the purchase of conservation easements or acquisition of suitable northern spotted owl habitat. The determination of what constitutes suitable habitat shall be made by Humboldt County in consultation with CDFW and USFWS. Temporary impacts (areas adjacent to roads disturbed for construction) would not require off-site mitigation because they would be replanted on-site after construction is complete. Land to be conserved as mitigation lands shall be of equal or higher value as the land disturbed. Mitigation lands shall contain at least one drainage, be of lower slopes compared to project area lands, and shall provide suitable foraging, nesting and roosting habitat in similar ratios to the lands being disturbed. Preference shall be given to lands suitable for nesting, roosting and foraging activities in that order. Nesting, roosting and foraging habitat on mitigation lands shall meet the following criteria, as defined in the California Forest Practice Rules (http://www.fire.ca.gov/resource_mgt/resource_mgt_forestpractice.php): o Functional Foraging Habitat is dependent upon the presence and availability of prey on the forest floor or in the canopy; presence of accessible perching limbs; and adjacency to stands with canopy closures >40%. Average stem diameter is usually >6" D.B.H. for hardwoods and >11" D.B.H. for conifers among dominants, and codominants, and the total overhead canopy closure, including intermediate trees is at least 40%. Where overall canopy closure is >80%,	completion of construction. Purchase and recordation of mitigation land in fee-title and/or easement: 2 years after first delivery of power. Implementation of a barred owl management plan: 2 years after first delivery of power and continuing for the duration of the project.				

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foraging habitat is limited to areas with ample flight space below limbs and among stems. Foraging habitat in smaller size classes and lower percentage canopy closures must be justified by local information.

- o Functional Nesting Habitat means habitat with a dominant and codominant tree canopy closure of at least 40% and a total canopy (including dominant, codominant, and intermediates) of at least 60%. Usually the stand is distinctly multi-layered with an average stem diameter in dominant, and codominant conifers, and hardwoods >11" D.B.H. The stand usually consists of several tree species (including hardwoods) of mixed sizes. All nests, snags, down logs, and decadent trees shall also be considered as part of the habitat. Nesting substrates are provided by broken tops, cavities, or platforms such as those created by a hawk or squirrel nest, mistletoe broom, or accumulated debris. Owls are known to occasionally nest in less than optimal habitat. Nesting areas may also be associated with characteristics of topographic relief and aspect which alter microclimates.
- o Functional Roosting Habitat during the territorial breeding season, consists of stands where average stem diameter is >11" D.B.H. among dominant and codominant trees. Hardwood and conifers provide an average of at least 40% canopy closure but the stand can have a high degree of variability. Stand size and configuration must be sufficient to provide multiple perch sites which are suitable for protection from various environmental conditions, including wind, heat, and precipitation.

Table 3.5-11a. Mitigation Ratios and Acreages Required for Permanent Impacts on Northern Spotted Owl Habitat

Habitat Type	Disturbance type	Acres Affected	Mitigation Ratio	Mitigation Acres	Total Acres Needed
Foraging	Permanent (turbine pads, new roads, gen-tie)	164.01	1	164.01	164.01
	Edge effect (gen-tie 100' buffer)	292.13	0	0.00	
Roosting	Permanent (turbine pads, new roads, gen-tie)	49	1	49.00	75.84
	Edge effect (gen-tie 100' buffer)	107.34	0.25	26.84	
Nesting	Permanent (turbine pads, new roads, gen-tie)	17.39	1	17.39	26.79
	Edge effect (gen-tie 100' buffer)	37.61	0.25	9.40	
Total	**All**	**841.69**	**0.32**	**266.64**	**266.64**

- If acquisition of lands is combined with a barred owl management program, the ratio of lands to be preserved may be reduced to 0.5:1 with the concurrence of Humboldt County in consultation with CDFW and USFWS. Any preserved land shall be protected from development with an encumbering instrument (e.g., a deed restriction, covenant, or conservation easement) and shall be managed through the use of a nonwasting endowment. With concurrence of CDFW and USFWS, the same mitigation lands that are used for other resources may be used to satisfy

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	northern spotted owl mitigation obligations, if those lands are suitable. The replacement habitat shall be in the general vicinity of the project site (i.e., in Humboldt County) and should be capable of providing functions similar to those provided by the habitat that will be removed, as determined by Humboldt County in consultation with USFWS and CDFW. • Within 2 years following the first delivery of power, the project applicant shall purchase and record up the mitigation lands as off-site conservation land in fee-title and/or easement for open space suitable as nesting, foraging, and roosting habitat for northern spotted owls. If the applicant elects to implement a barred owl management plan, the applicant shall submit a draft barred owl management plan within 1 year following the first delivery of power. The County, in consultation with USFWS and CDFW, shall approve the location of the conservation land or easement and the barred owl management plan. • The project applicant may implement a barred owl management program in the project vicinity on privately held land occupied by northern spotted owl (owned by either HRC or another entity), and/or implement this program on the off-site conservation lands described above. The barred owl management program shall occur on a tract of land similar in size as the total acres of northern spotted owl habitat to be permanently impacted and shall be designed to achieve a stable or growing northern spotted owl habitat population on the managed lands. The project applicant shall endow funding for the management program for the life of the project. If the managed lands are not already being surveyed for northern spotted owl habitat, the endowment shall include funds for surveying the northern spotted owl habitat population on the managed tract to demonstrate a stable or growing northern spotted owl population. • A barred owl management program may be undertaken independently of land dedication. The area covered by the barred owl management program shall be determined by the Humboldt County Planning and Building Department in consultation with CDFW and USFWS. If CDFW and USFWS incidental take permits for northern spotted owl include avoidance, minimization, and mitigation measures that differ from those described above, the stricter or most conservative measures shall apply.					
3.5-8	Avoid, Minimize, and Compensate for Operational Impacts on Northern Spotted Owls. • The project applicant shall implement: o Mitigation Measure 3.5-5a, "Avoid, Minimize, and Compensate for Operational Impacts on Eagles," which provides similar benefits and protections for northern spotted owls; and o Mitigation Measure 3.5-5b, "Conduct Postconstruction Mortality Monitoring for Eagles," as adhering to postconstruction monitoring protocols for eagles will achieve adequate detection rates to determine whether the project has resulted in take of northern spotted owls. • For each northern spotted owl mortality, the project applicant shall develop and implement compensatory mitigation in consultation with CDFW and USFWS that will create one northern spotted owl for every individual taken to offset any fatalities documented over the operational life	Postconstruction monitoring: For the duration of the project, with reports submitted annually to CDFW, USFWS, and the Humboldt County Planning & Building Department.	Project applicant	Humboldt County Planning & Building Department, CDFW, and USFWS.		

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	of the project. This offset can be accomplished with funding and implemetation of barred owl management programs, or by acquisition of or conservation easements on habitat that would provide nesting, foraging, or roosting northern spotted owl habitat, as described in Mitigation Measure 3.5-7. The benefit to the affected population shall be demonstrated to offset take by creating one northern spotted owl for every spotted owl taken as a result of project operation. If CDFW and USFWS incidental take permits for northern spotted owl include avoidance, minimization, and mitigation measures that differ from those described above, the stricter or most conservative measures shall apply.	Purchase and recordation of mitigation land in fee-title and/or easement: 2 years after first delivery of power.				
3.5-9	Avoid Impacts on Nesting Raptors. The project applicant shall implement the following measures to avoid directly or indirectly affecting nesting raptors during project construction: • Where feasible, tree and vegetation removal activities shall be avoided in potential raptor nesting habitat during the avian nesting season (February 1–August 31, annually). • Preconstruction raptor nesting surveys shall be conducted. Before any construction activities occur during the avian nesting season (February 1–August 31), including vegetation removal (if necessary), preconstruction raptor nesting surveys shall be conducted by a qualified biologist to identify raptor nests within 500 feet of proposed work areas. The qualified biologist shall be knowledgeable in the distribution, habitat, life history, and identification of Northern California birds; experienced in nest searching for birds that may occur within study area; and knowledgeable in survey protocols and/or permits needed to survey for federally listed or state-listed birds. If active raptor nests are detected during preconstruction surveys, a 500-foot exclusion zone shall be established around the nest in which no work would be allowed until the young have successfully fledged or nesting activity has ceased. The determination of fledging or cessation of nesting shall be made by a qualified biologist with experience in nest searching and monitoring for raptors, in consultation with CDFW and USFWS. In consultation with CDFW and USFWS, the size of the exclusion zone may be modified depending on the species and the type of construction activity and associated disturbance anticipated near the nest. Active nest sites shall be monitored periodically by a qualified biologist throughout the nesting season to identify any sign of disturbance and to document nest status.	Before and during construction activities proposed to take place during the general avian nesting season (February 1–August 31, annually).	Project applicant.	Humboldt County Planning & Building Department, in consultation with CDFW and USFWS.		
3.5-11	Avoid, Minimize, and Compensate for Operational Impacts on Raptors. Humboldt County Planning & Building Department will establish project-specific Bird Technical Advisory Committee (TAC). The TAC will evaluate postconstruction monitoring data for the project on an annual basis to determine whether project-related mortality of raptors and nonraptor birds poses a risk of significant adverse effects that could cause local and regional special-status bird populations to drop below self-sustaining levels if left unabated. Based on a review of the post-construction mortality data the TAC may make additional recommendations beyond the mitigation measures included in the Mitigation and Monitoring Plan	Avoidance and minimization of impacts during construction; postconstruction mortality monitoring for the life of the project.	Project applicant and Humboldt County Planning & Building Departent	Humboldt County Planning & Building Department, in consultation with CDFW and USFWS.		

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	(MMRP) for the project to further avoid, minimize, or compensate for bird mortality. The TAC's duties shall include but not be limited to: • reviewing protocols for post-construction bird fatality monitoring and making recommendations for refinements, if appropriate; • reviewing and interpreting postconstruction fatality data on an annual basis for years in which monitoring is conducted; • assessing whether bird mortality attributable to the project may pose the potential for any bird population, particularly special-status birds, to drop below self-sustaining levels if left unabated, despite implementation of all mitigation in the project-specific MMRP; • strategically identifying operational minimization measures that will most efficiently minimize impacts on special-status raptors and other special-status bird populations while recognizing the operational needs of the facility, and based on evidence in the annual monitoring report that the threat for such impacts exist; and • identifying compensatory mitigation that would offset operational impacts on local or regional populations of special-status raptors and other special-status bird species. This mitigation would be recommended for implementation by the project applicant, as enforced by the Humboldt County Planning and Building Department and would be in addition to mitigation identified in the project specific MMRP. Additional mitigation would only be necessary if clearly linked to trends post construction mortality data that point to a threat to local and regional populations to fall below self-sustaining levels, and if the mortality causing these trends is clearly linked to operation of the project The TAC shall be established at least four months before operation of the project begins and will review and approve the proposed post-construction fatality monitoring protocols, and will have the ability to identify necessary changes of the protocols in subsequent years to address changing circumstances related to operation or monitoring of the project. The TAC shall operate under the authority of the Director of the Humboldt County Planning and Building Department and all actions/recommendations of the TAC will be implemented as a requirement of the Department, if the recommendations are clearly linked to the impacts of the project. The TAC shall be actively engaged during the first year of operational data collection to evaluate the mortality monitoring results. Year 1 of monitoring will begin immediately following the start of operations and will continue for 12 months.	Written findings of take of listed species within 2 calendar days of take; Notification of CDFW or USFWS required or recommended actions for take within 3 days of receipt of such requirements or recommendations by.either agency. TAC formed 4 months before project operation.				

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	Thereafter the TAC shall meet annually within a month of receipt of the annual fatality monitoring reports and will provide recommendations in the form of a technical memorandum to the Humboldt County Planning & Building Department Director within one month of the annual meeting. The TAC may meet more frequently as deemed necessary by the County or as unexpected trends are detected in the monitoring data. The TAC shall be maintained and provide technical memoranda for a minimum period of five years after submittal of the first annual monitoring report. If the TAC is unable to meet or unable to provide the memoranda in a timely manner prior to the start of the next monitoring period, the original protocols will maintain in place to ensure continued collection of data. The TAC shall remain active until the Humboldt County Planning & Building Department Director, in consultation with the TAC, concludes that operational impacts of the project do not pose a risk of reducing the population of any bird species below a self-sustaining level. Operation of the TAC may be extended for as long as deemed necessary by the County in consultation with the TAC. The County may appoint an independent TAC Facilitator whose duties include disseminating project data, setting up and moderating meetings, preparing agendas and meeting summaries, and preparing technical memoranda. The decision-making process for the TAC recommendations shall be by majority vote. The rules for TAC assembly and function shall be based on the recommendation in this measure and shall be memorialized after the first meeting of the TAC in a memorandum. The TAC shall provide a report of its findings to the Humboldt County Planning & Building Department Director on an annual basis, or at less frequent intervals if determined by the TAC that annual reporting is not necessary. TAC findings for implementation of mitigation actions shall be submitted to the Humboldt County Planning & Building Department Director, who will evaluate the recommendations against mitigation already implemented as part of the project MMRP. The Director will then communicate those findings and recommendations to the project applicant and who will be responsible for carrying out the measures recommended by the TAC. If the TAC determines that mortality monitoring results indicate that bird mortality attributable to the project poses a risk of causing local and regional special-status bird populations to drop below self-sustaining levels, the TAC will recommend adaptive management actions (e.g., vegetation management around turbines to reduce prey populations, operational modifications, installation of camera-based detection systems [e.g. Identiflight ©] and/or compensatory mitigation to offset impacts (e.g., riparian habitat acquisition or conservation easements, retrofitting of high-risk power lines). The TAC shall provide evidence of how proposed adaptive management actions directly relate to findings made based on the monitoring reports, how the recommended measures were developed, how they will result in reduction of the impacts and what the newly established criteria for success and monitoring are. These findings shall be documented in the annual memorandum to be prepared by the TAC or in special memoranda if the TAC meets off-cycle to address specific events.					

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The project applicant shall provide sufficient funding to establish and maintain the TAC for the duration of monitoring. The TAC will consist of at least three (3) and no more than seven (7) appointees and will consist of an odd number of voting participants. New appointees will be recommended to the Humboldt County Planning Commission for ratification as needed to fill vacancies based on recommendations from CDFW, USFWS and the Humboldt County Planning and Building Department. The TAC shall be composed of individuals who are recognized subject matter experts with expertise in bird biology and ecology, knowledge of local bird populations, and knowledge of wind-wildlife interactions. The TAC shall include eagle and raptor experts, and scientists with expertise in the biology and ecology of local non-raptor birds. The TAC may include but not be limited to representatives from the following organizations: • CDFW • USFWS • Research organizations or agencies with staff dedicated to bird research or other individuals who are recognized experts on special-status bird species occurring in the project area • Any other member determined to be necessary by Humboldt County to provide additional understanding of the impact of the project on local and regional bird populations. A representative from the operator of the facility and a representative from the Humboldt County Building & Planning Department will participate in the meetings to provide technical information (operator) and oversight (County) as needed, and to ensure that the original purpose of the TAC is implemented as outlined. The County and operator representative will not be voting members. In consultation with the TAC, t~~T~~he project applicant shall implement: • Mitigation Measure 3.5-5a, "Avoid, Minimize, and Compensate for Operational Impacts on Eagles," which provides similar protections to raptors; • Mitigation Measure 3.5-5b, "Conduct Postconstruction Mortality Monitoring for Eagles," as adhering to postconstruction monitoring for eagles will also provide sufficient fatality monitoring for other raptors; and • Mitigation Measure 3.5-5c, "Implement Compensatory Mitigation to Offset Operational Impacts on Eagles." These avoidance and minimization measures include requirements to implement avoidance and minimization measures and					

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implement a PCMM to monitor and report on project-related fatalities. This measure also describes compensatory mitigation in the form of retrofitting power poles to reduce electrocution risk to eagles, but this mitigation also provides benefits to raptors other than eagles (Kagan 2016). • Undergrounding 5 miles of existing overhead PG&E electrical distribution lines that represent existing electrocution and collision hazards for raptors; and • Pay $600 per raptor to a raptor rehabilitation facility, such as the Humboldt Wildlife Care Center in Arcata, California. which maintain funds for a variety of rehabilitation projects including for birds. In the event that the Humboldt Wildlife Center declines the donation, the project would donate the funds to the Lindsay Wildlife Center in Walnut Creek, California. The Lindsay Wildlife Hospital has an established raptor rehabilitation program. https://lindsaywildlife.org/featured-patienthospital-story. After collection of 3 years of postconstruction monitoring data, the Humboldt County Planning & Building Department will review the data and, in consultation with the TAC, USFWS and CDFW, will determine which, if any, specific WTGs generate disproportionately high levels of avian mortalities (based on evidence of statistically significant higher levels of mortality relative to other WTGs). If specific WTGs are found to result in disproportionately high avian mortalities, the project applicant shall consult with the TAC and the County to evaluate any feasible measures that can be implemented at the discretion of the County to reduce or avoid mortalities at those specific WTGs. If unauthorized take of a federal or state threatened or endangered raptor occurs during project operation, the project applicant shall immediately notify the appropriate agency (CDFW and/or USFWS) by phone. The applicant shall then submit a written finding to the appropriate agency and the County within 2 calendar days that describes the date, time, location, species and, if possible, cause of unauthorized take. The applicant shall notify the County within 3 calendar days of the receipt of any USFWS and/or CDFW required or recommended actions resulting from the unauthorized take, including whether an incidental take permit and/or additional requirements is deemed necessary by either agency.					

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3.5-12	Avoid and Minimize Impacts on Avian Nesting and Foraging Habitat. The project applicant shall implement the following measures to avoid or offset impacts on avian nesting and foraging habitat: • Minimize the construction footprint in riparian and wetland habitats, and in grassland habitats that could support nesting horned larks. Based on information from project bird use survey data (Stantec 2018g) and from McAllister (pers. comm., 2019), the project applicant shall develop a map depicting the location of the Bear River population of horned larks. Within this area, small and large rock outcroppings shall not be disturbed for the purposes of WTG placement. A 150-foot buffer shall be applied to large and small rock outcroppings that are suitable habitat for horned larks. If it is not feasible to maintain the rock outcroppings for the purpose of constructing the main access road, substitute rocks shall be placed within the mapped population area. • Implement Mitigation Measure 3.5-1c, "Develop and Implement a Worker Environmental Awareness Program." Provide compensatory mitigation for permanent impacts on grassland habitat that quality as sensitive natural communities at a no-net-loss ratio for grassland and scrub/shrub habitat, and at a 3:1 ratio for permanent impacts on riparian habitat, as described in Mitigation Measure 3.5-23e, "Develop and Submit a Reclamation, Revegetation, and Weed Control Plan." Temporary impacts on grassland, scrub/shrub, and riparian habitat shall be restored on-site.	Before and during construction activities proposed to take place during the avian nesting season (February 15–September 15, annually). Submittal of a horned lark impact avoidance plan: Before issuance of grading permits.	Project applicant.	Humboldt County Planning & Building Department.		
3.5-13	Avoid Impacts on Nesting Birds. The project applicant shall minimize impacts on habitat supporting nesting birds, as described in Mitgation Measure 3.5-12, and shall implement Mitigation Measure 3.5-1c, "Develop and Implement a Worker Environmental Awareness Program," and measures for biological monitors. In addition, the project applicant shall implement the following measures to avoid directly or indirectly affecting nesting birds during project construction: • The project applicant shall conduct preconstruction nesting bird surveys to locate all active nests of special-status birds and birds protected under the MBTA, and California Fish and Game Code Sections 3503 and 3503.5. Before any construction activities occur during the general avian nesting season (March 1–August 31), including vegetation removal (if necessary), preconstruction nesting bird surveys shall be conducted by a qualified biologist to identify any nests within 250 feet of proposed work areas. The qualified biologist shall be knowledgeable in the distribution, habitat, life history, and identification of Northern California birds; experienced in nest searching for birds that may occur within the study area; and knowledgeable in survey protocols and/or permits needed to survey for federally listed or state-listed birds. If nests are detected during preconstruction surveys, a 250-foot exclusion zone shall be established around the nest in which no work will be allowed until the young have successfully fledged or nesting activity has ceased. The determination of fledging or cessation of nesting shall be made by a qualified biologist with experience in nest searching and monitoring for raptors, in consultation with CDFW and USFWS. In consultation with CDFW and USFWS, the qualified	Before and during construction activities proposed to take place during the general avian nesting season (March 1–August 31, annually).	Project applicant.	Humboldt County Planning & Building Department, in consultation with CDFW and USFWS.		

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	biologist may modify the size of the exclusion zone depending on the species and the type of construction activity and associated disturbance anticipated near the nest. Active nest sites shall be monitored periodically throughout the nesting season to identify any sign of disturbance and to document nest status.					
3.5-14	Avoid and Minimize Operational Impacts on Nonraptor Birds. The project applicant shall implement the following measures in consultation with the project-specific bird TAC described in Mitigation Measure 3.5-11 to avoid and minimize operational impacts of the project on nonraptor birds: • Minimize Construction Footprint. The project applicant shall minimize the construction footprint to ensure that locations chosen for WTGs avoid known occurrences of all special-status nonraptor species to the greatest extent feasible. • Conduct Postconstruction Mortality Monitoring. PCMM studies shall be designed to ensure a minimum overall detection probability (g) for bats of 10 percent during "intensive" searches (first 3 years) and 3 percent for subsequent annual "road and pad" searches. The overall detection probability shall be calculated as described for marbled murrelet (Mitigation Measure 3.5-2b; Dalthorp et al. 2017). Achieving this level of detection for bats will ensure that the detection rates for small birds are sufficient as well, because small birds generally persist longer and are detected at higher rates than bats. • Calculate Detection Probability. The overall detection probability shall be calculated as described above for marbled murrelet and eagles, to represent the probability of detecting a carcass present on the site during the period of evaluation based on the results of searcher efficiency and carcass persistence trials, the proportion of WTGs covered, the proportion of carcasses falling within the search area, and the temporal extent of coverage. As described in Mitigation Measure 3.5-18b, this required level of detection is based on the need to accurately determine when the mortality rate of bats meets or exceeds 1.7 mortalities per MW per year, which would trigger adaptive management action. Meeting this requirement will also ensure that detection rates of small birds are adequate to identify when one or more species is experiencing significant mortality, because they are more readily detected and tend to persist for longer than bat carcasses. After collection of 3 years of postconstruction monitoring data, the Humboldt County Planning &	Avoidance and minimization of impacts: Before the start of project operation. Postconstruction mortality monitoring: First 3 years of project operation. Compensatory mitigation: Within 1 year of each documented instance of take thereafter. Written findings of take of listed species within 2 calendar days of take; Notification of CDFW or USFWS required or recommended actions for take within 3 days of receipt of such requirements or recommendations by either agency.	Project applicant.	Humboldt County Planning & Building Department, in consultation with CDFW.		

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	Building Department will review the data and, in consultation with the bird TAC, the USFWS and CDFW, will determine which, if any, specific WTGs generate disproportionately high levels of avian mortalities (based on evidence of statistically significant higher levels of mortality relative to other WTGs). If specific WTGs are found to result in disproportionately high avian mortalities, the project applicant shall consult with the bird TAC and the County to evaluate any feasible measures that can be implemented at the discretion of the County to reduce or avoid mortalities at those specific WTGs. • Report Take. If unauthorized take of a federally listed or state-listed threatened or endangered avian species occurs during project operation, the project applicant shall immediately notify the appropriate agency (CDFW and/or USFWS) by phone. The project applicant shall then submit a written finding to the appropriate agency and the County and the bird TAC within 2 calendar days that describes the date, time, location, species, and if possible, cause of unauthorized take. The project applicant shall notify the County and the bird TAC within 3 calendar days of the receipt of any USFWS- and/or CDFW-required or recommended actions resulting from the unauthorized take, including whether an incidental take permit and/or additional requirements is deemed necessary by either agency. If the USWS and/or CDFW requires actions that involve compensatory mitigation that mitigation shall occur within 1 year of documentation of the take.					
3.5-15	Avoid and Compensate for Impacts on Bat Roosts. To avoid direct and indirect impacts on bats, the project applicant shall conduct a habitat assssment to determine whether potential bat roosts occur in or near the project area, and shall implement avoidance and minimization measures to protect bats and bat roosts as described below. 1 Conduct a habitat assessment to identify potential bat roost sites: a Trees, rock outcroppings, and structures to be removed shall be assessed for potentially suitable colonial roost habitat in advance of removal (Tatarian 2018). The assessment shall be conducted under the guidance of a qualified biologist with experience identifying bat roosts and approved by CDFW. The assessment shall emphasize trees and rock outcroppings that exhibit characteristics that provide high-quality roost habitat, such as snags with apparent cavities or sloughing bark, large-diameter trees with basal hollows, large-diameter trees with indications of senescence, live trees with dead tops, species that age or decay in a manner	Completion of habitat assessment before approval of grading or improvement plans or any ground-disturbing activities.	Project applicant.	Humboldt County Planning & Building Department, in consultation with CDFW.		

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that creates cavities or large crevices (e.g., redwood, big-leaf maple, tanoak), and large rock outcroppings containing cave-like structures, or numerous fissures or flakes. 2 All potentially suitable roost habitat shall be rated on a scale of 1 to 3, as follows: 1 = unsuitable/low suitability, 2 = high suitability, 3 = identifiable roost. Avoid removal of confirmed roosts and highly suitable potential roost habitat: 3 Removal of roost habitat rated 2 or 3 shall be avoided to the extent feasible via project modifications (e.g., roadway realignment). When determining whether suitable roost habitat shall be preserved, the qualified biologist, in consultation with CDFW, shall consider whether preserving the habitat might lead to greater impacts (ongoing mortality) from wind farm operations than the impacts that would be caused by removal (exclusion and loss of habitat), depending on the location and significance of the suitable roost habitat. a If avoiding all potential and identifiable roost habitat rated 2 or 3 is not feasible, the qualified biologist shall visually inspect all accessible habitat during the daytime. During the inspection, the biologist shall identify characteristics that would make the habitat unsuitable for roosting bats (e.g., water intrusion, excessive airflow, indications of use by other wildlife) and for indications of use by bats (e.g., guano, urine or oil staining, bat smells, audible bat noises, visible bats). Visual inspections shall be aided as appropriate by the use of spotlights, binoculars, and borescopes, and shall avoid undue disturbance to roosting bats in a sensitive state (e.g., rearing or hibernation). Any roost habitat determined to be unsuitable shall be changed to a rating of 1. Any indications of bat use shall be recorded and the roost habitat shall be rated 3. 4 A qualified biologist who is experienced in surveying potential roost habitat, and who is approved by CDFW, shall survey all potential roost habitat rated 2 that is inaccessible for visual inspection to determine habitat use patterns. The survey design may include emergence surveys using night-vision technology, acoustic surveys, thermal surveys, or any combination of the above, as determined appropriate for specific site conditions by the qualified biologist, and as approved by CDFW. The surveyor shall attempt to determine whether the habitat serves as a day roost, night roost, maternity roost, and/or hibernacula; how many bats may use the habitat; and which species may use the habitat. To determine which seasons the roost is in use, such surveys may need to be conducted during all four seasons. Any habitat with indications of use shall be changed to a rating of 3. Any roost habitat that is surveyed sufficiently, as determined by the qualified biologist in consultation with CDFW, to indicate an absence of bat use shall be changed to a rating of 1. a As an alternative to doing extensive surveys to determine habitat use patterns and/or to determine whether the roost is used by Townsend's big-eared bat, the project applicant shall assume that all potential roost habitat rated 2 is identified roost habitat rated 3, and shall remove it and compensate for its loss as described below. 5 Adjust tree removal timing and approach to minimize impacts: a To the extent feasible, all tree removal shall occur in the fall (September 1–October 31, with adjustments possible depending on weather conditions and as approved by CDFW) to					

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minimize impacts on foliage-roosting bat species, and on any colonial tree-roosting species not detected during the habitat assessment and surveys. All trees rated 3 shall only be removed outside of their season(s) of use, or in the fall. b The project applicant shall implement a staged approach to tree removal under the guidance of the qualified biologist who has experience identifying bat roosts. The purpose of the staged approach is to encourage any bats in residence to leave before habitat is removed. Where roost habitat rated 2 or 3 must be removed, habitat rated 1 shall be removed at least 1 day and no more than 5 days before habitat rated 2 or 3. In addition, if roost habitat rated 3 must be removed, the qualified biologist shall develop a tree removal approach to further encourage any bats in residence to leave before any trees are removed. This approach shall be developed in consultation with CDFW and may include such measures as limbing the tree a day before felling the tree; opening up the potential roost habitat to introduce disturbing airflow; introducing nighttime lighting or other disturbing elements to the roost area; or excluding bats from the habitat, either physically with the use of one-way doors, or with the use of acoustic deterrents, as practical. 6 Compensate for the loss of essential Townsend's big-eared bat roost habitat: a All essential Townsend's big-eared bat roost habitat being removed shall be replaced with artificial roost habitat constructed to mimic the specific type of roost habitat being removed. The design and location of the artificial roost habitat shall be approved by CDFW, and may include the creation of basal hollows in existing trees, or constructed artificial roosts. b Based on the judgment of the qualified biologist and in consultation with CDFW, replacement habitat shall be located near suitable foraging habitat, and within a suitable distance of the habitat removed, to benefit the local bat populations affected. Bat occupancy performance standards, provisions for long-term protection, and a monitoring approach for the replacement habitat shall be approved by CDFW before the roost is removed. 7 Avoid and minimize temporary impacts on roost sites during construction: a *Conduct a habitat assessment.* Trees, rock outcroppings, and structures located within a minimum 100-foot buffer area from anticipated construction disturbance areas shall be assessed as part of the habitat assessment described above in Measure 1. The buffer area will generally include all habitat within the line of sight from the edge of the disturbance area. However, the buffer area may be field-fit and expanded as necessary by the qualified biologist, depending on the severity of planned disturbance and any visual or acoustic screening that may exist (e.g., dense vegetation can reduce noise levels by 10 dBA more than 200 feet [U.S. Department of Transportation 2011 in Caltrans 2016]). b *Avoid and minimize disturbance of potential roost habitat.* Disturbance of all habitat rated 2 or 3 shall be avoided to the extent feasible via project modifications. If avoiding all habitat rated 2 or 3 is not possible, a qualified biologist, in consultation with CDFW, shall assess the degree of anticipated disturbance and probable species sensitivity. If warranted, the qualified biologist shall develop and implement impact minimization measures that are appropriate to site conditions. He or she shall consider that some degree of construction disturbance to					

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	species with high roost fidelity may be less disruptive than implementation of certain minimization measures (e.g., temporary exclusion). Impact minimization measures may include the following: ▪ Delaying work in a buffer area around the suitable roost habitat until spring or fall when all bats would be volant and could fly away from the disturbance area. An appropriate buffer may be approximately 100 feet depending on site specifics, but greater avoidance distances might be needed to allow noise to attenuate to approximately background levels to achieve optimal noise avoidance (Johnston et al. 2004). ▪ Modifying construction techniques, equipment, and/or timing to use less disruptive approaches. Examples of less disruptive approaches include using equipment that emits noise at a lower decibel level and/or at lower frequencies outside the ranges that bats can hear; scheduling intermittent highly disruptive activities during the spring and fall when bats are the least sensitive; and conducting intermittent highly disruptive activities when atmospheric conditions are favorable. (For example, noise travels farther during periods of higher humidity or lower temperatures [Washington Department of Transportation 2015 in Caltrans 2016]). ▪ Installing sound or vision barriers between the suitable roost habitat and the construction. ▪ Starting the disturbance before the sensitive season(s) and continuing into the sensitive season(s), so that bats can avoid establishing a maternity or hibernation roost in the area of disturbance, or can become desensitized to the disturbance before their sensitive season(s). ▪ Avoiding the use of nighttime lighting and/or disruptive work around important night roosts. ▪ Temporarily excluding bats before their sensitive seasons and before construction disturbance. As an alternative to implementing Measures 5a and 5b listed above, all highly suitable roost habitat may be surveyed as described above in Measure 2. If the qualified biologist determines that survey approaches and results are sufficient to indicate an absence of bats in the potential roost habitat, no further action is required.					
3.5-18a	Avoid and Minimize Bat Population Level Decline through Consultation with a Technical Advisory Committee. To minimize the risk of bat mortality and preclude the project's contribution to significant impacts on local and regional bat populations, a technical advisory committee (TAC) shall be formed by the Humboldt County Planning & Building Department and funded by the project applicant. The TAC shall evaluate postconstruction monitoring data to determine whether bat mortality attributable to the project poses a potential for a significant impact on the local and regional bat population if left unabated. The TAC's duties shall include but not be limited to the following:	Submittal of post-construction mortality monitoring plan: 4 months before project operation. Annual reporting: for the life of the project	Project applicant and Humboldt County Planning & Building Department.	Humboldt County Planning & Building Department.		

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• review protocol for post-construction fatality monitoring and bat activity monitoring; • reviewing and interpreting postconstruction fatality data and bat survey data; • assessing whether bat mortality attributable to the project poses a potential for a bat population to drop below self-sustaining levels if left unabated; and • strategically identifying operational minimization measures that will most efficiently minimize impacts on bat populations while recognizing the operational needs of the facility. The TAC will be established at least four months before operation of the project begins, will review and approve the proposed post-construction fatality and bat activity monitoring protocol, and will have the ability to identify necessary changes of protocol in subsequent years to address changing circumstances. The TAC will operate under the authority of the Director of the Humboldt County Planning and Building Department and all actions/recommendations of the TAC will be implemented as a requirement of the Department. The TAC will be actively engaged during the first year of operational data collection to evaluate the mortality monitoring results. The applicant shall provide the TAC with fatality data for the first high risk season, (August to mid-October) and after Year 1 of monitoring and then annually each year thereafter. The TAC will be authorized to require commencement of adaptive management described in Mitigation Measure 3.5-18d following reporting of the interim monitoring results. Year 1 of monitoring will begin immediately following the start of operations and will continue for 12 months. Thereafter the TAC will meet annually within a month of receipt of the annual fatality monitoring reports and will provide recommendations in the form of a technical memorandum to the Humboldt County Planning & Building Department Director within two months of the annual meeting. The TAC may meet more frequently as deemed necessary by the County. The TAC will be maintained and provide technical memorandum for a minimum period of five years after submittal of the first annual monitoring report. The TAC shall remain active until the number of fatalities per year has stabilized at a level that does not have the potential to reduce the population of hoary bats below a self-sustaining level. Operation of the TAC may be extended for as long as deemed necessary by the County in consultation with the TAC. The County may appoint an independent TAC Facilitator whose duties include disseminating project data, setting up and moderating meetings, preparing agendas and meeting summaries, and preparing technical memorandum. The decision-making process for the TAC recommendations will be by majority vote. In the event the TAC finds that action is needed, to avoid and minimize significant operational impacts of the project on bats, the TAC shall require the implementation of the step-wise bat impact mitigation strategy provided in Mitigation Measure 3.5-18d, below. This measure is based on the reduction of impacts on hoary bats and would have benefits to other bat species. The TAC will provide a report of its findings to the Humboldt County Planning & Building Department Director on an annual basis, or at less frequent intervals if determined by the TAC that annual reporting is not necessary. TAC findings for implementation of mitigation actions shall be					

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	submitted to the Humboldt County Planning & Building Department Director, who will communicate those findings to the applicant and who will carry out the findings of the TAC, consistent with the step-wise table described in Mitigation Measure 3.5-18d. The project applicant shall provide sufficient funding to establish and maintain the TAC for the duration of monitoring. The TAC shall consist of at least three (3) and no more than seven (7) appointees and shall consist of an odd number of voting participants. New appointees shall be recommended to the Humboldt County Planning Commission for ratification as needed to fill vacancies based on recommendations from CDFW and the Humboldt County Planning and Building Department. The TAC shall be composed of individuals who are recognized subject matter experts with expertise in bat biology and ecology and knowledge of wind-wildlife interactions, and shall include but not be limited to representatives from the following organizations: • Humboldt County Planning & Building Department • CDFW • Research organizations or agencies with staff dedicated to bat research (e.g., Bat Wind Energy Cooperative, American Wind Wildlife Institute, Humboldt State University, US Forest Service Pacific Southwest Research Station, USGS) • Humboldt Wind, LLC (operator of facility) • Any other member determined to be necessary by Humboldt County to provide additional understanding of the environmental conditions affecting bats. A representative from the operator of the facility and a representative from the Humboldt County Building & Planning Department will participate in the meetings to provide advice as needed, but will not be voting members.					
3.5-18b	Conduct Bat Surveys and Mortality Monitoring. To inform operations and resource management practices, the project applicant shall conduct surveys to assess and monitor bat use across the project site. Surveys shall be designed for determining whether bat presence in the project area can be used to refine operations to minimize bat fatalities and loss of energy generation. Study designs shall be developed in consultation with the TAC. Surveys shall be designed for determining whether, when, and where bats—particularly hoary bats—move through the project site and in what numbers. The study design may include a combination of study methods, such as radiotelemetry monitoring using Motus stations, thermal imaging, radar studies designed to detect the elevations at which bats fly through the project area, and acoustic studies conducted at WTG elevations (Weller, pers. comm., 2018; Johnston, pers. comm., 2018). The project applicant shall conduct mortality monitoring across the project site to inform resource management practices, to aid in refining operational minimization measures for minimizing bat fatalities and loss of energy generation, and for assessing the effectiveness of other impact	Before and during project operation.	Project applicant.	Humboldt County Planning & Building Department .		

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	minimization measures currently in development that may be implemented as they become available. The monitoring protocol (i.e., field protocol) and data evaluation methods (e.g., statistical and modeling approaches) shall be developed in consultation with the TAC. The monitoring protocol and evaluation methods used shall incorporate "lessons learned" from other recent monitoring efforts (e.g., Golden Hills North Wind Energy Center), and may include the use of scent detection dogs and data analysis approaches developed by USGS (GenEst, Evidence of Absence model), as appropriate. PCMM studies shall be designed to ensure a minimum overall detection probability (g) for bats of 10 percent during "intensive" searches (first 3 years) and 3 percent for subsequent annual "road and pad" searches. The overall detection probability shall be calculated as described for marbled murrelet (Mitigation Measure 3.5-2b; Dalthorp et al. 2017). The overall detection probability shall be calculated as described above for marbled murrelet and eagles, to represent the probability of detecting a carcass present on the site during the period of evaluation based on the results of searcher efficiency and carcass persistence trials, the proportion of WTGs covered, the proportion of carcasses falling within the search area, and the temporal extent of coverage. This required level of detection is based on the need to accurately determine when the mortality rate of hoary bats meets or exceeds mortality rates that may trigger adaptive management action. The TAC may determine that intensive searches are needed beyond the first 3 years of operation to provide enough iterations to determine the best operational protocols to minimize mortality and loss of energy generation. The project applicant shall report bat survey and mortality data to BatAMP, the Wildlife Response and Reporting System, the Biogeographic Information and Observation System Program, and other organizations that collaboratively collect and analyze these data, in accordance with California Energy Commission guidelines, and as directed by the TAC. The project applicant shall implement an employee wildlife incident reporting program to document and report any unanticipated or unusual events (e.g., a large-scale bat fatality event or atypical fatality pattern) discovered outside the course of standardized postconstruction monitoring. Such discoveries shall be reported to the TAC for a root cause analysis, and operational minimization measures shall be developed and implemented to reduce the likelihood of such events occurring again.					
3.5-18c	Design and Operate Facility Lighting to Avoid Attracting Bats into Rotor Paths. Light sources required for operations shall be located, shielded, and oriented to avoid attracting bats into the rotor path of any WTGs. Lighting near WTGs shall be motion-activated, shall emit no light during the "off" phase, and shall be set for short durations when activated.	During project operation.	Project applicant.	Humboldt County Planning and Building Department.		
3.5-18d	Implement Operational Minimization Measures. If the TAC determines that the results of mortality monitoring at the project indicate that hoary bat mortality attributable to the project poses a significant impact to the hoary bat population, the step-	During project operation.	Project applicant.	Humboldt County Planning and		

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wise adaptive management identified below shall be implemented. The measure for determining this level of effect will be a hoary bat fatality rate of 1.7 hoary bats/MW/year, as corrected for searcher efficiency and scavenging. The TAC may adopt a lower bat mortality threshold if it is deemed necessary to prevent population level decline. This measure is based on the reduction of impacts on hoary bats and would have benefits to other bat species. If any year of post-construction fatality monitoring, including the first interim report described above, determines that corrected hoary bat fatality rates exceed this value the measures described below will be implemented. TAC may provide recommendation on modifications to the stepwise approach described below as needed to prevent any bat population from dropping below self-sustaining levels.			Building Department.		

Summary of Hoary Bat Mitigation Measures using a Step-wise Approach:
To be Implemented When Hoary Bat Mortality above 1.7 bats/MW/year Occurs.

Threshold or Trigger	Mitigation Measure
Hoary bat mortality exceeds 1.7 bats/MW within a 1-year period.	STEP II: Evaluate the mortality data for hoary bat fatality for specific locations, seasons, or meteorological events. Establish the exceedance value of mortality of hoary bats as a percentage above the threshold of 1.7 bats/MW/year. Using the percentage exceedance value, target installation of additional deterrents necessary to reduce hoary bat mortality to below 1.7 bats/MW/year. Install deterrents strategically based upon mortality data. If hoary bat mortality exceedance is determined the data shall be studied to determine if there are specific turbines or groups of turbines causing high mortality deterrents shall be applied to these specific turbines. Perform mortality monitoring the following year.

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	Hoary bat mortality exceeds 1.7 bats/MW the year following Step I. — STEP II: Evaluate the mortality data for hoary bat fatality for specific locations, seasons, or meteorological events. Establish the exceedance value of mortality of hoary bats as a percentage above the threshold of 1.7 bats/MW/year. Using the percentage exceedance value, target installation of additional deterrents necessary to reduce hoary bat mortality to below 1.7 bats/MW/year. Install deterrents strategically based upon mortality data. If hoary bat mortality exceedance is determined the data shall be studied to determine if there are specific turbines or groups of turbines causing high mortality and deterrents shall be applied to these specific turbines. Perform mortality monitoring the following year. Hoary bat mortality exceeds 1.7 bats/MW the year following Step II — STEP III Engage the TAC and implement their recommendations for a low-wind speed curtailment strategy. The strategy will use patterns in hoary bat fatality documented during previous years of monitoring and bat activity data to design a smart curtailment program that reduces exposure of hoary bats to operating turbines to a level that drops the hoary bat fatality rate to below 1.7/MW/year. The project would curtail during high risk periods, at night (sunset to sunrise) and would not exceed two months (consecutive or aggregate) in duration. Curtailment would occur when the 10-minute average wind speed (measured and implemented on an individual turbine basis) is 5.0 m/s or less. Below this wind speed, turbine blades will be feathered such that rotor rotation is 2 rpm or less. Perform mortality monitoring the following year. The TAC may recommend additional monitoring beyond one year to confirm effectiveness of curtailment. It is anticipated that use of acoustic deterrents, and if necessary smart curtailment as described above in Step III of the table, will successfully maintain the hoary bat fatality rate below 1.7/MW/year. The TAC will oversee that implementation of these measures, as deemed necessary based on fatality monitoring results and will review the results of each year of fatality monitoring designed to evaluate the effectiveness of each mitigation measure that is implemented.					
3.5-18e	Implement American Wind Energy Association Best Management Practices The project will implement an operations-phase best management practice endorsed by the American Wind Energy Association called feathering below normal cut-in speeds. Under this practice the turbines are programed using the automatic Supervisory Control and Data Acquisition system so that when wind speeds are below the turbine manufacturer's normal cut-in speed during the nighttime hours, blades are pitched to a low angle to the wind. This results in turbine rotors spinning at 1-2 rpm, at most, which significantly reduces the chance of bat collisions with the turbine blades.	During project operation.	Project applicant.	Humboldt County Planning and Building Department		

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3.5-19a	Minimize Impacts on Wildlife and Monitor during Construction. The project applicant shall retain qualified biological monitors to continuously implement the following measures during construction to minimize impacts on wildlife and sensitive habitats: • Monitor construction activity for compliance with all project permits and the approved mitigation and monitoring program for the project; report on monitoring activities as required by project permits. • All fences installed on the project site shall be a maximum of 4 feet in height, wire strand, with a smooth bottom wire at least 18 inches from the ground to facilitate wildlife movement during operation of the project. • During construction activities, if an injured or dead special-status species is encountered, the work shall stop within the immediate vicinity. The project applicant shall notify the biological monitor, and the appropriate resource agency (e.g., USFWS or CDFW). Any measures required by these agencies be implemented and proof of implementation shall be submitted to the agencies before construction is allowed to proceed. • At the end of each work day, the biological monitor shall ensure that all potential wildlife pitfalls (trenches, bores, and other excavations) have been backfilled. If backfilling is not feasible, all trenches, bores, and other excavations shall be sloped at a 3:1 ratio at the ends to provide wildlife escape ramps, or covered completely to prevent wildlife access, or fully enclosed with exclusion fencing. If any wildlife species become entrapped, construction shall not occur until the animal has left the trench or been removed by a qualified biological monitor as feasible. • Employees and contractors shall look under vehicles and equipment for the presence of wildlife before moving vehicles and equipment. If wildlife is observed, no vehicles or equipment would be moved until the animal has left voluntarily or is removed by the biological monitor. No federally listed or state-listed species shall be handled. • Vehicle speed limits shall not exceed 15 miles per hour during construction and operation of the project. A speed limit sign shall be posted at all project site entry locations. • The use of high-intensity lighting, steady burning, or bright lights such as sodium vapor, quartz, halogen, or other bright spotlights shall be continuously minimized. Nighttime vehicle traffic associated with project activities shall be kept to a minimum volume and speed to prevent mortality of nocturnal wildlife species.	Continuously during all project-related construction activities.	Project applicant.	Humboldt County Planning & Building Department.		
3.5-19b	Avoid and Minimize Impacts on Special-Status Mammals and Associated Habitats. To avoid and minimize impacts on special-status wildlife and associated habitats, the project applicant shall implement the following measures: • Mitigation Measure 3.5-1c, “Develop and Implement a Worker Environmental Awareness Program”	Before approval of grading or improvement plans or any ground-disturbing activities	Project applicant.	Humboldt County Planning & Building Department.		

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					Action	Date Completed
	• "Minimize Construction Footprint" in Mitigation Measure 3.5-14, "Avoid and Minimize Operational Impacts on Nonraptor Birds" • Mitigation Measure 3.5-23e, "Develop and Submit a Reclamation, Revegetation, and Weed Control Plan" • Mitigation Measure 3.5-22b, "Implement Siting Constraint Measures to Delineate and Protect Aquatic Resources" Mitigation Measure 3.10-1, "Implement Wet-Weather BMPs Consistent with the Humboldt Redwood Company Habitat Conservation Plan," in Section 3.10, "Hydrology and Water Quality"					
3.5-19c	Develop and Implement a Preconstruction Survey Plan for Special-Status Mammals. Before approval of grading or improvement plans, a qualified biologist shall prepare a preconstruction survey plan for special-status mammals. The survey plan shall address the following special-status species: Sonoma tree vole, ringtail, Pacific fisher, and American badger. Survey techniques and methodologies described in the plan may incorporate those described in *Sonoma Tree Vole Habitat on Managed Redwood and Douglas-fir Forestlands in North Coastal California* (Chinnici et al. 2011) and the *Fisher and Marten Survey Techniques on the Tahoe National Forest* (Fowler and Golightly 1994). The survey plan shall include the following elements: • The survey area shall be conducted in a buffer 150 feet from the boundary of construction disturbance in areas with suitable habitat for these species. • If occupied burrows, dens, or nests are detected, impacts shall be avoided by establishing 50-foot exclusion buffers within which construction activities shall be prohibited until denning/nesting activities are compete or the den/nest is abandoned. • Occupied dens/nests shall be monitored once per week to assess disturbance and use status. • If avoidance of a den/nest is infeasible, the project applicant shall coordinate with CDFW to passively relocate the mammal. The project applicant shall submit the special-status mammal survey plan for approval to the Humboldt County Planning & Building Department before approval of grading or improvement plans, and surveys shall be conducted before ground-disturbing activities.	Before approval of grading or improvement plans or any ground-disturbing activities.	Project applicant.	Humboldt County Planning & Building Department, in consultation with CDFW.		
3.5-19d	Minimize Impacts on Special-Status Mammals during Construction. The project applicant shall continuously implement the following measures to minimize impacts on wildlife during ongoing construction activities: • All fences installed on the project site shall be a maximum of 4 feet in height, wire strand, with a smooth bottom wire at least 18 inches from the ground to facilitate wildlife movement during project operation. • During construction activities, if an injured or dead special-status species is encountered, the construction contractor shall stop work within the immediate vicinity. The project applicant shall notify the Humboldt County Planning & Building Department, the on-call biologist, and the	Continuously during all project-related construction activities.	Project applicant.	Humboldt County Planning & Building Department.		

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Mitigation Measures		Timing	Responsible Party for Implementation	Responsible Party for Enforcement	Completion of Implementation	
					Action	Date Completed
	appropriate resources agency (e.g., USFWS or CDFW) before construction is allowed to proceed. • At the end of each work day, the biological monitor shall ensure that all potential wildlife pitfalls (trenches, bores, and other excavations) have been backfilled. If backfilling is not feasible, all trenches, bores, and other excavations shall be sloped at a 3:1 ratio at the ends to provide wildlife escape ramps, or covered completely to prevent wildlife access, or fully enclosed with exclusion fencing. If any wildlife becomes entrapped, construction shall not occur until the animal has left the trench or been removed by a qualified biological monitor as feasible. • Employees and contractors shall look under vehicles and equipment for the presence of wildlife before moving vehicles and equipment. If wildlife is observed, no vehicles or equipment shall be moved until the animal has left voluntarily or is removed by the biological monitor. No listed species shall be handled. • Vehicle speed limits shall not exceed 15 miles per hour during construction and operation of the project. A speed limit sign shall be posted at all project site entry locations. • The project shall continuously minimize use of high-intensity lighting, steady burning, or bright lights such as sodium vapor, quartz, halogen, or other bright spotlights. • Nighttime vehicle traffic associated with project activities shall be kept to a minimum volume and speed to prevent mortality of nocturnal wildlife species.					
3.5-19e	Restore Special-Status Mammal Habitat. The project applicant shall implement Mitigation Measure 3.5-23e, "Develop and Submit a Reclamation, Revegetation, and Weed Control Plan," and include performance standards, and a monitoring and reporting program to track revegetation and/or enhancement success.	Preparation and development of reclamation, revegetation, and weed control plan before approval of grading or improvement plans or any ground-disturbing activities; implementation of the plan within 1 year of the commencement of construction activities.	Project applicant.	Humboldt County Planning & Building Department.		
3.5-21a	Avoid and Minimize Impacts on Aquatic, Riparian, and Upland Habitats.	Continuously during all project-	Project applicant.	Humboldt County Planning &		

Mitigation Monitoring and Reporting Program

	Mitigation Measures	Timing	Responsible Party for Implementation	Responsible Party for Enforcement	Completion of Implementation	
					Action	Date Completed
	The project applicant shall avoid and minimize removal and disturbance of aquatic, riparian, and upland habitats that could support special-status amphibians and reptlies by implementing the following measures: • Mitigation Measure 3.5-1c, "Develop and Implement a Worker Environmental Awareness Program" • "Minimize Construction Footprint" in Mitigation Measure 3.5-14, "Avoid and Minimize Operational Impacts on Nonraptor Birds" • Mitigation Measure 3.5-22b, "Implement Siting Constraint Measures to Delineate and Protect Aquatic Resources" • Mitigation Measure 3.5-22d, "Avoid Potential Effects on Aquatic Resources Associated with Horizontal Directional Drilling" • Mitigation Measure 3.5-23e, "Develop and Submit a Reclamation, Revegetation, and Weed Control Plan" • Mitigation Measure 3.10-1, "Implement Wet-Weather BMPs Consistent with the Humboldt Redwood Company Habitat Conservation Plan," in Section 3.10, "Hydrology and Water Quality"	related construction activities.		Building Department.		
3.5-21b	Avoid and Minimize Impacts on Special-Status Amphibians and Reptiles. The project applicant shall avoid and minimize impacts on foothill yellow-legged frog, northern red-legged frog, Pacific tailed frog, southern torrent salamander, and western pond turtle by implementing the mitigation measures listed above and Mitigation Measure 3.5-19a, "Minimize Impacts on Wildlife and Monitor during Construction."	Continuously during all project-related construction activities.	Project applicant.	Humboldt County Planning & Building Department.		
3.5-21c	Develop and Implement a Preconstruction Survey Plan for Special-Status Amphibians and Reptiles. The project applicant shall implement preconstruction surveys as described below. The preconstruction survey plan shall identify, at minimum, the following information for each special-status amphibian species and western pond turtle: • The life stage(s) to be surveyed for • Survey method(s) • Timing of survey(s) • Justification for timing and methodology of survey design (e.g., watershed characteristics, regional snowpack, timing and rate of spring runoff, day length, average ambient air and water temperatures, local and seasonal conditions) The project applicant shall conduct preconstruction surveys for special-status amphibians and western pond turtles. Preconstruction surveys shall include, at minimum, the following provisions: • Surveys shall be conducted by a qualified biologist within 3–5 days before entering or working within suitable aquatic and/or upland habitat.	Preconstruction survey 3-5 days before before entering or working within suitable aquatic and/or upland habitat. .	Project applicant.	Humboldt County Planning & Building Department		

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Mitigation Measures		Timing	Responsible Party for Implementation	Responsible Party for Enforcement	Completion of Implementation	
					Action	Date Completed
	• Surveys shall be conducted within the boundaries of the proposed worksite plus a 500-foot buffer zone upstream and downstream of the construction area. • Surveys shall include a description of any standing or flowing water. • Surveys shall consist of "walk and turn" surveys during which the biologist shall examine areas beneath surface objects (e.g., rocks, leaf litter, moss mats, coarse woody debris) for salamanders, and conduct visual surveys for frogs and western pond turtle. • If special-status amphibians or reptiles are detected during the preconstruction survey, impacts shall be avoided by establishing an exclusion buffer of no less than 50 feet within which construction activities shall be prohibited. A qualified biologist shall be on-site during all nearby construction activities. If the biologist determines that the habitat is no longer occupied, construction may proceed within the exclusion buffer. If avoidance is infeasible, the project applicant shall coordinate with CDFW to passively relocate the special-status amphibian or reptile.					
3.5.21d	Avoid and Minimize Impacts on Foothill Yellow-Legged Frog. A qualified biologist shall conduct a visual preconstruction survey for foothill yellow-legged frog in or within 200 feet of suitable habitat 48 hours before the start of construction. The biologist shall be familiar with the life cycle of this species and shall conduct surveys appropriate to the life stage anticipated to be present in the project area at the time of year during which surveys are being undertaken. If foothill yellow-legged frog is detected during surveys, the project applicant shall implement avoidance measures included in the incidental take permits obtained by CDFW. Avoidance and minimization measures for foothill yellow-legged frog shall include, as appropriate, the following components: • Seasonal work restriction • Exclusion fencing • Decontamination • No night work or lighting • Water diversion • Water storage facilities • Season of diversion • Bypass flow • Diversion materials • Diversion monitoring	Preconstruction survey 48 hours before the start of construction Implementation of avoidance measures during all project-related construction activities.	Project applicant.	Humboldt County Planning & Building Department. , in consultation with CDFW.		

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	Mitigation Measures	Timing	Responsible Party for Implementation	Responsible Party for Enforcement	Completion of Implementation	
					Action	Date Completed
	If foothill yellow-legged frogs are found during the preconstruction survey, the project applicant shall consult CDFW immediately by either telephone or e-mail and shall provide a short description of observations, including a count of individuals and the life stage(s), conditions at the site, and other aquatic species observed. If no foothill yellow-legged frogs are found during the preconstruction survey and no surface water is present in the project area, work may commence without further surveys or construction restrictions. If no foothill yellow-legged frogs are found but surface water is present during the preconstruction survey, or if surface water becomes present at any time during the work period, the biologist shall survey the worksite each day before the start of work activities where equipment and/or materials may come in contact with such water.					
3.5-21e	Compensate for Impacts on Aquatic and Upland Habitats for Foothill Yellow-Legged Frog. The project applicant shall provide compensatory mitigation for permanent impacts on aquatic, riparian, and associated upland habitats for foothill yellow-legged frog at a minimum 1:1 ratio. Within 2 years following the first delivery of power, the project applicant shall purchase and record the mitigation lands as off-site conservation land in fee-title and/or easement for suitable habitat that would support foothill yellow-legged frogs. The County, in consultation with CDFW, shall approve the location of the conservation land or easement. Mitigation for other sensitive habitats (riparian, wetlands, and sensitive natural communities) can be counted toward fulfillment of this mitigation.	Avoidance and minimization of impacts: Before approval of grading or improvement plans or any ground-disturbing activities. Preconstruction survey plan: Submittal of plan at least 3 months before submittal of grading or improvement plans. Approval of survey plan must be granted before approval of grading or improvement plans or any ground-disturbing activities. Compensatory mitigation: Continuously during all project-	Project applicant.	Humboldt County Planning & Building Department, in consultation with CDFW.		

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Mitigation Measures		Timing	Responsible Party for Implementation	Responsible Party for Enforcement	Completion of Implementation	
					Action	Date Completed
		related construction activities, with completion within 1 year of completion of construction. Purchase and recordation of mitigation land in fee-title and/or easement: 2 years after first delivery of power.				
3.5.22a	Avoid and Minimize Impacts on Aquatic Resources. The project applicant shall implement the following mitigation measures: • Mitigation Measure 3.5-1c, "Develop and Implement a Worker Environmental Awareness Program" • "Minimize Construction Footprint" in Mitigation Measure 3.5-14, "Avoid and Minimize Operational Impacts on Nonraptor Birds" • Mitigation Measure 3.5-23e, "Develop and Submit a Reclamation, Revegetation, and Weed Control Plan" • Mitigation Measure 3.10-1, "Implement Wet-Weather BMPs Consistent with the Humboldt Redwood Company Habitat Conservation Plan," in Section 3.10, "Hydrology and Water Quality" In addition, the project applicant shall coordinate with Humboldt County to implement the Five Counties Salmonid Conservation Program to protect water quality for listed salmonids during activities associated with construction of access roads, including culvert installation, in accordance with the *Five Counties Salmonid Conservation Roads Maintenance Manual.* This manual (Five Counties Salmon Conservation Program 2002) provides a framework for implementing improved road maintenance practices and was developed with input from CDFW Region I, the North Coast RWQCB, and NMFS. The manual, which was adopted by the County in 2010, includes guidelines and procedures for protecting listed salmonids in the context of road construction and maintenance, including measures for culvert maintenance, soil disposal, bridge maintenance, monitoring practices, staff training, BMP designs, culvert criteria for fish passage, and water drafting guidelines.	Before approval of grading or improvement plans or any ground-disturbing activities.	Project applicant.	Humboldt County Planning & Building Department.		
3.5.22b	Implement Siting Constraint Measures to Delineate and Protect Aquatic Resources.	Before approval of grading or	Project applicant.	Humboldt County Planning &		

Mitigation Monitoring and Reporting Program

Mitigation Measures		Timing	Responsible Party for Implementation	Responsible Party for Enforcement	Completion of Implementation	
					Action	Date Completed
	The project applicant shall assign a qualified biologist to flag or fence aquatic habitats to clearly delineate the extent of construction. All crews shall be provided a set of drawings showing the locations of aquatic habitats in and near the work area.	improvement plans or any ground-disturbing activities.		Building Department.		
3.5-22c	Avoid Impacts on Sediment and Habitats in Humboldt Bay and Implement Eelgrass Monitoring and Protection Plan. The project applicant shall avoid all impacts on sediment and adjacent habitats (such as eelgrass beds) in Humboldt Bay by using existing shipping channels and pinning the barge against wooden piles connected to the shore by a mooring line. The barge shall not come in contact with Humboldt Bay sediment or habitats at any time. The project applicant has developed an eelgrass monitoring and protection plan to ensure that eelgrass beds will not be adversely affected during offloading of components in Humboldt Bay. The project applicant shall implement the following mitigation and monitoring measures in the eelgrass monitoring and protection plan to avoid impacts on eelgrass. 1 Depths along the outer margin of the piling field, which extends approximately 60 feet beyond the terminal wall within the project area, range from -5 feet at the northern end of the terminal, to less than -1 ft MLLW at the gap in the piling field (see Figure 1 in *Eelgrass Avoidance Recommendations for the Humboldt Wind Energy Project* prepared by Merkel & Associates, Inc. June 2019, Appendix B in this FEIR). Eelgrass occurs at depths ranging from approximately -5.4 ft to +1.1 feet MLLW within the project area. To avoid impacts to eelgrass, tug/barge operators shall maintain a minimum operational buffer distance of 10 feet from the perimeter of mapped eelgrass beds with respect to barge positioning and spud leg mooring placement and be aware of shallow shoals near the southern periphery of the piling field where the risk of grounding in eelgrass habitat is greatest (Figure 3.5-4 in Appendix C of this FEIR). 2 Eelgrass bed margins within the APE boundary (shown in Figure 2 in *Eelgrass Avoidance Recommendations for the Humboldt Wind Energy Project* prepared by Merkel & Associates, Inc. June 2019, Appendix B in this FEIR) shall be staked with PVC posts prior to commencement of offloading activities to provide visual guidance for operators to avoid eelgrass beds with respect to tug thrusting as well as barge and spud leg mooring placement. To avoid grounding or tug thrust impacts during barge repositioning, the barge operators shall move the barges out to the main channel to rotate them due to the narrow dimensions and presence of eelgrass on both sides of the terminal channel. The project applicant shall complete pre and post-construction eelgrass surveys in accordance with the *California Mitigation Policy and Implementing Guidelines* (NOAA 2014b) to confirm that impacts on eelgrass have been avoided during the offloading operation. These guidelines require completion of pre-implementation surveys within the project APE and appropriate reference site(s) within the active growth period for eelgrass (May – September) 60 days prior to the commencement of the project. Post-construction surveys of the APE and reference site shall be completed within 30 days following the completion of barge offloading activities, or within the first 30 days of the next active growth period following project implementation that occurs outside the	Pre-implementation surveys within the project APE and appropriate reference site(s) within the active growth period for eelgrass (May – September) 60 days prior to the commencement of the project. Post-construction surveys of the APE and reference site completed within 30 days following the completion of barge offloading activities, or within the first 30 days of the next active growth period following project implementation that occurs outside the active growing season. Survey reports submitted within 30 days of completion of each survey	Project applicant.	Humboldt County Planning & Building Department, CDFW.		

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Mitigation Measures		Timing	Responsible Party for Implementation	Responsible Party for Enforcement	Completion of Implementation	
					Action	Date Completed
	active growing season. All monitoring shall be conducted by qualified biologists who are experienced with eelgrass monitoring. Survey reports shall be submitted to the appropriate state and federal resource/regulatory agencies and to the Humboldt County Planning & Building Department within 30 day of completion of each survey.					
3.5-23a	Conduct Preconstruction Botanical Surveys for Special-Status Plants. The project applicant shall conduct appropriately timed botanical surveys before construction for all areas of ground disturbance that could support special-status plant populations. A qualified biologist shall be present during construction activities to ensure that special-status plants are flagged for avoidance during preconstruction surveys. Floristic surveys shall be conducted by a qualified botanist during the species' blooming period in accordance with methods described in CDFW's 2018 *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities* (CDFW 2018b). The results of the survey shall be presented in a report submitted to Humboldt County and CDFW no later than August 2019. If additional special-status plants are detected in the project area, they shall be incorporated into project siting, design, avoidance, and management in accordance with Mitigation Measures 3.5-23b through 3.5-23d below.	Appropriately timed surveys prior to construction; presence of qualified biologist to ensure avoidance during construction near flagged special-status plant populations. Submittal of survey report in August of year survey was completed	Project applicant.	Humboldt County Planning & Building Department.		
3.5-23b	Avoid and Minimize Impacts of Project Construction on Special-Status Plants. Known occurrences of special-status plants shall be flagged during preconstruction surveys and avoided to the greatest extent feasible. Avoidance measures may consist of placing an equipment limitation or equipment exclusion zone around special-status plant populations to minimize direct impacts while allowing the use of any existing roads or other access areas that may pass through the equipment limitation zone or near the equipment exclusion zone. If impacts on Siskiyou checkerbloom cannot be avoided, then a qualified biologist shall map the location and extent of potentially affected populations in the project impact area during preconstruction surveys, and shall quantify the anticipated loss for mitigation. To control invasive/noxious weeds, the project applicant shall implement Mitigation Measure 3.5-23e, "Develop and Submit a Reclamation, Revegetation, and Weed Control Plan," before construction begins. The project applicant shall return all temporarily disturbed areas to their natural condition by implementing the project reclamation, revegetation, and weed control plan.	Flagging prior to construction.	Project applicant.	Humboldt County Planning & Building Department.		
3.5-23c	Compensate for Permanent Effects of Project Construction on Special-Status Plants and Associated Habitats. Where occurrences of special-status plants cannot be avoided, the reclamation, revegetation, and weed control plan shall include seed, plant, and/or topsoil salvage. Topsoil, seeds, and/or plants	*Approval* of *final Reclamation, Revegetation, and Weed Control*	Project applicant.	Humboldt County Planning & Building Department.		

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Mitigation Measures		Timing	Responsible Party for Implementation	Responsible Party for Enforcement	Completion of Implementation	
					Action	Date Completed
	shall be replaced in the approximate location of their removal after project construction has been completed, or in another location within the project area with suitable habitat. In addition, mitigation for permanent loss for sensitive natural communities (Mitigation Measures 3.5-24a through 3.5-24c, below) will benefit the special-status plant species supported in those communities.	*Plan:* Before issuance of grading permits or initiation of vegetation-disturbing activities. *Monitoring of and* reporting *on restored habitat:* Minimum of 5 years or until established success criteria have been met.				
3.5-23d	Compensate for Impacts on Siskiyou Checkerbloom. For any unavoidable impacts on Siskiyou checkerbloom, the project applicant shall implement the*Humboldt Wind Revegetation, Reclamation and Weed Control Plan* in Appendix B of this FEIR. The mitigation strategy shall include performance standards for successful (re)establishment of Siskiyou checkerbloom and/or enhancement of existing habitat, and a monitoring and reporting program to track revegetation and/or enhancement success. This plan shall be developed in consultation with CDFW and shall be approved by Humboldt County before construction begins. Mitigation shall be at least 1.5:1 for the actual impact. • The acreage to Siskiyou checkerbloom populations, calculated per as-built construction drawings and the results of the preconstruction plan surveys. • The revegetation plan shall include the following provisions for the restoration and/or enhancement of affected Siskiyou checkerbloom plants: • Before project disturbance, identification of restoration areas within the project site for seeding and/or transplanting of Siskiyou checkerbloom, with data collection to determine appropriate microsites • Before project disturbance, measurement of existing Siskiyou checkerbloom populations within the project site for percent cover and density and establishment of these characteristics as the minimum success criteria for the species' cover and density as a result of restoration/enhancement. • A plan and protocols for appropriate and ecologically sensitive collection and storage of Siskiyou checkerbloom seeds, rhizomes, and plants from the project site. • Transplanting and seeding protocols for Siskiyou checkerbloom.	*Approval* of *final Reclamation, Revegetation, and Weed Control Plan:* Before issuance of grading permits or initiation of vegetation-disturbing activities. *Revegetation monitoring and reporting: at least 3 years.* *Monitoring of and* reporting *on restored habitat:* Minimum of 5 years or until established success criteria have been met.	Project applicant	Humboldt County Planning & Building Department.		

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Mitigation Measures		Timing	Responsible Party for Implementation	Responsible Party for Enforcement	Completion of Implementation	
					Action	Date Completed
	• Adaptive management measures and a remedial planting plan. • Revegetation and/or enhancement monitoring and reporting for at least 3 years. Techniques for the protection and enhancement of existing populations of Siskiyou checkerbloom within the project site that are not affected, such as control of invasive weeds and, through coordination with local tribes, cultural methods associated with traditional ecological knowledge of tending the species.					
3.5.23e	Develop and Submit a Reclamation, Revegetation, and Weed Control Plan. Prior to issuance of any permits, the project applicant shall submit the Reclamation, Revegetation, and Weed Control Plan in Appendix B of this FEIR to CDFW and any agency whose permit requirements are addressed in the plan. The applicant shall incorporate agency comments addressing permit requirements into the plan. The plan shall describe in detail any reclamation, revegetation, and weed control efforts to be conducted during and after project construction, both to stabilize the site and to comply with the mitigation requirements of regulatory agency permits. The plan shall establish performance criteria, time frames for reclamation and restoration of the project site, and provisions for a monitoring program to assess the success of any proposed reclamation, revegetation, and/or restoration efforts. The reclamation, revegetation, and weed control plan shall be developed and implemented to preserve native vegetation communities in the project area and reestablish native plant cover, natural communities, and wildlife habitat to the greatest extent feasible. The plan shall provide for the reestablishment/restoration of sensitive natural communities on a no-net-loss basis. The plan shall be developed in accordance with the Humboldt County Grading, Excavation, Erosion, and Sedimentation Control Ordinance. The reclamation, revegetation, and weed control plan shall include, at a minimum, the following provisions: • Reclamation of all areas disturbed by project construction, including temporary disturbance areas around construction sites, laydown/staging areas, temporary access roads, and the gen-tie, using a locally sourced native seed mix. For portions of the gen-tie that cross HRC lands, the seed mix shall be developed in coordination with HRC to ensure compliance with any provisions of the Humboldt Redwood Company HCP. A qualified biologist with demonstrated experience with the habitat to be restored shall have oversight for the selection of reclamation species. • Procedures and practices included in the project's weed control plan for the control of nonnative invasive/noxious weeds in reclaimed and revegetated areas. Invasive pest species, as listed by the California Invasive Plant Council and the Humboldt Weed Management Area, shall not be used. The weed control plan may be appended to the reclamation and revegetation plan. • A description of proven available reclamation techniques and procedures (such as hydroseeding, drill seeding, and broadcast seeding, adapted to local conditions) in all disturbed areas.	*Approval* of *final Reclamation, Revegetation, and Weed Control Plan:* Before issuance of grading permits or initiation of vegetation-disturbing activities. *Monitoring of and* reporting *on restored habitat:* Minimum of 5 years or until established success criteria have been met.	Project applicant	Humboldt County Planning & Building Department.		

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Mitigation Measures	Timing	Responsible Party for Implementation	Responsible Party for Enforcement	Completion of Implementation	
				Action	Date Completed
• Salvage of topsoil in all areas subject to grading or excavation. Topsoil shall be removed, stockpiled on-site, and returned to the original site (reclaimed) or used in habitat restoration activities elsewhere on the site. To avoid spreading pathogens such as Sudden Oak Death with movement of topsoil, the following BMPs from the California Oak Mortality Task Force (2014) shall be implemented: o Before issuance of any permits or grading activities, conduct a survey of the site to determine whether portions of the forest are infected with the pathogen that causes Sudden Oak Death. If identified, the areas of infestation shall be shown on a map. This map shall be included in the worker environmental awareness plan and the criteria listed below shall be followed. o To the extent practical and feasible, route equipment away from host plants and trees, especially in areas with disease symptoms. Locate landings, access roads, staging areas, and other sites of equipment activity away from host plants, especially areas with disease symptoms. o Each time equipment or vehicles leave the site, inspect the equipment or vehicles for host plant debris (leaves, twigs, and branches). Host plant debris should be removed from equipment and vehicles before their departure. This applies to all equipment and vehicles associated with the operation. An exception will be granted for equipment or vehicles that leave the site temporarily and will be not be traveling to uninfested areas before their return. o After working in an infested area, remove or wash off accumulations of soil, mud, and organic debris from shoes, boots, vehicles and heavy equipment, etc., before traveling to an area that is not infested with Sudden Oak Death. Lysol® or a bleach solution can be used to disinfect shoes and boots after cleaning. o Clean mud from vehicles to remove host plant material embedded in mud. Establish an equipment power wash station near the infested area. The power wash station shall be constructed to include paved or rocked base; well-drained so that vehicles exiting the station do not become contaminated by wash water; and located where wash water and displaced soil does not have the potential to carry fines to a watercourse, paying particular attention to sites where soil and organic debris may accumulate. • BMPs for erosion control and water quality protection identified in Section 3.10, "Hydrology and Water Quality"; the CDFW Streambed Alteration Agreement; the USACE permit; and the project's storm water pollution prevention plan (SWPPP). Before issuance of a grading permit, the project applicant shall consult with the County, the State Water Resources Control Board, and the North Coast RWQCB to acquire the appropriate regulatory approvals that may be necessary to obtain Section 401 water quality certification, a State Water Resources Control Board statewide National Pollutant Discharge Elimination System stormwater permit for general construction activity (Water Quality Order 2009-0009-DWQ), and any other necessary site-specific waste discharge requirements or waivers under the Porter-Cologne Act. The project applicant shall prepare and submit the appropriate notices of intent and prepare the SWPPP					

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Mitigation Measures		Timing	Responsible Party for Implementation	Responsible Party for Enforcement	Completion of Implementation	
					Action	Date Completed
	and any other necessary engineering plans and specifications for erosion and pollution prevention and control. • Monitoring of and reporting on created or restored habitat as mitigation for temporary and permanent impacts for a minimum of 5 years or until established success criteria have been met, to assess progress and identify potential problems with the restoration sites. Success criteria are defined as minimum thresholds for vegetation growth and establishment. Such criteria will be developed based on preproject (baseline) conditions and the conditions of appropriate nearby reference sites for the particular habitat types being reclaimed or restored. In communities not considered sensitive natural communities by CDFW, minimum success criteria would include but are not be limited to overall percent cover, relative percent cover of native species, and percent cover of noxious weeds. For created or restored sensitive natural communities, additional success criteria would include percent cover for herbaceous plants, percent canopy cover for native woody (i.e., tree and shrub) species (if applicable to the habitat type being reclaimed/restored), density of native woody species (if applicable to the habitat type being reclaimed/restored), and percent survival of planted woody species (if applicable). • Adaptive management measures and a remedial planting plan. Remedial measures (e.g., additional planting, weeding, or erosion control) shall be taken during the monitoring period if necessary to ensure the success of the restoration effort. • Maintenance, monitoring, and reporting procedures. If the mitigation fails to meet the established performance criteria for vegetation growth and establishment within the maintenance and monitoring period, monitoring of remedial plantings shall extend beyond the initial period until the criteria are met or unless otherwise approved by Humboldt County in consultation with the North Coast RWQCB, USACE, and CDFW. If elements of the restoration area(s) meet their success criteria before the end of 5 years of monitoring, they may be eliminated from future monitoring with approval from the enforcement agency.					
3.5-24a	Avoid and Minimize Impacts on Sensitive Natural Communities and Riparian Habitat. During project engineering and design and during construction, the project applicant shall avoid and minimize disturbances to sensitive natural communities and riparian habitat whenever possible by implementing the following mitigation measures: • Mitigation Measure 3.5-1c, "Develop and Implement a Worker Environmental Awareness Program" • "Minimize Construction Footprint" in Mitigation Measure 3.5-14, "Avoid and Minimize Operational Impacts on Nonraptor Birds" • Mitigation Measure 3.5-19a, "Minimize Impacts on Wildlife and Monitor during Construction" • Mitigation Measure 3.5-23e, "Develop and Submit a Reclamation, Revegetation, and Weed Control Plan"	Monitoring of sensitive natural communities and riparian habitat before approval of grading or improvement plans or any ground-disturbing activities; avoidance and	Project applicant.	Humboldt County Planning & Building Department.		

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	Mitigation Measures	Timing	Responsible Party for Implementation	Responsible Party for Enforcement	Completion of Implementation	
					Action	Date Completed
	A qualified biologist shall monitor impacts on sensitive natural communities and riparian habitat during construction to ensure that they are identified for avoidance and preserved on-site to the greatest extent feasible. For all sensitive natural communities and riparian habitat that cannot be avoided, the project applicant shall quantify refined impact acreages based on the final design before construction, to identify the degree of actual impacts adequately to determine required mitigation acreages. These impact acreages shall be verified upon completion of construction based on monitoring reports and as-built drawings.	monitoring during construction Quantification of impacts on sensitive natural communities and riprian habitat: upon completion of construction.				
3.5-24b	Compensate for Loss of Sensitive Natural Communities and Riparian Habitat. Any sensitive natural communities and/or riparian habitat permanently affected shall be included in per-acre compensatory mitigation as described in Mitigation Measure 3.5-23e, "Develop and Submit a Reclamation, Revegetation, and Weed Control Plan." For sensitive natural communities that cannot be reestablished/created on-site or off-site because of the limited nature of suitable substrates, such as coastal prairie communities, habitat enhancement/on-site restoration of degraded sensitive natural communities may be used for compensation. Habitat lift/enhancement may be used to count toward compensatory mitigation ratios, but shall not exceed 1.5 to 1 (i.e., 1.5 acre of enhanced high-quality sensitive natural community to compensate for the loss of 1 acre of degraded sensitive natural community). An exception to replacement applies to forest communities that are removed under a timber harvest plan in accordance with Section 1106 of the California Forest Practice Rules. No off-site tree planting or other mitigation is required for these forest communities. These communities are identified with a single asterisk (*) in DEIR Table 3.5-15 and include redwood forest, grand fir forest, and Douglas-fir forest.	Within 1 year of initiation of project construction.	Project applicant.	Humboldt County Planning & Building Department.		
3.5-24c	Restore Sensitive Natural Communities and Riparian Habitat. If on-site restoration is selected as compensatory mitigation for impacts on sensitive natural communities and/or riparian habitat, the project applicant shall prepare and implement Mitigation Measure 3.5-23e, "Develop and Submit a Reclamation, Revegetation, and Weed Control Plan." The plan shall include reestablishment of sensitive natural communities and/or riparian habitat, including riparian vegetation subject to CDFW jurisdiction, and/or enhancement of existing habitat, on a per-acre basis. To offset the temporary loss of sensitive natural communities during construction, the minimum mitigation ratio shall be at least 1 acre of sensitive natural communities for each acre of permanent or temporary impact. Greater mitigation ratios are required for impacts on mature, high-quality riparian habitat that require a longer period to create high-value replacement habitat. Riparian vegetation under CDFW jurisdiction shall be mitigated according to the project's lake and streambed alteration agreement obtained pursuant to Section 1600 of the California Fish and Game Code. The reclamation, revegetation, and weed control plan shall	Planning before project construction; implementation of planting within one growing season and no later than 1 year from ground disturbance.	Project applicant.	Humboldt County Planning & Building Department.		

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	include the following provisions for restoring affected sensitive natural communities and/or riparian habitat: • Baseline data shall be collected at reference locations within the project site to establish expected ranges and minimum thresholds for species composition, relative species richness, and vegetative cover (i.e., herbaceous, shrub, and/or woody canopy) for each sensitive habitat that would be affected. • An appropriate species planting palette shall be developed for each sensitive habitat that would be affected. • Minimum planting densities shall be designed to achieve minimum performance standards for survival cover and density, while maintaining the natural character of the vegetation community being restored/created. • Minimum performance standards shall be established for percent survival, species composition, relative species richness, and vegetative cover (i.e., herbaceous, shrub, and/or woody canopy). These standards shall be based on the preconstruction documentation of reference locations within the project site and the life history traits of the plants being restored (i.e., herbaceous vs. woody, fast-growing primary colonizers vs. slow-growing successional species). • Any trees removed from riparian habitat shall be replaced with the same or similar species at a ratio of 3:1 (three trees planted for every one tree removed). Tree replacement may be carried out concurrently on sensitive natural communities and/or riparian habitats that are also being restored/created/enhanced on a per-acre compensatory basis. • In sensitive natural communities, mature, woody trees and shrubs shall be avoided to the greatest extent feasible. In cases where mature trees within sensitive natural communities will be removed, a mitigation ratio of 3:1 shall be used to compensate for the time it takes for trees to grow to functional capacity. Mature trees consist of trees with the following DBH: o Oregon white oak: More than 6 inches DBH o California bay: More than 10 inches DBH o Madrone: More than 6 inches DBH o Big-leaf maple: More than 10 inches DBH o Tanoak: More than 10 inches DBH o Red alder: More than 10 inches DBH o Shining willow: More than 6 inches DBH					
3.5-25a	Avoid and Minimize Impacts on Wetlands and Other Waters of the United States. The project applicant shall avoid and minimize impacts on wetlands and other waters of the United States by implementing the following mitigation measures:	Submittal of wetland delineation: Prior to project construction.	Project Applicant	Humboldt County Planning & Building Department; U.S.		

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				Action	Date Completed
• Mitigation Measure 3.5-22b, "Implement Siting Constraint Measures to Delineate and Protect Aquatic Resources" • Mitigation Measure 3.5-23e, "Develop and Submit a Reclamation, Revegetation, and Weed Control Plan" • Mitigation Measure 3.10-1, "Implement Wet-Weather BMPs Consistent with the Humboldt Redwood Company Habitat Conservation Plan," in Section 3.10, "Hydrology and Water Quality" In addition, the project applicant shall implement the following measures: • Before any construction activity, the project applicant shall submit a wetland delineation to USACE for verification. The verified delineation shall serve as the baseline to determine actual project impacts for the purpose of permitting and determining compensatory mitigation needs. The project applicant shall obtain a CWA Section 404 permit from USACE for discharges under USACE jurisdiction before project construction, and shall abide by all permit conditions, including those for compensatory mitigation. The mitigation ratio will be determined by USACE but shall be no less than 1:1 for permanent impacts to ensure no net loss of wetlands functions and values in the project area in the long term. To ensure consistency and a comprehensive approach to mitigation planning, compensatory mitigation may be planned and implemented concurrently with other mitigation requirements, such as those for riparian habitat mitigation and sensitive natural communities. • The project applicant shall also submit wetland mapping to Humboldt County and identify corresponding setback requirements as appropriate (i.e., 100-foot setback) on project maps to comply with County setback requirements. Any required setback shall be shown on project construction drawings and plans (e.g., grading and improvement plans). • Construction activities and project components shall be located at least 100 feet from aquatic resources wherever feasible. • Before any construction activity, the project applicant shall assign a qualified biologist to identify the locations of wetlands and other waters and their corresponding setbacks (if applicable) as required by project permits, for avoidance. Identification of wetlands and other waters for avoidance shall be in addition to and distinguished from any required construction boundary fencing or flagging. • If it is not feasible to maintain the aquatic resource setbacks, the County may allow encroachment within the setbacks depending on site-specific factors, subject to advance consultation with CDFW, as required by the County's Streamside Management Ordinance. The project applicant shall submit a supplemental evaluation to the County that details how the proposed construction activities would avoid potential impacts on aquatic resources, including through BMPs, and shall obtain permission from the County for encroachment. The project applicant shall implement Mitigation Measure 3.5-1c, "Develop and Implement a Worker Environmental Awareness Program," to include specific information regarding wetlands	Submittal of wetland maps depicting setback requirements: before construction; Flagging of aquatic resource setbacks: prior to project construction Implementation of avoidance and minimization measures and WEAP training: during project construction.		Army Corps of Engineers.		

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	and other waters that occur on the project site and that either would be affected or have been identified for avoidance. Training shall be conducted before the start of construction and shall include information about the locations and extent of wetlands and other waters, methods of resource avoidance, permit conditions, and possible fines for violations of permit conditions and federal and/or state environmental laws.					
3.5-25b	Compensate for Impacts on Wetlands and Other Waters. The project applicant shall implement Mitigation Measure 3.5-23e, "Develop and Submit a Reclamation, Revegetation, and Weed Control Plan," and shall include detailed measures for the compensation, restoration, and/or enhancement of wetlands and other waters on a wetland type per-acre basis. The standard for mitigation shall be no net loss. If restoration is selected as a method of compensatory mitigation, the project applicant shall prepare a wetland mitigation and monitoring plan as part of the project's reclamation, revegetation, and weed control plan (Mitigation Measure 3.5-23e), and shall submit it to the County for review, determination of adequacy, and approval. Mitigation ratios shall be calculated following USACE wetland mitigation procedures and shall be based on the actual impact acreage of final design per as-built construction drawings and the results of the preconstruction surveys. After review and approval by the pertinent agencies, mitigation shall be carried out at a ratio no less than 1:1, or another ratio approved by the appropriate jurisdictional agency, whichever is higher. The wetland mitigation and monitoring plan shall be written by a qualified biologist and shall include the following elements, at minimum: • goals of the plan and permitting requirements satisfied; • wetland restoration activities and locations, including the restoration of temporarily affected wetlands and other waters to preconstruction conditions; • monitoring and reporting requirements (including monitoring period), and criteria to measure mitigation success; and • remedial measures, should mitigation efforts fall short of established targets. The project applicant shall consult with USACE about the adequacy of the plan and may consult with other agencies, if the plan aims to fulfill multiple permitting and mitigation requirements.	Prior to project construction.	Project applicant.	Humboldt County Planning & Building Department; U.S. Army Corps of Engineers.		
3.5-28	Implement Wet-Weather BMPs Consistent with the Humboldt Redwood Company Habitat Conservation Plan or Equivalent BMPs. To reduce the potential for erosion and sedimentation that may cause downstream impacts on anadromous fish species, the project applicant shall implement the following measures from the Humboldt Redwood Company HCP. During the wet season (October 15–June 1), the project applicant shall implement the following measures while conducting road or landing construction, reconstruction, and road upgrades: • No road or landing construction, reconstruction, and upgrading shall occur within 170 feet of Class I or II waters, or within the Equipment Exclusion Zone (50 or 100 feet, respectively) of	Before issuance of a grading permit and throughout construction.	Project applicant.	Humboldt County Planning & Building Department.		

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	Class III waters. [The Equipment Exclusion Zone is the area where heavy equipment associated with timber operations is totally excluded for the protection of aquatic habitat, aquatic species, water quality, and beneficial uses of water and other forest resources. Class I waters are those where fish are always or seasonally present on-site, and include habitat to sustain fish migration, spawning, and rearing, and domestic water supplies, such as springs, on-site or within 100 feet downstream of the project operations area. Class II waters are non-fish-bearing waters where aquatic habitat is present for non-fish aquatic species, including in watercourses, streams, seeps, springs, lakes, ponds, and wetlands. Class III waters are those with no aquatic life or habitat present.] • The construction, reconstruction, and upgrading shall not cross Class I, II, or III waters. • No portion of the constructed, reconstructed, and upgraded road/landing shall cross an inner gorge, headwall swale, unstable area, extreme, very high, or high mass-wasting hazard area. The soil moisture condition in the soils moved for purposes of construction, reconstruction, and upgrading shall be no wetter than is found during normal watering (dust abatement treatments or light rainfall, and the soil is not rutting or pumping fines. • During and after construction, reconstruction, and upgrading, there shall be no visible increase in turbidity in any drainage facility, construction/reconstruction site, or road surface, any of which drains directly to Class I, II, or III waters (standing water on the road that does not drain to Class I, II, or III waters is not applicable). • During construction, reconstruction, and upgrading, erosion control material of sufficient quantity shall be stockpiled on-site and utilized to prevent an increase in turbidity in any drainage facility, construction site, or road surface, any of which drains directly to Class I, II, or III waters. Alternatively, the project applicant shall implement Mitigation Measure 3.10-1, "Implement Wet-Weather BMPs Consistent with the Humboldt Redwood Company Habitat Conservation Plan," described in Section 3.10, "Hydrology and Water Quality." These measures describe BMPs for wet-season erosion control, and a water quality monitoring program that provides Humboldt County with stop-work authority over project construction activities.					
3.6	Cultural Resources					
3.6-1a	Avoid Potential Impacts. Before construction permits are issued, the project applicant shall submit improvement plans to the County Planning & Building Department demonstrating that the WTG locations and other permanent infrastructure will avoid known archaeological resources. consistent	Before approval of grading or any ground-disturbing activities.	Project applicant.	Humboldt County Planning & Building Department.		
3.6-1b	Preserve Resources in Place. For locations where archaeological resources have been identified or may exist and cannot be avoided, the improvements shall be constructed such that no excavation is undertaken. The intact resources shall be preserved in place by capping the resource(s). The improvement plans submitted to the County shall include details regarding the improvements, with components	Before approval of grading or improvement plans or any	Project applicant.	Humboldt County Planning & Building Department		

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	including placement of geo-fabric over existing ground, placement of clean fill material over the fabric, and final improvements on top of the clean fill.	ground-disturbing activities.				
3.6-1c	Monitor Ground-Disturbing Activities. An archaeologist and Native American Tribal monitor shall be on-site, at the project applicant's expense, to observe and inspect all ground-disturbing activities. The archaeologist and Native American Tribal monitor shall have authority to stop work in an area where previously unidentified resources are encountered until the resources have been appropriately identified and addressed. In the event that resources are discovered, the County Planning & Building Department shall be notified immediately.	During grading or improvement plans or any ground-disturbing activities.	Project applicant.	Humboldt County Planning & Building Department.		
3.6-1d	Prepare Treatment Plan and Stop Potentially Damaging Work for Inadvertent Discovery of Cultural Materials Uncovered during Project Construction, Assess the Significance of the Find, and Pursue Appropriate Management. The project applicant shall prepare an unanticipated-discoveries plan that shall outline contacts and steps to be taken in the event of an unanticipated discovery, including steps from assessment to curation. The plan shall include the following steps to be taken if an inadvertent discovery of cultural materials (e.g., unusual amounts of shell, animal bone, bottle glass, ceramics, structure/building remains) is made during project-related construction activities: • Halt construction activities within 100 feet until a qualified archaeologist and Native American monitor make a determination about the resource. • Evaluate the significance of the resources. Implement treatment measures set forth in the plan in consultation with the County. If avoidance is feasible, project modifications shall be made to avoid the resource. If avoidance is not feasible and the County Planning & Building Department determines that the resource is not CRHR eligible, no additional mitigation is required and construction can proceed. If the County Planning & Building Department determines that the resource is CRHR eligible and that the discovery has significant historical associations or could yield additional scientific information about local or regional history or prehistory that has not been recovered during prior investigations, the project applicant shall complete a Phase III data recovery excavation program for significant cultural resources that would be affected. Prepare a report documenting evaluation and treatment of the resource for submission to the County.	Project applicant.	Approval of plan by County Planning & Building Department before any ground disturbance or issuance of any permits.	Humboldt County Planning & Building Department in consultation with Native American tribes.		
3.6-2	Stop Potentially Damaging Work if Human Remains Are Uncovered during Project Construction, Assess the Significance of the Find, and Pursue Appropriate Management. California law recognizes the need to protect interred human remains, particularly Native American burials and associated items of patrimony, from vandalism and inadvertent	Project applicant.	During construction.	Humboldt County Planning & Building Department.		

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	destruction. The procedures for the treatment of discovered human remains are contained in Sections 7050.5 and 7052 of the California Health and Safety Code, and PRC Section 5097. In accordance with the California Health and Safety Code, if human remains are uncovered during ground-disturbing activities, all such activities within a 100-foot radius of the find must be halted immediately and the project applicant's designated representative must be notified. The project applicant is required to notify the County Coroner and a qualified professional archaeologist immediately. The coroner will examine all discoveries of human remains within 48 hours of receiving notice of a discovery on private or state lands, as per Section 7050.5(b) of the Health and Safety Code. If the coroner determines that the remains are those of a Native American, the coroner will contact the NAHC by phone within 24 hours of making that determination, as per Section 7050(c) of the Health and Safety Code. The project applicant must act on notification of a discovery of Native American human remains in compliance with PRC Section 5097.9. The project applicant and the professional archaeologist are required to contact the Most Likely Descendant, as determined by the NAHC, regarding the remains. The Most Likely Descendant, in cooperation with the property owner and the lead agencies, will determine the ultimate disposition of the remains.					
3.6-3a	Prepare a Historic American Landscape Survey Report. Before any project-related ground disturbance, the project applicant shall retain a professional who meets the Secretary of the Interior's Professional Qualifications Standards for Architectural History to prepare written and photographic documentation of the historic landscape that will be negatively affected by the project. The documentation of historical resources shall be prepared based on the National Park Service's Historic American Landscape Survey (HALS) report guidelines; however, the documentation will not be reviewed by the National Park Service or transmitted to the Library of Congress, and therefore, does not need to be a full-definition dataset. The written historical data shall follow the HALS Historic Guidelines' three-part outline format, which includes (1) historical information (physical history, historical context); (2) physical information; and (3) sources of information. The written historical data shall be printed on 8.5-by-11-inch archival bond paper. Efforts shall also be made to locate historic photographs and maps of the built environment resources within the historic landscape. If located, these shall be reproduced and included in the dataset. If available, up to 10 historic photographs, maps, or other relevant material shall also be included in the dataset. Before the start of construction and any ground-moving activities, large-format (4 x 5 inch) black-and-white archival photographs shall be taken of the historical resources. Up to 30 photograph views for the dataset shall include (1) contextual views; (2) detail views of building	Before grading or improvement plans or any ground-disturbing activities.	Project applicant.	Humboldt County Planning & Building Department.		

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	clusters; and (3) any relevant detail views. The photographs shall be fully captioned and referenced on a photographic key. After completion of the HALS documentation, the materials shall be placed on file with Humboldt County and archival-quality copies of the respective reports shall be distributed to the Ferndale Museum, the Scotia Museum, the Humboldt County Historical Society, and other local historical societies, libraries, and museums as necessary.					
3.6-3b	Prepare and Implement a Site Protection Plan. Before permits are issued for construction or grading activities, a detailed site plan to protect historic-age built environment resources shall be developed and submitted to the County Planning & Building Department. Implementation of the plan will reduce potential impacts by avoidance and protection of properties to ensure that construction activities will not cause inadvertent damage. The protection plan shall also include mitigation strategies to avoid inadvertent damage, including but not limited to the following: • Avoid siting or routing heavy equipment or trucks within 100 feet of historic-age buildings or structures including corrals, barns, and ancillary buildings. • Establish compliance and monitoring procedures to avoid any inadvertent damage to historic-age buildings and structures. Brief project personnel on the sensitivity of historical resources in the historic landscape and compliance and monitoring procedures.	Project applicant.	Before approval of grading or improvement plans or any ground-disturbing activities.	Humboldt County Planning & Building Department.		
3.6-3c	Incorporate Plants Appropriate for the Wiyot Tribe Ethnobotanical Area into the Reclamation, Revegetation, and Weed Control Plan Required as Part of Mitigation Measure 3.5-23e. The project's reclamation, revegetation, and weed control plan shall incorporate plants included in the "Wiyot List of Plant Species of Environmental and Cultural Concern" in the final restoration plan. The species planted shall be subject to the same monitoring requirements and success criteria established in Mitigation Measure 3.5-23e, "Develop and Submit a Reclamation, Revegetation, and Weed Control Plan."	Project applicant.	Before and after construction.	Humboldt County Planning & Building Department in consultation with the Wiyot Tribe.		
3.6-4	Detect Presence of and Curtail Operations for Condors. If condors are released in the Bald Hills in Redwood National Park or another location with a range overlapping the project's WTGs, the project applicant shall implement a detection system using the transponders attached to the condors, and shall curtail operations when condors are close to the WTGs so that the condors are not at risk of encountering operating WTGs. The detection technology and plan for curtailment shall be consistent with that described in Sheppard et al. 2015 or an equally effective curtailment system whereby condors are fitted with functional system-specific transmitters (i.e., tagged individuals) to alert the wind farm operaters when condors are in the vicinity of the Humboldt Wind project to inform WTG curtailment decisions. Implementation of	Bird and bat conservation strategy before issuance of construction permits; Condor curtailment plan to be implemented for the duration of	Project applicant.	Humboldt County Planning & Building Department.		

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	the detection technology and the requirement to curtail WTGs shall occur upon project operation after the condors are released.	project operation. within 6 months of the release of condors.				
3.7	Geology and Soils					
	None					
3.8	Greenhouse Gas Emissions					
	None					
3.9	Hazards and Hazardous Materials					
3.9-1	Investigate Known Hazard along the Project Alignment. The project applicant shall retain a licensed professional to conduct soil sampling and testing along the segment of the project alignment routed near the Mount Pierce Relay Annex. A report shall be prepared to summarize the findings of lab tests and make recommendations for project design and construction to protect human health. Available measures may include remedial actions to remove the contaminated soils or routing of the alignment to avoid the contaminated area. The report shall be submitted to the County for review and recommendations shall be enforced by reviewing engineering plans during inspection and confirming implementation while in the field.	Prior to project construction.	Project Applicant.	Humboldt County Planning & Building Department.		

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3.9-2	Prepare and Implement a Blasting Plan to Minimize Potential for Blasting-Related Safety Incidents. Before the issuance of grading or building permits, if blasting is required, the project applicant shall contract with a blasting contractor with experience conducting blasting activities. The contractor shall be licensed to use Class A explosives, and licensed as a contractor in the State of California. The blasting contractor shall prepare a blasting plan for the proposed blasting activities to avoid endangering worker safety. The blasting plan shall be submitted for review to the Humboldt County Planning Department, in consultation with the County Environmental Health Services Department, the State Fire Marshal, and the North Coast Unified Air Pollution Control District. The blasting plan shall: • describe procedures to be implemented to protect workers during blasting, such as using a signaling system to alert workers of an impending blast and using blasting mats to prevent or reduce the number of rock particles thrown into the air; • provide procedures for preventing employee or public entry into any area subject to blasting; • describe procedures for proper storage and transportation of explosive materials, including protecting explosives from wildfires; • prohibit blasting during extreme fire danger periods; and • comply with the guidelines established by the U.S. Bureau of Mines and the U.S. Department of the Interior, Office of Surface Mining Reclamation and Enforcement, for minimizing damage to structures from blasting.	Prior to project construction.	Prior to project construction.	Humboldt County Planning & Building Department.		
3.10	Hydrology and Water Quality					
3.10-1	Implement Wet-Weather BMPs Consistent with the Humboldt Redwood Company Habitat Conservation Plan. To reduce the potential for erosion and sedimentation that may cause downstream impacts on anadromous fish species, the project applicant shall prepare and implement an erosion control plan for review and approval by the Humboldt County Planning & Building Department that includes the following measures from the Humboldt Redwood Company HCP: • No road or landing construction, reconstruction, and upgrading shall occur within 170 feet of Class I or II waters, or within the Equipment Exclusion Zone (50 or 100 feet, respectively) of Class III waters. The construction, reconstruction, and upgrading shall not cross Class I, II, or III waters. • No portion of the constructed, reconstructed, and upgraded road/landing shall cross an inner gorge, headwall swale, unstable area, extreme, very high, or high mass-wasting hazard area. The soil moisture condition in the soils moved for purposes of construction, reconstruction, and upgrading shall be no wetter than is found during normal watering (dust abatement treatments or light rainfall, and the soil is not rutting or pumping fines).	Before issuance of a grading permit and throughout construction.	Project applicant.	Humboldt County Planning & Building Department.		

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• During and after construction, reconstruction, and upgrading, there shall be no visible increase in turbidity in any drainage facility, construction/reconstruction site, or road surface, any of which drains directly to Class I, II, or III waters (standing water on the road that does not drain to Class I, II, or III waters is not applicable). • During construction, reconstruction, and upgrading, erosion control material of sufficient quantity shall be stockpiled on-site and used to prevent an increase in turbidity in any drainage facility, construction site, or road surface, any of which drains directly to Class I, II, or III waters. If the Humboldt Redwood Company HCP measures cannot be implemented, or if the project applicant seeks to conduct work during the wet season (October 15–June 1), the project applicant shall implement the following measures while conducting tree harvest, road or landing construction, reconstruction, and road upgrades: • Exposed slopes greater than 10:1 shall be stabilized with hydraulic wood fiber mulch applied at a minimum rate of 2,500 pounds per acre. A sterile erosion control seed mix or suitable native seed mix shall be applied with the hydraulic mulch. Exposed slopes greater than 3:1 shall be stabilized with erosion control matting installed in accordance with the current California Stormwater Quality Association (CASQA) BMP Handbook. Erosion control matting shall consist of 100 percent biodegradable materials. In lieu of erosion control matting, hydraulic Bonded Fiber Matrix (BFM) consisting of wood mulch with tackifier shall be applied at a minimum rate of 3,500 pounds per acre. A sterile erosion control seed mix or suitable native seed mix shall be applied with the hydraulic BFM.\ • Exposed slopes greater than 10:1 shall have fiber roll or equivalent linear slope breaks installed at the following minimum intervals: Slope Interval i. >15:1 25 feet ii. >10:1 20 feet iii. >4:1 15 feet iv. >2:1 10 feet Fiber roll linear slope breaks shall consist of 100 percent biodegradable materials and shall be installed in accordance with the current CASQA BMP Handbook. • Temporary access roads established as part of the project shall be stabilized with rock and shall have water bars, earthen dike, or equivalent slope diverters installed at the following intervals: Slope Interval					

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	v. >15:1 150 feet vi. >10:1 100 feet vii. >5:1 75 feet viii. >4:1 50 feet • The outflow form slope diverters shall be directed onto a stabilized area or into a grade stabilization structure. Road slope diversion and outflow structures shall be installed in accordance with the current CASQA BMP Handbook. • To monitor the effectiveness of wet-season erosion control measures, the project applicant shall implement a stormwater discharge sampling program in accordance with the SWRCB General Permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities, Order No. 2009-0009-DWQ (General Permit). The project applicant shall comply with the Numeric Action Levels (NALs) for turbidity and pH specified in the General Permit, and shall adjust BMPs as necessary to maintain compliance with turbidity and pH NALs. The results of laboratory sampling will be provided to the Humboldt County Planning & Building Department at the time the results are uploaded to the state Stormwater Multiple Application and Report Tracking System database. • Should erosion and sedimentation devices fail, or should the NALs and/or pH NALs be exceeded, the County will have stop-work authority over project construction activities. The County will stop work on any portion of the project determined by the County to be the source of erosion or sedementation. Work will be suspended until the erosion and sedimentation control measures can be fortified or reestablished, or until the County determines that site conditions (e.g., weather, soil moisture content) have improved. • The project applicant shall inspect erosion and sedimentaion control measures before any precipitation event (as defined by greater than 0.25 inch of rain forcasted for a 24-hour period) during the wet season, and shall report the inspection results to the County before conducting work during any precipitation event. Work shall be suspended if the County determines that erosion control measures are in disrepair, or would be ineffective in the prevention of erosion resulting from the forecasted precipitation event. At any time, work may be suspended at the discretion of the County if site conditions deteriorate to the point where erosion control measures would be ineffective.					
3.11	Noise					
3.11-1	Implement Noise-Reducing Construction Practices. The project applicant shall ensure that the following measures are implemented during construction activities, where construction occurs within 500 feet of a sensitive receptor, to avoid and minimize construction noise effects on sensitive receptors:	During construction.	Project applicant.	Humboldt County Planning & Building Department.		

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	• All construction equipment shall be equipped with noise-reduction devices, such as mufflers, to minimize construction noise, and all internal combustion engines will be equipped with exhaust and intake silencers, in accordance with manufacturers' specifications. • The use of bells, whistles, alarms, and horns shall be restricted to safety warning purposes only. • Mobile and fixed construction equipment (e.g., compressors and generators), construction staging and stockpiling areas, and construction vehicle routes shall be located at the most distant point feasible from noise-sensitive receptors. The project applicant shall ensure that all heavy trucks are properly maintained and equipped with noise-control (e.g., muffler) devices, in accordance with manufacturers' specifications, at each work site during project construction, to minimize construction traffic noise effects on sensitive receptors.					
3.11-2	Implement Noise-Reducing Wind Turbine Generator Operations. The project applicant shall reduce the number of proposed WTGs north of receptor R-5 (shown in Figure 3.11-2) to avoid and minimize the effects of noise related to WTG operation. The following measure shall be implemented: Relocate, eliminate, or impose operational modifications on WTGs within 1,200 feet of receptor R-5 to reduce the permanent increase in ambient noise levels from 24-hour-per-day operation of WTGs to less than 5 dBA.	Before approval of grading or improvement plans or any ground-disturbing activities.	Project applicant.	Humboldt County Planning & Building Department.		
3.12	Transportation/Traffic					
3.12-1	Rehabilitate/Reconstruct County-Maintained Roads Damaged by Truck Traffic. The project applicant shall prepare a transportation route plan that avoids heavy truck trips (except pickup trucks without trailers) on Monument Road and Mattole Road. All truck traffic shall use Jordan Road for ingress and egress from U.S. 101 to the project site. Before issuance of the grading permit, the project applicant shall submit a haul route map to the County Department of Public Works identifying all County-maintained roads that would be used by trucks. The applicant and County Department of Public Works shall assess each road on the ground to determine their preproject condition before project-related truck traffic uses the roads. During the course of the project, if the project applicant wishes to use additional County-maintained roads, the applicant shall submit a revised haul route map to the County Department of Public Works. The applicant and the County Department of Public Works shall assess each road on the ground to determine their preproject condition before project-related truck traffic uses the roads. At the conclusion of the project, the project applicant and the County Department of Public Works shall reassess all roads used by project-related truck traffic. The applicant shall rehabilitate/reconstruct the roads to the satisfaction of the County Department of Public Works.	Transportation Route Plan, including haul route map	Project applicant.	Humboldt County Department of Public Works.		

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Mitigation Measures		Timing	Responsible Party for Implementation	Responsible Party for Enforcement	Completion of Implementation	
					Action	Date Completed
3.12-2	Create a Traffic Control Plan and Notify the Public Regarding Anticipated Roadway Obstructions. The transporters shall travel under loaded conditions during off-peak hours and possibly during evenings or at night, to minimize impacts on roadway traffic flows. The project applicant shall work with Caltrans to determine the lowest hourly traffic flows and develop a traffic control plan that specifies travel times and days, and includes public notification of anticipated roadway obstructions before transporter travel days. The final plan shall be submitted to Caltrans for review and approval.	Traffic Control Plan.	Project applicant.	Humboldt County Department of Public Works; Caltrans		
3.13	Fire Protection and Wildfire Hazards					
3.13-1a	Prepare and Implement a Fire Services Financing Plan. Before energizing the project, the project applicant shall develop and implement a fire services financing plan in consultation with the Humboldt County Fire Chiefs' Association and Rio Dell Fire Protection District. The plan shall identify: • the equipment needed to provide emergency rescue, medical, or fire protection calls for service at the project site; • the cost to acquire equipment and training in the use of the equipment as measured over the 30-year life span of the project; • the project applicant's fair-share contribution toward acquisition of this equipment and training; and • a financing mechanism to allow for receipt and distribution of funds to implement the plan. The plan shall be monitored annually and the outcome shall be included in the fire services report completed by the fire chiefs and submitted to the County Board of Supervisors.	Fire services financing plan: Before the project is energized.	Project applicant.	Humboldt County Planning & Building Department.		
3.13-1b	Prepare and Implement a Fall Protection and Rescue Plan. Before any construction permits are issued or construction activity begins, the project applicant shall prepare a fall protection and rescue plan that shall be submitted for approval by the Humboldt County Planning & Building Department. Once approved, the plan shall be implemented throughout the life of the project. The fall protection and rescue plan shall identify site access, vehicle parking and staging areas, dimensions of confined spaces, anchor points, personal protection, and patient packaging. The project applicant shall retain a reputable training provider that will provide training in high-angle rescue. Potential training providers can include state fire training organizations and private companies. Training shall be in accordance with National Fire Protection Association (NFPA) 1006, Standard for Technical Rescuer Professional Qualifications, and NFPA 1670, Standard on Operations and Training for Technical Search and Rescue Incidents. This training shall include but not be limited to the following elements: • Rope system anchors	Fall protection and rescue plan: Before issuance of construction permits or initiation of construction activity.	Project applicant.	Humboldt County Planning & Building Department.		

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Mitigation Measures		Timing	Responsible Party for Implementation	Responsible Party for Enforcement	Completion of Implementation	
					Action	Date Completed
	• Evacuation litters • Rescuer and patient packaging • Lowering and raising systems • Mechanical advantage systems • Fall protection and/or limiter systems • Personnel shall practice their techniques on a regular basis to remain proficient. All training shall be documented and include attendee signatures, and files documenting all training shall be maintained in the event of an investigation after an incident.					
3.13-2a	Prepare and Implement a Fire Safety and Management Plan to Minimize the Potential for Wildland Fires Before any construction permits are issued or construction activity begins, the project applicant shall develop a fire protection plan. The plan is subject to review and approval by the Humboldt County Planning & Building Department in consultation with CAL FIRE and shall be implemented during construction and throughout the lifetime of project operations. The scope of the plan shall apply to all property, buildings, structures, operations, and facilities associated with the project. The plan shall include identified helicopter landing zones, special rescue equipment to be kept on-site, a training plan for first responders, and suitable areas for the installation and maintenance of wildland fire control features. The fire safety and management plan shall do all of the following: • Require that all internal combustion engines, stationary and mobile, be equipped with spark arresters. Spark arresters shall be maintained in good working order. • Require that light-duty trucks and cars with factory-installed (type) mufflers be used only on roads where the roadway is cleared of vegetation. Said vehicle types shall maintain their factory-installed (type) muffler in good condition. • Specify that fire rules shall be posted on the project bulletin board at the contractor's field office and in areas visible to employees. • Ensure that equipment parking areas and small stationary engine sites are cleared of all extraneous flammable materials. • Specify that personnel must be trained in the practices of the fire safety plan relevant to their duties. Construction and maintenance personnel shall be trained and equipped to extinguish small fires to prevent them from growing into more serious threats. • Prohibit smoking in wildland areas, with smoking limited to paved areas or areas cleared of all vegetation. • Require consultation with CAL FIRE regarding the need to install water or dip tanks within the project site.	*Fire safety and management plan:* Plan preparation before issuance of construction permits or initiation of construction activity; plan implementation during construction and throughout the lifetime of project operations. The plan is to be updated and submitted to the Humboldt County Planning & Building Department and CAL FIRE annually.	Project applicant.	Humboldt County Planning & Building Department in consultation with CAL FIRE.		

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Mitigation Measures	Timing	Responsible Party for Implementation	Responsible Party for Enforcement	Completion of Implementation	
				Action	Date Completed
• Implement measures developed to address fire prevention on Red Flag Warning days issued by the National Weather Service for the project site. All nonemergency construction and maintenance activities shall cease, or implementation measures to address fire hazards on Red Flag Warning days shall be approved, as part of construction plans and or within the operation plan, allowing certain limited activities to proceed. • Describe and implement the preventive strategies and programs adopted to minimize the risk of wildfire due to electrical lines and equipment. Strategies may include, but are not limited to, systems hardening through use of covered conductor wire instead of exposed wire, the use of steel poles in areas that are difficult to access (steel poles are less prone to breakage or fire damage), and the use of modern transformers that have fluids less reactive to fire. • Identify and implement protocols for identifying the potential for fire, including providing meteorological data collected by meteorological towers to CAL FIRE to help reporting on local conditions, and actions to verify fire and CAL FIRE contact information to report a potential fire. • Identify and implement protocols for disabling re-closers and de-energizing portions of the electrical distribution system, considering the associated impacts on public safety. • Describe and implement plans for inspections of electrical infrastructure. • Prepare a list that identifies, describes, and prioritizes all wildfire risks and drivers for those risks associated with project operation and transmission to the point of interconnection. • Use metrics to track system performance such as the number of elevated fire danger days (whether Red Flag Warnings, Fire Potential Index ratings, or National Fire Danger Rating System data are used as the indicator), and the number and types of potential ignition events (e.g., wire down, blown fuses, vegetation contact, etc.) that occur on those days. • Conduct an annual review of industry practices and technologies that reduce the likelihood of an interruption (frequency) in service and improve the restoration (duration) of service. In addition, review available fire investigation reports for fires throughout California to understand root causes that can be addressed through system operations or maintenance and incorporate these insights into updated management plans. • Vegetation Management: The project would comply with North American Electric Reliability Corporation Standard FAC-003 on Transmission Vegetation Management, by practicing a defense-in-depth strategy to manage vegetation located on transmission rights-of-way. The management plan would: o specify procedures for documenting the maintenance strategies, processes, and specifications used to manage vegetation; o require timely notification of the appropriate control center regarding vegetation conditions that could cause a flashover; o require corrective actions to ensure that flashover distances would not be violated;					

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	Mitigation Measures	Timing	Responsible Party for Implementation	Responsible Party for Enforcement	Completion of Implementation	
					Action	Date Completed
	o require annual inspections of vegetation conditions; and o require completion of the annual work needed to prevent a flashover.					
3.13-2b	Prepare an Emergency Response Plan. Before any construction permits are issued or construction activity begins, the project applicant shall prepare an emergency response plan for operations. The plan is subject to review and the Humboldt County Planning & Building Department in consultation with CAL FIRE. The emergency response plan shall address potential accidents or emergencies involving fires or explosions at the wind energy facility, and shall provide key names and addresses of contacts in case of emergency, as well as a description of processes and general information about facility hazards. The emergency response plan shall describe how to identify an emergency, how to alert someone and whom to alert if an emergency occurs, roles during an emergency, how the emergency will be controlled, and how to terminate the incident.	*Emergency response plan:* Before issuance of construction permits or initiation of construction activity.	Project applicant.	Humboldt County Planning & Building Department in consultation with CAL FIRE.		